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FARMER'S ADVOCATE

AND HOME MAGAZINE.

VOL. XIV.

LONDON, ONT., SEPTEMBER, 1879.

NO. 9.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

50,000 COPIES! 50,000 COPIES!

THE EXHIBITION NUMBER

—OF THE—

Farmer's Advocate
FOR 1879.

—WILL BE ISSUED—

On or about the 1st September next.

Our third annual issue of this fast increasing and most successful advertising medium, will be the best one ever issued. While thanking our patrons of former years, and the patrons of the ADVOCATE, for their confidence in our endeavors to promote their interests, we can assure them that our endeavors will not be relaxed, and that the increased facilities now in our hands will be used to the utmost for their benefit.

The circulation will be carefully divided among the leading farmers throughout the Dominion.

Prospectuses will be issued on the 15th July, and space can now be reserved.

Send for a Circular at once.

Why the Farmer's Advocate Exhibition Issue is the Best Advertising Medium in Canada.

The ADVOCATE is the only established agricultural journal in Canada; it has been established and exists without outside influence or official aid.

Dangerous and diabolical quack medicines, fraudulent and deceptive advertisements, are not allowed to detract from the good effects of good advertisers who have useful and beneficial wares to advertise.

This journal is taken by the most influential and intelligent farmers in each Province in Canada. The small and poor farmers look to their superiors for information.

The advertisements are not crowded, because low rates will not be accepted,—only a few, and those of the best class, are allowed to appear in this journal.

Full cash rates and payments, sent to the office with advertisements, have frequently been returned to the senders, so fastidious is the editor—in the interest of his patrons—with regard to the space and class of matter sent in as advertisements.

The Exhibition Issue will be 50,000.

One insertion in the ADVOCATE has been known to produce better results than six months' advertising in leading local or political journals.

Knowing that there are many whom this journal may benefit, and soliciting your consideration and patronage, I remain yours respectfully,

W. WELD.

N. B.—No injurious quack or humbug need apply for space. The first edition of the 50,000 will be circulated at the Industrial Exhibition, at Toronto, on the last week of the Exhibition; the second edition at Ottawa and Guelph; and the third at the Western Fair, London; the Central Fair, Hamilton; and at the Fairs at Walkerton, Brantford, Picton (N. S.), Charlottetown (N. B.), Winnipeg (Manitoba), and Victoria (B. C.).

Special rates may be had for each issue, or for the whole, including our regular subscribers' list.

On the Wing.

We presume you are all interested in

THE WHEAT PRODUCT,

yet comparatively few of our Canadian farmers know anything about the origin of the different kinds of wheat and other cereals. For instance, we met a farmer on the cars from Centreville, in the County of Peel. We inquired of him about crops, etc., and he informed us that the Scott wheat yielded much better with him than any other. We asked him about it, where and how it originated. He did not know; he got it from a neighbor two years ago, and it did well—that was all he knew about it. This man is a Granger, and should, were the Grange working in a proper groove, have been well posted. We well know that too little is known about the main "staff of life" by those who are called by the city flatterers "the intelligent yeomen of the country"—when they want their influence; and the intelligent yeomanry, the bread-raisers, are apt to take it for granted that they are such; but when we consider how few questions the majority of farmers can answer about the varieties of grains, roots, grasses, and stock and manures, we must all admit that the "intelligent yeoman" may have had immense sums expended on his political education by lecturers, politicians, and the fostered political papers, for which he pays dearly; yet in his own sphere and business the education has not been so complete, or this Peel farmer and others would know how the Scott, the Clawson, the Gold Medal and Hybrid wheats, etc., were introduced, their relative values, etc.

THE MODEL FARM, GUELPH.

On the 1st of August we went to this farm, having heard that upwards of one hundred varieties of wheat were being tested. The retiring manager, Mr. Johnstone, was taking his holiday. That gentleman has been the most efficient person ever engaged on this farm. His department was to

instruct the boys in the school on general subjects, but the agricultural department he had hardly anything to do with, either in the school or on the farm. The newly-appointed manager, Mr. Mills, from Brantford, was on the premises. He appears a suitable person to take charge of the school, as he has filled such a position in Brantford creditably. Mr. Brown, the farm manager, kindly took us to the test plot. Here were to be seen several varieties of wheat, oats, etc.—some green, some ripe and ready to cut, and some had been cut. After passing some that was good and some good for nothing, we came to a piece that Mr. Brown said was an imported variety called the Gherka wheat. This wheat was rusted, midged, late, and looked worthless. Mr. Brown said it was no good and would be thrown away. We remarked that we would be inclined to try new wheat which produced grain that would grow—perhaps it might become acclimated and be of use. We examined the wheat more closely, and found it to be a spring wheat and a mixed variety. We noticed among this shriveled, rusted, miserable-looking stuff a hard-sheller in straw and bearded. The straw was of a different color, and the head appeared to have something in it. We pulled one, rubbed it out, and found the grain to be plump and of good quality. A further examination revealed more heads. We told Mr. Brown we considered this the best thing we had yet seen on the Government Farm, and he replied that he had not noticed that wheat, that we were the first to notice it, and he ordered twelve heads to be given us, as the wheat would otherwise have been destroyed. We accepted them; the remainder of this variety will be carefully picked out from the rubbish and taken care of. The wheat has a short thickset head, looking much like the form of the head of the Deihl, but has a beard on it; not as even and long as the Chilian wheat, but the beards are rather branching. We will have a cut made of it, so that you may all see if you have any spring wheat like it. It may be an old variety, but we do not remember having seen any just like it, although it looks somewhat like the old wheat we the pioneers used to grow in the then backwoods, under the name of the China wheat, but the beard of that wheat was longer and more regular. It was the best yielding spring wheat we had at that time—between thirty and forty years ago. Now this wheat had no name, as the larger portion of the patch was a bald variety. We asked Mr. Brown to name it, and he called it the "Advocate" wheat, because we first observed it. We presume this will be the name of a wheat that will be cultivated years after this, unless some one in Canada recognizes the variety and knows its right name. Perhaps next year it will not do as well, and may be discarded; or it may stand among our spring wheat as the Fife has stood.

Continued on Page 196.

English Letter, No. 5.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, August 8.

This is a season which, in this country, is practically without precedent, for the learned in such matters say that we must go back to the year 1764, or 115 years ago, for a parallel to it. Till the middle of July it was the common remark that winter had been continuous since November; and really the weather in the first three weeks of July was cooler, rougher and altogether more wintery than one usually expects at any time of the year, unless it be within two months of Christmas. It was one succession of cold, wet, cheerless and sunless days. The last ten days of July were better; and now and then there was a bright hot one, but rarely two together; and August so far has been very wet, and as cold and boisterous as March. What the condition of things, agricultural and horticultural, is, you may well imagine. Farmers are in despair, and the announcements of three or four suicides amongst their number is no matter for wonder. Foreign and colonial competition, even with plentiful harvests at home, is bad enough; but with rotten hay—cut or uncut—and unmaturing grain, the next rent-day must be looked forward to with dread by many thousands of tillers of the soil in these islands. Many landlords are making or preparing to make deductions from the rents of from 10 to 20 per cent.; but, liberal as these concessions may be, they will do little to stem the tide of disaster which has set in. The fruit crop, also, which three months ago promised to be one of the best on record, is largely and in places wholly spoiled, and there ought to be a good trade this season in foreign and colonial produce of this class.

The season, however, has been favorable to the trade in all perishable goods, the percentage of spoils having been much less than usual. I have nothing special to report in respect either to the live stock or dead meat trades this month; but I may just remark that the reports which were circulated both here and on the continent that American bacon and swine were affected with typhoid fever and *trichina*, have had one very peculiar effect. Consumers are well aware that anything sold in this country under ten-pence a pound must be American; and hitherto the placards of "fine American bacon" have been common enough. The fact, however, of our Canadian produce, alive and dead, having free access to this country—the freedom of our live stock from disease being thus implied—has induced the retail dealers to label their goods as "prime Canadian," and the word "American" is almost wholly tabooed.

I have just seen a dealer in horses, who informs me that there are upwards of 150 carriage horses from Canada and the States for sale, in Liverpool, at the present time. A number of these have been in the stables for weeks without even a shilling being bid for them. One very useful lot of twelve were sold yesterday, to go to France; and a very fine lot of Canadians were despatched to Edinburgh. One of these was a horse brought over by Mr. Hodgins, of London, Ontario. This horse had been sold to a dealer in London, who in turn re-sold it to a dealer in Liverpool; and it has now been sold to Captain McEwen, of Dundas Castle, Scotland, for 200 guineas. He is stated to be now one of the grandest goers in the country. Since he has been in the hands of the dealers he has at least doubled in value. I mention this fact to show that you have some valuable horses in Canada, and that you can produce them equal to anything here.

Although it may not properly come within the province of your paper, it may interest many of

your readers to learn that we have recently received here a most successful shipment of fresh fish from the Maritime Provinces. If such perishable goods as salmon can be landed here in such condition as to carry dismay into the minds of the Scotch fishery masters, why, with specially devised processes of preservation, should not some of our splendid peaches, tomatoes and other fruits of Western Ontario, be also shipped?

A consignment of 20 tons of fresh salmon landed here recently was readily sold to wholesale dealers at 10d. per pound, and the dealers realized a very handsome profit upon it. One Scotch fishery proprietor saw some of the cases opened, and felt confident that in the immediate future these importations would very seriously depreciate his business.

It has often been a matter of surprise to me that the suggestion of the Canadian Government Agent here as to condensed milk being prepared for this market in Canada, has never been followed up. The demand for goods of this class, and of good quality, is annually increasing. Both England and France import immense quantities of condensed milk from Switzerland. The French import alone in 1878 amounted to nearly \$200,000. You have equal facilities for shipment from Canada, and freight would be at least as cheap; and the capital required for such an undertaking cannot be very extensive.

Notwithstanding all the enormous importations of animal food, the consumer has as yet received little if any benefit. In some parts of London, Brighton and other fashionable or well-to-do places, beefsteaks are still quoted at 1s. 2d., or 28 cents a pound; and legs of mutton and the primer joints at the same rate. It would interest many of your readers could they witness the sale of scraps and cuttings at the butchers' stores on Saturday evenings to the poorer classes. Bits of brisket, necks of beef, breasts of mutton and other coarser parts are readily snapped up at from 12 to 20 cents per pound. The fact that the middlemen are making these heavy profits (for the golden shower falls mainly on them) is attracting more and more attention; and I expect to see an extensive direction of joint stock enterprise to food supply ere long. Co-operative stores for the supply of butchers' meat, poultry and farm produce generally, are being started freely in the leading centres of population. These companies or associations will have agents abroad, and I am pleased to observe that their attention is being largely directed to the resources of the Dominion.

I have been enabled to see a prize list of the forthcoming grand Dominion Exhibition. I notice that several valuable prizes are offered for dairy products; but I should have been pleased to see a special prize offered for the cleanest and most attractive tub or package of butter for export. Although the outside-appearance may not have any effect on the quality of the butter, it most assuredly has upon its sale. Any wholesale butter dealer in this country will immediately tell you that butter as put up in the Western States in neat, clean white tubs, although inferior in quality to some of ours, commands a better sale at better prices. In points of attractiveness the Canadian samples are the worst which are brought into this market; and if this arise, as I expect it does, from a false sense of economy, the sooner our producers get rid of it the better for them.

There is more danger of barns being struck by lightning a few weeks after the crops have been stored away than at any other time. This is caused by the heating of the contents, which effect ascends into the air. This danger is obviated by the use of well-constructed lightning-rods.

Manitoba—No. 3.

The telegrams we sent from Manitoba to the press of Ontario and to the Minister of Agriculture and Public Works, and also our descriptions of Manitoba have been written with a desire to check the maddening and excited rush of farmers' sons and men without means from leaving their homes and the employment they now have to go to that country, where the farm and mechanical labor market is now overstocked. This great excitement has been caused by publications, communications, dodgers, pamphlets and lectures which have been sent out by contractors and speculators in Manitoba, or by those who are interested in it, and all have cash in view; the greater the rush the better for them.

None of these cite the dark side, and any person or paper that only depicts the favorable side of any subject is apt to mislead. Thousands have now been misled to go from Ontario to Manitoba who would now gladly return; many have been so deceived and disgusted that they have gone to work and settled in the States and left Manitoba. We should not touch on the disparaging side again, but we deem it our duty to warn farmers, as we still notice that Ontario papers continue to publish flattering accounts, some of which we know are written by and for speculators there, and are not intended for the benefit of readers, but to enrich land-grabbers. We deem it wrong to disturb the settled, industrious farmers of the older provinces, where they work and can live comfortably, for the risk of life, health and every comfort. Farmers are not yet prepared to hire, and mechanics and clerks are too numerous to find employment. This is the state we found affairs in, and yet the excitement is kept up. The time may come, and no doubt will come, when laboring farm hands and mechanics will be wanted. Land will be as advantageously obtained by the real practical farmer in a few years hence as it can be procured now, considering the advantages and disadvantages at present existing. There is at the present time a land-grabbing mania; it is an infectious disease; it has ruined thousands in the States. These land-grabbers must and will have to pay taxes shortly; that is the only way to have a country settled, namely, to tax heavily all land held by speculators, leaving the homestead of the actual settler on 80 or 160 acres in new districts as free from burden as possible; but the land-leeches that monopolize hundreds of acres, whether for the advantage of themselves or with a view to sell at higher prices, should be taxed, and those that hold thousands of acres should pay a much higher rate. The withholding of land from actual settlers requires immediate and stringent attention. Every acre of land that is not in the hands of the Government—every piece of land that is reserved for any purpose should be made to pay towards the expense of increasing it in value. Every settler increases the value of land, and should meet with every encouragement. There is land that is as yet of no value; there is land enough, to be increased in value by railroads, to pay all the cost of the construction of the railroads. The land so improved should be taxed for the cost of the railroad; for instance, before the railroad was talked of the land was not worth one cent an acre, but the talk of the railroad put value on the land, and every improvement and expenditure adds to it. Scrip was bought after much had been expended for \$25, equal to a few cents per acre. The public expenditures have increased the value of that land so that \$10 per acre is asked for some of it. Land near the centres of business is often increased by R. R. stations and public buildings to many times its original value.

Is it right that the increase in the value of land

by public improvements should in good proportion go towards the payment of such improvements? Why should it be allowed to be retained in the hands of a private political friend or a few speculators? If the taxes on land were put on in the same manner that taxes for draining farm lands are levied, that is, according to the ratio in which the value of the land is improved or increased, and a long series of years allowed for payments, the cost of this railroad would not have to be met by direct taxation or revenue belonging to the older provinces. The older provinces need only be held as security. As it is, we in these provinces have to pay for the enrichment of the speculators in Manitoba, especially those who hold large tracts of reserves and city and town property, or the property near railroad stations and localities where public buildings are erected. It is not right that a few politicians and speculators should be made rich at the expense of the public or at the loss and privation of the real, active, energetic and enterprising settler that goes into this country to develop its agricultural resources.

There are vast tracts of very fertile land in Manitoba, and the wheat production will be immense. This and our North-West Territory can supply England with her bread. Farmers with moderate means can and will develop this country. There are obstacles to be overcome, and we deem it far better to show the obstructions that are in the way than to conceal them. Then our readers will not be deceived—they will know what they have to contend against and what to expect, and will not be rushing to the States in disgust at the false representations they have read in this journal. We shall in due time speak of the advantages and bright prospects, but as all the papers have said so much—we think too much for the good of many, we withhold that for future issues.

We will now inform you

WHO SHOULD GO.

If you have relatives or friends there that you can depend on as advising you for your good, and if they have been there sufficient time to arrive at correct conclusions, and they tell you to come to them, you should go. If you are dissatisfied with your present position and desire a change, or wish to obtain more land, or to embark in any new business that you may be fitted for, you should go and examine that country. If you wish to raise a large quantity of wheat, and to follow wheat-farming as a specialty, you should see that country in preference to any other. If you are cool-headed and speculative, and have means and are discontented with your present position, you may go there if you are a young man and desire to see something of the world. If you have a little cash to expend before settling, go and see the country.

WHO SHOULD NOT GO.

If you have a farm in Ontario, a wife and family, and are getting a comfortable living, you should not move without the advice of a friend as above mentioned, or by first going yourself and examining the country and selecting your lot. If you are a workman and without money, and cannot get as much pay as you want, or everything just as you could wish here, you will find your lives much harder in Manitoba at the present time. If you wish for railroad work as a navy you can please yourself. This journal is for farmers, and if a farmer's son cannot get on in his business without working as a navy, we pity him. No one should go from the older provinces to Manitoba without having friends there that he can depend on to direct him where to go or how to act, unless he first goes to the country and examines it. The time may come when people can obtain information

about lands, where they can get them and other necessary information, from an emigration agent at Emerson, the first point touched on reaching Manitoba.

Before touching on the bright side of our Manitoba tour, there is another matter requiring the immediate attention of our legislators, and one which we may with propriety refer to here, that is our

INDIAN AFFAIRS.

This is destined to be a very important subject, and must draw the attention of every settler in Manitoba and every British subject. These were the rightful owners of the soil, which produced animals for their support. The white population have designed plans to obtain possession of their grounds. Treaties concluded by the educated whites, although attempted to be made in a fair way, have now deprived these aborigines of the means of existence. No honorable British subject can for a moment countenance the idea that has taken hold of many of the white population in the States and some in Canada—that they should be exterminated as vermin. Although they may have at times attempted to drive the white men back, and killed some of the encroachers on their lands, very often this may have been done with quite as much justice as the gallows used by us to punish depredations committed by lawless and unprincipled whites. They may and no doubt have visited their vengeance on innocent whites, but they look upon white men as the aggressors, and even civilized communities often punish and kill a lot of innocents for the depredations of a few rabid leaders.

Our duty is to treat them honestly and kindly, to protect and instruct them how to obtain an existence. This can only be done in time and with patience, and at great cost. When starvation cut-off a few of them, which it soon will do, the whites will make raids on the property of the whites; they will be compelled to do this or die. We should prefer to steal rather than to starve to death, and death by violence is preferable to starvation. Our humane policy is to at once teach them how to live. It is no doubt difficult to make treaties with the Indians that would be most advantageous to them; they have to be humored. But some of these treaties, and even grants to or for the Indians, that have been made or given, are or will be of no value to them. Even if there is benefit to be derived from grants given to or for Indians, the white manipulator receives the profit and benefits. Implements, seeds and teams have been supplied to the Indians by the Government; the intention no doubt has been good, but the lack of judicious investments or instructions has caused the expenditure to be of no value except to the contractor who is favored with the order. \$70,000 was to be given to the Indians in cash shortly after we left Winnipeg; this is an annual payment to them. This money is only an injury, and it would be better to have it burned or thrown into a lake. They have to travel hundreds of miles to get it, and it is part of the year's work to come and have a good time for a few days; some get liquor, some gew-gaws, and some buy provisions or clothing. The money is soon in the hands of the Winnipeggers, and it only acts as an incentive to the Indians to run after and spend it, drawing them to Winnipeg instead of keeping them hundreds of miles away on their own land and encouraging them to cultivate it. It is worse than useless.

Great care should be taken in selecting men to attend to Indian affairs, to obtain those that have been acquainted with the Indians and have shown an interest in them. They must be instructed in agricultural pursuits.

MANITOBA HALF-BREEDS.

Scrip to the value of 160 acres of land has been given to every half-breed. This in nine cases out of ten has only enabled white speculators to grasp large tracts of land, to the detriment of the settlers, as the half-breeds have sold nearly all their scrip for whatever they could get. We give the following to show the abuse to which this scrip business has been carried and to show some of the doubtful titles that scrip-holders may be attempting to sell:

We called into the house of a half-breed on the banks of the Assiniboine river; a young man was in the house and several small children. We enquired of him how much land he had, how long he had been there, and how he was progressing. The farm was his father's and contained some hundreds of acres; he owned it now; the children were his brother's and sister's, all minors. We enquired about the scrip. He had sold the children's scrip and used the money for his own purposes; he merely got a trifle for it. We asked what the children were to get for their share. He said he should bring them up, clothe and educate them. This man had the old homestead now. The question may come up when the children are of age—Have they received an equivalent to 160 acres of land? No doubt many will not have received more than the old homestead and stock would have given them—an existence. Then who has a right to dispose of a minor's claim for a mere promise to a land-grabber? Who is responsible? A Government agent or judge sanctioned the discharge of such a title. Would Government be responsible for the acts of the agent, Government officer or judge? Many children will most probably be brought up by parties that never received a cent of the proceeds of the land. Can minors' claims be thrown away under the British laws? There is trouble brewing. A rich harvest has already been prepared in Manitoba for lawyers some time, twenty years hence at least. A lawyer in business informed us that the titles of much of the land were such that lawyers would have first-rate practices there in a few years about defective titles. Suppose a settler purchases a scrip lot, and that scrip was procured in an improper manner, would the settler lose his improvements, land and all? There are, we hear, many extremely dangerous people acting as land agents in Manitoba. We have heard of dishonest acts having been done. The speculative fever runs high; all are fanning the fever and many catch the land mania, expecting a rapid rise, as the agents are pretty sure to have some particularly eligible lots from which a fortune can be made in two years. Many, many have bought themselves land poor and must sell. The speculation is a species of gambling. The Government should frame their laws so as to discountenance gambling in any form, particularly so when it has acted so much against the real settlers who have been driven from the Dominion by it to make homes in Dakota, which some thousands have already done, most of whom, perhaps all, would have remained in this Dominion if our legislators had not countenanced land gambling. Perhaps too many of the members of the Government are the gamblers themselves; if so they may be sure to legislate more for their own pockets than for the good of the Dominion.

Some of the half-breeds are shrewd and can look after themselves. On the banks of the Red River we were invited into the house of a half-breed. Here we found every comfort and neatness, and education and refinement were here displayed. Some of the ladies played the piano very nicely; in fact neither color nor manners could distinguish them from ladies in our cities or in England. Many are very well off; in fact, were it not for the premium that Government gave to half-breeds the number would not be as great as it is, as many have lost the appearance of the Indian, and no one would know that they had Indian blood in them; but a trace to a great-great grandfather or grandmother implied a good grant of land, and that revived the knowledge of ancestry otherwise forgotten.

We had a conversation with an American about the Indians. He said that Sitting Bull's tribe had now been in our country two years, that they now belong to us, and that if they returned to the States they would be driven back to Canada again. Are we to be saddled with the expense of feeding and educating the Indians that belong to the States? It appears very much as if we shall have these Indians on our hands unless great care is taken.

FREE GRANT LANDS.

From the best information we could obtain we learned that free grant lands yet to be had were about 90 miles north-west of Portage la Prairie. The roads about Winnipeg had just begun to be partially passable. We heard the land was drier and the roads better at the Portage and beyond it. We took the steamboat and duly arrived at the Portage. It rained during the night. Our only way to get to the village was to wade through the mud and water. We arrived at the hotel muddied nearly to the knees. Wet footed, and with satchel in hand, we asked for a room to change in, but we could not then get one; so we waded to Mr. Michael P. Ryan's, M. P. After conversing with him we went to the Government Land Office. Here we met a settler who came through the day before, with a yoke of oxen and cart. He said he had to drive ten miles through two feet of water—one stretch of six and another of four miles. This is the road we should have been obliged to travel. Rainy weather, wet footed, wet legged, we became what Winnipeggers call chicken-hearted, and turned toward the hotel. The Immigration Agent said we could rely on the correctness of our informant. We met the captain of the vessel and another passenger. We engaged a man and a span of horses to drive us to the boat, and when about half way we three passengers got out and waded through the mud, for fear the horses would stick. We walked ahead of the team, and left our satchel in the wagon. We had not proceeded far when we turned around to see how the driver was getting along. He was in the mud trying to get up one of the horses that got mired. We returned for our bag. The driver had on long boots. We asked him to give us our satchel. The poor man tried to pull his feet out of the mud, and in doing so he left both boots behind in the adhesive element, and waded to us in his stocking feet. We could not help him, as the captain was in such a hurry to get away; so we left him, with the horse lying in the mud, and know not when or how the animal was extricated from his miry bed. We returned by the boat, washed our trousers, drawers, socks and boots, and hung them up to dry on the upper part of the boat.

Do you not think that we went far enough—with the roads in such a state—for an old man between fifty and sixty years of age? and this, too, for the express purpose of gaining information for the benefit of the subscribers to the FARMER'S ADVOCATE.

(To be Continued.)

[As soon as the other papers cease to publish unmixd laudatory and enticing accounts of Manitoba, we will then depict some of the shining side of our picture. Some say we draw our pictures too strong. The driver left both boots sticking in the mud—we show but one in the cut. There are openings in Manitoba for those with money, but we pity the poor man who goes at the present time to take up land.]

It is well known that the scales which fly off iron from being worked at forges into trimmings, filings, or other ferruginous material, if worked into the soil about fruit-trees, or the more minute particles spread thinly on the lawn, mixed with the earth of flower beds or pots, are most valuable. It is especially valuable to the peach and pear, and is in fact a necessity to the soil. For colored flowers it heightens the bloom, and increases the brilliancy of white or nearly white flowers of all the rose family.

To keep zinnias double, save only the outside seeds, which are much wider than the inside ones.

Strike bedding geraniums in the full sun in open border. Short cutting makes the best plants.

On the Wing.

(Continued from page 193.)

We much want a good new spring wheat, and should this prove to be that wheat in years to come, the readers of the ADVOCATE will no doubt remember the account here given of it. We do not wish to be understood as describing how it originated, for at present we know nothing concerning its origin, but in the account above given we merely state the way this particular variety was saved and named. It may prove of value, or turn out worthless.

The winter wheat and some of the spring grain was harvested. Mr. Nichol, a student from Kingston, has charge of the grain tests. He appears a very careful and energetic young man. He accompanied us and gathered the twelve heads for us. In the barn and storehouse we examined some of the numerous varieties of wheat grown. The heads and straw of each variety are labelled, and a sample of each kept. Many varieties had two or more names. For instance, the much-talked-of varieties, Arnold's Victor and the Gold Medal wheats, were considered by Mr. Brown, Mr. Nichol and others to be the same variety; the heads of the Soules wheat were longer than those of the above-named varieties. Formerly we had the impression that all three were the same, but there is a difference in the length of the heads of the Soules wheat and the Gold Medal. Another variety shown as Arnold's Hybrid, procured from Mr. Landreth of Philadelphia, looks exactly like

through the garden. It was in good order and free from weeds. The cabbage-bee, however, was anything but a model affair; it appeared as if some old mixed seed had been used, and that the show was to expose some seed establishment rather than anything else. We spoke in our last year's report of the immense quantities of the poorest kinds of Petunia that were growing on this ground. We do not know what it is for; there is more of this poorest variety growing in this garden than would be required by all the good seedsmen and gardeners on this continent.

On the test plot the Prickly Comfrey is growing luxuriantly. It may be as valuable as seedsmen's catalogues have stated, but it looks like a rough-growing weed that used to be found along the margins of streams in Europe. We understand that this is rather a dangerous plant to grow, for when once in the ground it is difficult to eradicate it. The grass tests may prove of more value to us than the grain tests. Lucerne was thriving remarkably well; enormous crops had been cut. It was sown in drills and broadcast. Mr. Brown preferred the latter method. We think this plant will come into more general use as it becomes better known. The grass known as Sheep's Parsley was thriving very well. Many varieties of European grasses were total failures.

Several varieties of wheat supplied as spring wheat by some of the best Scotch and English seedsmen had proved total failures; and of wheats requiring to be sown in the fall in this country, not one of them came to maturity. The failure of these varieties has caused much loss to some of our Canadian seedsmen and disappointment to farmers. A piece of land sown with mixed grass (some 15 varieties) looked very well, but some appeared to thrive much better than others.

An article on grasses will appear in a future number.

Health and Profit.

Mr. C. H. Voute, of Toronto, has now in operation in Toronto, St. Catharines and London, a

system for removing night soil from the premises of houses without any offensive odor. This is effected by the use of machinery and chemicals. The same gentleman has also an apparatus that reduces it to powder, which, by mixing with leached ashes, swamp muck, or marl, produces a most valuable manure at a cheap rate. He is now desirous of forming companies in each locality to manufacture and use this manure. To farmers who wish to enrich their lands this should be deserving of attention. Every city, town, and village should pass by-laws compelling the removal of all such soil, as no doubt the gases which arise tend to the injury of the public health, and to the production of diseases. Cleanliness may prevent the spread of pestilences which otherwise would carry many to their graves. Cleanliness implies health, while negligence produces disease and death. Those who are in power and do not attend to their duties, no matter in what capacity, are unworthy members of society. We wish to do our duty in calling attention to the subject; farmers and citizens should both profit by it.

The *Scientific Farmer* advises, as the flesh of most fruits contains much potash, as well as lime, in combination with the fruity acid, and the seeds, phosphoric acid, the application each year per acre of from 200 to 250 pounds of bone-dust, 300 to 400 pounds of sulphate of potash, the latter guaranteed to contain 35 to 40 per cent. of sulphate of potash. This would give us 70 to 80 pounds of potash, 50 to 60 pounds of lime (from the bones), 10 to 20 pounds of nitrogen, and some magnesia in the potash and fertilizer. Such treatment has been found successful by fruit growers in both this country and Europe.



TRAVELING IN MANITOBA.

the Clawson; the length of head, growth of straw, and appearance of the grain show no difference. A wheat grown under the name of Christie's wheat appears the same variety that is known among farmers under the following names: Chilian, Platt's Midge-proof Rice, and Wild Grouse wheats. It is our impression they are all the same as Christie's wheat.

We went into the harvest-field, where a reaping machine was being tested. This machine was made by the Noxon Manufacturing Company of Ingersoll, and did its work in a faultless manner. Some of the grain was partly lodged, some thin and some heavy on the ground, with some full of grass and thistles. In each place it took the grain clean off the ground, scarcely a straw was to be seen, and the sheaves were neatly and squarely laid. Another machine was about to be tested as we left. Different machines are taken to the farm to be tried. The wheats being cut while we were there were the Lost Nation and the White Russian. Painted boards on the fence were the only indications to show any difference between these two varieties; they are both a bald white-chaffed spring wheat; had been sown at the same period, and were both ripe at the same time. We could see no difference between them. These two varieties were the main crop. Whether they will be equal to or surpass the Fife, Club or Siberian, further tests only can develop. We passed

The Month.

The weather has been favorable for saving the crops. On the whole, we have good crops to be thankful for, although the threshing machine in some localities shows rather a smaller yield of wheat than was anticipated, judging from the appearance of the standing crops. In some localities the crops have been better than for many years past; in others they are not much to brag about. Spring wheat is generally deficient, but we shall have much more to dispose of than we have had for several years. Cereals will bring fair prices. The great call for bread ensures a good market for our surplus, as the supply must go principally from this continent.

The pastures and root crops have much required rain in Ontario the past month; at the same time the farmers in New Brunswick were complaining of too much.

The British farmers have suffered serious losses from over-abundance of rain. The Western and Northern States have a most bountiful harvest. It is now estimated that England, Austria and Germany will require nearly forty million pounds worth of wheat.

THE CHEESE MARKET

has been depressed throughout this season, and the prospects for improved prices are not very encouraging. Many will lose this year, and some will be inclined to go out of the dairy business; but we do not advise this course to be too hastily pursued. Productions are apt to be diminished, and a more general demand for cheese awakened by its cheapness; thus higher prices are sure to follow.

Talks with Farmers.

Mr. Millegan, of Markham, informs us that he does not approve of the advice given in this journal in regard to the late sowing of fall wheat. He thinks that a heavy blade in the fall is more to be depended on for a crop than a small plant, and is less liable to be injured by the Hessian Fly.—Opinions will differ. Perhaps a medium course is best.

Mr. L. B. D. Lepierre, of Paris, says that he does not approve of pasturing clover for fall wheat, but he prefers to take one crop off and let the second grow for plowing under. It will give a better growth for plowing under, after being cut, than when left after feeding the first crop off.

The Waterous Engine-Works Company have turned out 207 of their agricultural engines, the "Fire-Proof Champion," which are now all in use in the Dominion, except a few shipped to other countries. No fire has taken place from their use, neither has a boiler burst nor a flue given out. There are other manufacturers who can report as favorably of their engines in use. In the hands of a careful farmer to manage an engine, we do not consider there is as much danger or liability to accident as in threshing by horse-power. The saving of grain and of horses, and the steadiness of the work, are the great advantages gained. Wherever these engines are obtainable, farmers will not have their work done by horse-power.

A solution of one part of carbolic acid in 300 parts of water is recommended as effective for scab in sheep. A strong decoction of tobacco is a wash well known to shepherds. We should be glad to know if any of our sheep growers have combined the two with effect, and in what proportions.

The heaviest bunch of black grapes ever recorded, was raised in the winter of 1877, by Mr. Roberts, of Tullamore, Kings Co., Ireland. Its weight was 13 lbs., 5 oz.; length 24 inches, and width across the shoulders, 22 inches.

Dairy.**Rennet and its Preparation.**

WRITTEN BY PROF. L. B. ARNOLD.

The decoction obtained by steeping the dried stomach of a calf, or other animal, in some liquid is a *sine qua non* in cheese-making. The gastric agent thus obtained is used by the cheese-maker to coagulate his milk into curd, and to separate the curd from the serum, or whey, as it is called. Usually he has no thought of further effect from it than the separation of the curd from the whey. But this is only the beginning of its action. If its whole efficacy consisted in curdling milk it would be an easy matter to find a more agreeable substitute for that purpose. Acids, alcohol, alum or other astringents may be used for that purpose with more convenience and at less cost. The great importance of rennet does not consist so much in its ability to curd milk as in its further effect in converting the curd into cheese. This is a step toward digestion which can only be accomplished by some digestive agent, such as exists in the gastric agency derived from steeping the dried stomach of the young calf. It is a defect in the use of acids, alcohol, &c., that they lack the digestive power existing in the steepings of rennet. Their efficiency for good ends with their chemical action in producing coagulation. They fail in contributing anything toward inducing the change from curd to cured cheese, and whoever employs acids or other chemical agents as substitutes for rennet in cheese-making, either wholly or in part, will fall short of perfection in the cheesing of his curds, according to the extent of that substitution.

MODES OF PREPARING.

The best method of preparing rennets for use is, after obtaining the strength in the form of steepings, to treat the liquid with such harmless agents as will solidify and precipitate the mucous and other objectionable animal matters which always accompany the steepings, leaving only the coagulating agent in a pure and clear liquid. This work the dairyman can hardly be expected to perform; it belongs to the chemical laboratory, and can only be accomplished by a few chemists who have made the matter a special study. But the finer results in quality and convenience which follow the use of a pure and clean extract of uniform strength are so marked that the future cheese-maker will demand it and will be satisfied with nothing else. Such a preparation is already before the dairy public and is gaining in favor every day.

PREPARING IN BRINE.

The next method in point of excellence consists in soaking the dried rennets in brine. To do this successfully also requires some skill, but nothing more than any fairly intelligent and attentive dairyman can accomplish. The mode of proceeding is as follows: The rennets are carefully selected—a great deal depends on this. None but pure, sweet-smelling, clean, well dried and preserved stomachs, should be used. All objectionable parts, such as bunches of fat, the small end of the sack, and the third stomach (known by its leaf-like folds, if it happens to be on) should be trimmed off, so that there shall be nothing attached that will defile or taint the steepings. Then soak in a pickle made with one-half pound of salt to a gallon of water. When they have become soft turn them inside out and rub well for several days. If the weather is cool, this will be all that is necessary to get the strength out. If it is warm, this pickle will not be likely to keep long enough. In warm weather keep them in the pickle and rub well for only *two days*, keeping the jar in a cool place. Then turn off the liquid in an-

other vessel, and salt it with all the salt it will dissolve, to preserve it. Put them in a new pickle made as before with a half pound of salt to a gallon of water, and in this let them be frequently rubbed for *three days more*. Then throw the rennets away and turn the two steepings together, and salt with all that the liquid will dissolve; it will then keep sweet and be ready for use by stirring every time before taking out. While this is being used another batch should be soaking in the same way.

This weak brine is used, not with any fear of injuring the rennet (for it is not known that brine of any strength does any injury to the strength of rennet), but because a stronger pickle than described prevents the strength from steeping out of the rennet-skins. There is often complaint of trouble and loss when soaking rennets in brine. The trouble comes not from the use of brine, but from injury to the rennet before soaking, by bad curing. Rennets which will not keep sweet by treating as described are faulty to begin with, and should not be used.

TEST OF WATER FOR MAKING THE PICKLE.

The water for the pickle should be pure, as it will be liable to taint if it is not. Rennets are often spoiled from this cause. To determine whether it is fit for use, fill a clean pint-bottle with the water and put into it a teaspoonful of granulated or loaf sugar and shake it up, cork tightly and set it where it can be observed. If, after it has stood a few days, it remains clear, it is fit for use. If it becomes turbid, it is bad, and must be heated boiling hot and cooled before using.

PREPARATION WITH WHEY.

The more common way of preparing rennets in this country is to soak them in whey. This is very objectionable. It invariably carries an infection into the milk which makes its mark in the quality and keeping of the cheese. It seems very strange that factorymen, who otherwise appear to be sensible men, should persist (as so many do) in following such a deleterious practice. It is so strangely inconsistent as to be amusing to see factorymen insisting with the most rigid exactness that patrons who carry whey in their cans shall thoroughly wash and scald and scour their cans (which is all right enough) lest their milk should be spoiled by the least speck of whey adhering to a can, while they (the factorymen) themselves will put whey into their milk by the gallon, and often by the pailful, and that, too, after it has stood longer and smells worse than the whey in the tank. Can it be possible that they suppose such sour and putrid stuff loses its power of infection by passing through the rennet-jar? Consistency is a jewel which it would be very gratifying to see more of in connection with the preparation of rennet. The excuse for using whey commonly is that rennets taint if soaked in brine; but the fact is that usually the whey only becomes a cover for hiding the defects of rennets unfit for use, the stronger odors of the whey covering up the incipient taint in faulty rennets.

A large per cent. of the rennets I find in factories is unfit for use in any mode of preparing. This is especially true of rennets preserved in pickle, but defective samples are quite common in those preserved by other modes. Those which have not been dried always impart a strong odor to the steepings and never yield their whole strength. Faulty rennets become doubly worse when treated with whey, even in its best state, but more especially so when the whey becomes sour and stale, as it soon will if not scalded and skimmed. This will obviate much of its ill effects. Among the many ways in which the quality of our cheese could be improved a more careful selection of rennets holds a prominent place. But no one thing that I know of would be likely to produce a more marked effect than to banish, at once and forever, the preparation of rennets in whey.

The Cheese Bandage — Its History, Advantages and Improvement.

BY PROF. X. A. WILLARD, LITTLE FALLS, N. Y.

The cheese bandage is an American device. It originated in Herkimer Co., N. Y., and grew up out of what the American cheese-maker deemed "the necessities of the situation." Of the large variety of cheeses made in foreign countries, none are bandaged, and a *bandaged cheese*, in foreign markets, is a distinctive mark of American manufacture.

It is true the Cheddar dairymen of England use a sort of laced wrapper on their cheeses during the process of curing, but it is removed before the cheese is put upon the market and does not form a part of the cheese as in the American practice. This wrapper, above referred to, is of stout linen cloth, made with eyelet-holes at either end, and is a little less in circumference than the cheese, so that when the laces are in place the wrapper may be drawn up snugly around the cheese. Thus the tall Cheddars are kept in shape and are protected while curing. Swiss cheese-makers likewise use a wooden band that can be adjusted and drawn together about the cheese during the process of curing. But whatever appliances of this kind are employed abroad, they are of a temporary character and are not a permanent fixture of the cheese. The wrappers used by the Cheddar dairymen of England are made to last for years. They are stripped from the cheeses when the latter are sufficiently cured, and then are washed and laid aside ready to do duty again as occasion may require.

The advantages of permanent bandages are so apparent and the cost so small that it is a matter of surprise the practice of bandaging has not been universally adopted in European dairies. In going among the markets and in the shops of cheese mongers in the different cities of England, one often sees large numbers of English cheeses cracked on the sides, marred at the corners and otherwise defaced—all of which could have been avoided in a great measure by permanent bandaging. It is needless to say that heavy losses are not unfrequently sustained in English cheese on account of skippers entering the cracks, to say nothing of the losses arising from defective and injured rinds.

When cheese dairying was first inaugurated in America we followed the English practice, but as the number of cows in the dairies was increased and larger cheeses began to be made, bandaging was resorted to for the purpose of giving protection to the cheese, not only while curing, but in its transportation to distant markets. At first heavy cotton cloth was employed, but as years went by a thinner material was found to serve the required purpose, and then certain cotton mills engaged in manufacturing a kind of goods specially adapted to the dairy.

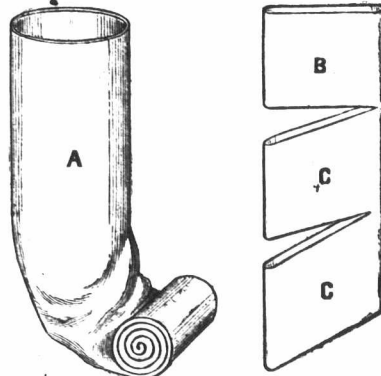
After the cheese-factory system became established, "bandage-goods" were greatly improved. To give some idea of the quantity of cotton bandage annually employed in American dairies, the following rough estimate may not be out of place. If we assume that the total product of cheese annually made in American dairies is 300,000,000 pounds, and that the cheeses on an average weigh 50 pounds each, then the total number of cheeses made each year will be something like 6,000,000. Now if we assume that one yard and one quarter, including waste, will bandage three cheeses, the quantity of cotton cloth required annually for our cheese dairies, in bandages alone, will be 2,500,000 yards.

To cut, fit and sew the ends together of 6,000,000 bandages must require a large outlay of time and labor, even with expert hands and the sewing

machine. But even under the best management there will be more or less waste of cloth from cutting, while there is more or less difficulty in getting the bandages all of a uniform size, at each individual factory, and if the size should vary on any special hoop, there is more or less trouble in boxing.

Recently a new invention in the "bandage line" has been brought out by Mr. E. V. Lapham, consisting in a *seamless bandage* woven on the same plan as that of the patent bagging. By this plan different widths and qualities of bandaging material are supplied in any length without seams and at the same price per yard as the ordinary cloth, saving the labor of cutting and sewing, insuring uniformity and preventing the seam marks upon the cheese.

The subjoined cut will illustrate this improvement:



LAPHAM'S SEAMLESS BANDAGE.

A represents the bolt or piece of bandage of any length and of the required circumference to fit the cheese as desired. B, C, C represent sections or bandages cut from the piece A, of the right length to fit the height of the cheese. The bandage is made to perfectly fit cheese pressed in 13½, 14, 14½, 15, 15½ and 16 inch hoops, or indeed of any other size as desired.

In summing up the advantages of the seamless bandage we may enumerate the following points: It saves the time and labor of cutting and making bandages; it saves cloth taken up in the old way by seam; it saves the expense for thread; it saves cloth taken up in the old way by variation in depth of cheese; it secures perfect uniformity in size of cheese, and hence perfect uniformity in size of box required—and as every box can fit perfectly there is no trouble in removing it at any time. The "seamless bandage" avoids perplexity or loss caused by seam ripping, as there is no seam to rip. There is no chance for the "skipper-fly" depositing eggs in seam, as is not unfrequent in the old way of bandaging. And finally, it is a better and stronger bandage than on the old plan and at no greater expense. The seamless bandage must be regarded as one of the important improvements in connection with American cheese-dairying appliances. The Messrs. Whitman & Burrell, of Little Falls, who are now sole proprietors of this patent, say they have already sold this season one hundred and ten thousand yards of the seamless, but not one-third of what they could have sold could the looms have produced it. And they are adding more looms in order to supply the demand.

Reference is made in the Massachusetts Ploughman to a cow that wears well, because of (or in spite of) continuous high feeding year after year. "According to best account she is twenty-two this spring," and this is the owner's report of her:—"She dropped a heifer calf May 1 that weighed 68½ lbs., and is giving 11½ quarts of milk a day on four quarts of dry meal and what little hay she can eat, which is not much, not over 6 to 10 lbs. a day, as she hasn't any teeth. She has been kept for milk for the last nine years, and fed high most of the time."

The Apiary.

The Best Beehive.

BY C. F. DODD, NILE, ONT.

As I have been asked many times what kind of a hive I use or recommend, perhaps it will not be out of place here to give a brief description of the hive I prefer. After trying nearly every kind of hive in use, I have given my decision in favor of one which I have thoroughly tested, and it has given perfect satisfaction in every respect, except one thing—which I do not like on anything pertaining to bee-culture—and that is a patent; but, as it contains so many good features, we shall have to overlook this fault. In the first place, we like this hive because it will winter bees successfully outdoors, and require but little attention. It is a complete double-boarded hive, with three inches space all around, to be filled with chaff or sawdust, to give the hive an even temperature, and thus protect the bees from sudden changes of weather. It has a double bottom three inches thick, one inch being packed with dry sawdust. There are two division-boards, so that the hive may be enlarged or diminished at will; and also two glass doors 14 inches square. Although we can open and inspect a hive in a few minutes, I think a glass door is a good thing, for the novice may get right down upon his knees and behold the wonders contained in a beehive without any trouble. For our own use we are making some three feet long, to contain two swarms, one at each end; it is not so expensive to build a double one as two single ones.

If you have not united your weak stocks, as directed last month, it would be well to do so now, for it is a bad plan to leave this kind of work until cold weather sets in. You can transfer two or more swarms from the box hive, and unite them at the same time. And if I am addressing any one who has been in the habit of consigning his little friends to a pit of fire and brimstone, I beseech you in the name of the Queen—I mean Queen Bee—to spare their lives, for you may drive the bees out of the hive (see JUNE ADVOCATE), and unite them with another swarm and use the honey, and the two swarms together will consume but little more honey than one.

How Far Bees Will Go for Honey.

The precise distance that bees will fly in search of forage I am unable to state. Some consider three miles the extreme limit, while others place it as high as twelve. The most satisfactory results may be expected if abundant stores can be found within two miles. It is evident that they will work more freely upon blossoms at some little distance from the apiary than upon those close by. If I were to sow anything with a view to a supply of honey, I would prefer that it should not be in the immediate vicinity of the hives. Their flights are evidently modified by local conditions. During the large yield from basswood in 1874, as the blossoms failed in the valley, the bees continued bringing in the same quality of honey, following the basswood day by day, as it opened on the hills, until the first week in August, when they still came in heavily loaded but very tired from a long flight. I drove to the hills, six miles distant, and found that basswood was just there coming into bloom. I immediately moved 48 swarms to this location, and in the following week these 48 colonies gave me one ton of surplus honey, while the 71 swarms left at home did not secure one-half that amount, yet they continued working on the same ground during the entire period. This is a fine illustration of the advantage of obtaining forage within a reasonably short distance. I have never had direct proof to the effect (yet there is ground for the belief) that if honey could not be found nearer the bees would not fly the distance named without being gradually led along by newly-opening blossoms, as in the case mentioned. —[Quinby's New Bee-Keeping.

Agriculture.

Field Rollers.

The utility of the field roller has long been acknowledged. There has probably been as much thought and ingenuity expended in their possible perfection as in any other of the simple implements of the farm. The public, within the last eight or ten years, have had them of every conceivable form and variety of shape, as adapted to the work of crushing, grinding, and pressing the soil. Until the idea of giving them flexibility, or rather an adaptability to conform to the uneven surfaces of the soil, so as to press comparatively even, great dissatisfaction was expressed with much of this implement's work, especially by those having lumpy soils that must be plowed in ridged lands on account of their naturally level surface, for the reason that the work was often too well done. It did not press the soil evenly and alike to the seed, and thus in dry weather great difficulty was experienced in getting the seed to grow. The jointed roller has been introduced as an improvement on the old one. Let us see what its capacities are. It crushes and pulverizes the soil to a certain degree, not as well as could be desired, but after all it is only measurably well that the fruits of man's ingenuity may do anything. It does, however, press the earth firmly to the seed, and leave the surface of the soil smooth, even, and compact, thus preventing excessive radiation and especially the severe drying out of the moisture. Thus it allows the seed to sprout evenly at once; and what is of fully as much importance, if heavy rains come, it leaves the whole field of the same level with the marks of the corn-planter, and thus often prevents serious washing of the rows.

The roller often does much good in the killing or so crippling of insects that they thereafter do little if any damage. Vast quantities of the chinch bugs, locusts, and other insects may be destroyed in this way on smooth soil. It is good for smoothing meadows, and especially for bringing up grass seed where it is simply pressed into the earth with the roller. For all summer crops and those sown in the autumn, which do not always germinate promptly on account of their small size, the roller is indispensable. For flax, grass, millet and buckwheat, it should always be used. It should also be used in the broadcasting of turnips, or when drill culture is used for any of the root crops. Independent of the fact that the smooth surface greatly assists cultivation, the roller compresses the soil to the seed, and it comes up more promptly and evenly. With sward and imperfectly-rotted sod it is almost indispensable, so that it may be rolled before harrowing. In fact, if one has a good roller, and keeps it under cover and from the wet ground when not in use, he will find it will last a lifetime and be found one of the most indispensable implements on the farm.—[Prairie Farmer.]

Bone Dust.

Bone dust, like barnyard manure, does not immediately yield up its nitrogen and phosphoric acid to plants. The bone phosphate of lime is insoluble in water containing carbonic acid. The gelatine of the bones would soon decompose in a moist, porous, warm soil, provided it was not protected by the oil and the hard matter of the bones. Steaming removes the oil, and reducing the bones to as fine a condition as possible is another means of increasing their availability. Another good method is to mix the bone dust with barnyard manure, and let both ferment together, and I am inclined to think this is the simplest and most economical method of rendering bones available. The bone dust causes the heap of manure to ferment more rapidly, and the fermentation of the manure softens the bones. Both the manure and the bones are improved and rendered richer and more available by the process. One ton of good bone dust contains about as much nitrogen as 8½ tons of fresh stable manure, and as much phosphoric acid as 110 tons of fresh stable manure. But one ton of manure contains more potash than 5 tons of bone dust.—[Harris' Talks on Manures.]

With an area about half as large as Texas and possessing the highest priced lands in the world, Great Britain has about 35,000,000 sheep, or about as many as the United States, and produces more wool. While the sheep do not pay for themselves in wool and mutton they are absolutely essential in maintaining the fertility of the soil.

Surface Manuring and Thin Seeding.

In the Summer of 1876, after mowing a field containing ten acres and ten rods, I scattered over the most of it a light sprinkling of stable manure, spreading as fast as hauled upon the second growth of clover. The Spring of 1877 the field was planted in corn, and yielded a heavy crop. The Spring of 1878 flax was sowed, and yielded eighteen bushels per acre. The field was then ploughed the second week in August, the last week in August harrowed and dragged, and the first week in September three-quarters of a bushel of Fultz wheat was drilled in per acre. The wheat did not appear quite thick enough in the Fall and early Spring; but though from the 15th of April to the last of May was very dry, so much so that corn would not come up, the wheat thickened out until it began to lodge in many places—over one-half the field was badly lodged and tangled before it was ripe enough to cut. The crop was harvested the 25th and 26th of July—four or five days in advance of the majority of wheat fields in this county.

The wheat was threshed July 7, and yielded 377 bushels and 19 pounds, or nearly 38 bushels per acre. Owing to the tangled condition of the wheat, I am confident not less than two bushels per acre were left on the ground. The best place to put manure is on grass, not on that which is cropped off to the very ground, but on a good growth, which hides the soil from the sun and wind. The ground then, after yielding a crop of corn, and oats, flax or barley, will be in the best condition for wheat. Farmers use too much seed to the acre. I never sowed less than one and a quarter bushels per acre before, and never raised more than thirty bushels per acre. I am confident that I would have raised as much if not more if I had sowed half a bushel instead of three pecks, from the fact that wheat scarcely ever lodges unless it is too thick. This year I shall only sow a half bushel on part of my ground. Persons who read this must understand, however, that poor land and slovenly tilling require more seed to the acre.—[Timothy Wilson, Ind.]

Saving Seed Corn.

The best ear is uniform in size throughout its entire length; the rows are straight, with uniformly-shaped grains the entire length, and incline to extend over each end, and indeed to cover the silk end.

To have seed that will certainly grow, no matter what the weather or how long it may be in the ground, it must be gathered before there is any freezing weather, and immediately be thoroughly dried so that the cob is as dry as it can be made; if so dried, after-treatment is of secondary importance. Seed corn treated in this manner, picked any time after it has passed the milky state, will grow and the produce will not deteriorate.

No season in the northern belt of States sufficiently dries or cures the cob of the larger varieties of corn enough to warrant reliance on its germination, if not subjected to artificial drying in addition to the natural forces. The inevitable tendency in all varieties of maize in cold seasons, or in higher latitudes than the belt where peaches can be successfully grown, away from large bodies of water, is to rapidly shorten the ear; and to keep up productiveness long ears should be sought for that are otherwise the nearest perfect as previously stated.

No doubt it is wise to refuse the grains at each end if they are diminutive or irregular in shape; but if the ear is perfect, little or no rejection is needed.

We are willing to stake our credibility on the single statement that if seed corn is thoroughly dried, cob including, as set forth above, it is as certain to sprout as that in contact with sufficient warmth and moisture.

For ten years I have had no degree of failure with seed corn treated as herein directed. Sweet corn thus managed is just as sure to grow as the hardier varieties.—[Cor. Germantown Telegraph.]

One of the most valuable aids to meat production is almost entirely disregarded in this country. The flax-seed cake made here finds its market mainly in England. It is true that corn is cheap, but there are feeders in this country who have proved the economy of a small relation of oil cake.

The Great North-West of Canada—Prospect of Wheat-Growing.

It will startle a good many in the first place to be suddenly reminded that the actual area of the Hudson's Bay Territory now annexed to the Dominion of Canada is greater than that of the United States. In the second place, it will surprise a good many more people to learn that in North-western Canada the wheat yield more than doubles that of Minnesota, and triples that of Pennsylvania and Ohio. In the third place, it will interest political economists deeply to be told that within a few years the Winnipeg watersheds of North-western Canada alone may be reasonably expected to throw into the commerce of the New World with the Old an annual wheat yield equal to the whole present exportation of America to the United Kingdom of Great Britain and Ireland, and that it is within the limits of possibility that this enormous competition with our own Western grain fields may be pushed eastward down a great navigable stream to a port on salt water which, though situated in the 93rd degree of west longitude, is eighty miles nearer to Liverpool than New York is. These are things, we repeat, to set men thinking. The great centres of agriculture, population and trade have been moved about too frequently and too far on this continent within the current century to make it safe for any man to predict where they may be found twenty years or ten years hence. All that we can be quite sure of is that the price of prosperity, as well as of liberty, is an eternal vigilance. Neither New York, nor Chicago, nor St. Louis, nor the United States themselves need expect to hold any good thing now in their grasp by any other tenure or upon any other condition.—[N. Y. World.]

The Cost of Wheat Growing.

At a recent meeting of the Lancaster County Agricultural Society, the question was asked: "With land and labor at present prices, can wheat be raised at one dollar per bushel?" A member, answering the question, estimated the cost of raising an acre of wheat at \$25.20, as follows:—Interest on one acre of land, at \$150, \$9; taxes, 50 cents; plowing and harrowing, \$4.50; 300 pounds of raw bone, at \$30 per ton, \$4.50; 1½ bush. seed, \$1.20; harvesting and threshing, \$4.50. Against this he placed the product of the acre at 40 bushels, which will bring, selling the straw, \$46, leaving a profit of \$10.80. He did not think the estimated yield was too great, but supposing it is a little too large, there is room for deduction and still leave a fair profit. Of course, he proposed to cultivate his wheat in the spring, and based his calculations on presumption that all wheat will be cultivated. From trials he had made he was forced to conclude that on good land, using a good fertilizer, the result will be as stated, and the land left in good condition for grass for years to come.

PARTRIDGES AND CORN.—To show how useful the beautiful and harmless partridge is, it is stated that a flock of them was seen running along the rows of corn just sprouting, and seeing them engaged at something which was believed to be pulling up the young plants, one of them was killed and its "crop" examined, which was found to contain one cut-worm, twenty-one striped bugs, and over one hundred chinch-bugs. Another man says that he has adopted measures to protect the bird, and that they have become so numerous and so tame that hundreds of them, after snow falls, could be seen in his barn-yard with the fowls, where they were fed. As a result of their presence upon his premises, his wheat crops were unusually abundant, while in many other places not far off the chinch-bug and other insects had destroyed half the crop.

The Royal Agricultural Society has determined to offer two prizes, of £25 and £10, for the best two distinct and new varieties of wheat. One sack of each kind is to be delivered by the competitor on or before October 1 next. Terms of competition can be obtained from the Secretary. The Society is much to be applauded for this decision, which is a most useful addition to their ordinary course of practice. No farmer can do better service to his class, not even by representing his county, than he can by introducing new and improved varieties of live or dead stock; and no agricultural society can better apply its funds than in testing and encouraging such good new varieties. The importance of choice seed has been greatly overlooked.

Ontario Provincial Agriculture.

The accompanying cut represents our farmers at their works, and the burst up that is sure to come may indicate how the money goes. Every intelligent farmer should be acquainted with this his own business.

This present mode of electing members of the Board must be changed. Every farmer that is taxed should have a voice in the choice of men that expend his money. We quote a few of the reports in circulation in regard to the Board of Agriculture. This Board neglected its duty in not using its influence in preventing the introduction of dangerous and contagious diseases in this Dominion. That their meetings are of such a character that the doors have been closed and the public kept in darkness in regard to their designs. That the honors given by this Society have tended to fill the coffers of friends to the injury and detriment of good farmers, and that injury has been done

and are doing should be examined into by every farmer. The immense sums we are paying from our hard-earned pittance are altogether out of proportion to any good we have received or are likely to receive from it.

Horse Binder.

John Watson, of Ayr, has for some time been experimenting and improving a horse binding machine. This machine follows after the reaper, and binds the sheaves. We hear that it gave the greatest satisfaction in Mitchell. Wire is used to bind with. One horse, driven by a man or boy, does the work as fast as a reaper can cut the grain. This machine will be exhibited at the leading Exhibitions.

Agricultural Affairs in Quebec.

We quote the following extracts from the Government agricultural journal of Quebec:

"For the last 40 years the publication of journals of agriculture has been assisted, and latterly a few lectures on the subject of farming have been

one that the legislature should mark well, seeing that it is not likely that the able director of the College of St. Anne would have hazarded it lightly.

"There is no doubt that the societies of agriculture have done and are doing good, but far less good than was expected of them. In many cases the contingent expenses and the cost of management are out of all proportion to their means.

"Those who possess farms in good condition, and men in easy circumstances, generally profit by the exhibitions of stock, etc., to the exclusion of those who are really in want of instruction and encouragement.

"Here is the evil! The entire Legislature has seen and appreciated it, but what steps have been taken to remedy it? We have spent \$2,000,000, with hardly any resulting good, and, from our apathy and carelessness, the evil is more deeply rooted than ever.

"Look at our provincial exhibitions. They cost us nearly \$20,000 each, and a deficit is, almost invariably, left of \$12,000 to \$15,000, which the Legislature and the cities interested have the pleasant task of paying off. In 1877, Quebec, already over head and ears in debt, voted \$6,000 for the show held in that town; the receipts ran short



COMING EVENTS—THE BURST-UP.—EVERY FARMER SHOULD KNOW THE FULL PARTICULARS.

to the country in consequence of such indiscreet or wilful actions. That the books of the society have been improperly kept, and in some instances not kept at all. That offices and prizes have been given by this Board to men, not to merit. That the Model Farm and School of Agriculture was not established for farmers, but to serve political friends and political purposes; that the institution has done and will do more injury in checking private enterprise than any good it has done or is likely to do under existing management. We are well aware there are several really good and deserving gentlemen on the Board; and perhaps they may not be cognizant of all facts relating to the institution, therefore we do not condemn all.

The sums we have had to pay and will have to pay for this institution, for keeping up this mammoth inefficient Board of Agriculture, and the injury this Board and this institution have done

given in different districts. The annual expenditure for these, and other purposes connected with cultivation, has exceeded \$70,000, and the total sum spent during the last 30 years amounts to more than \$2,000,000.

"It appears from the official reports published by the commissioner's authority, that up to the year 1875, the laws governing agriculture had remained inoperative, particularly as regards the state of the agricultural societies. The sums expended would seem to have been expended almost uselessly, and one might almost say that what progress has been made would have been made without the aid afforded so liberally by Government.

"The Rev. J. Buteau, formerly manager of the school of agriculture at St. Anne's, in an introduction to his report on the operations of that institution, asks if the grants accorded to societies of agriculture during the last 20 years have produced a proportionate result; and he arrives at the conclusion that they have hardly done any good at all to the great mass of farmers, and that whatever improvement has been made would have come about without the aid either of the societies or of the Government grant. A sufficiently bold assertion, and

\$8,000 of the expenditure, and the province had, as usual, to supply the deficiency. And to whose benefit went these large sums? Not to practical farmers—they were few in number among the exhibitors; not to men of French origin—there were few of them among the contestants. The prizes were chiefly offered for animals of foreign breeds, and the winners were principally the great breeders—men who for the most part have made their fortunes in trade or by commerce. How many animals, what agricultural products were exhibited from the districts of Quebec and of Three Rivers? Next to none! Why? Because the farmers of those places have never been encouraged to improve their cultivation and their products, and no means have been taken to attract them to these shows.

"It is well known that if a bona fide subscription of \$266 be raised, each county society will be entitled to a grant from Government of \$666. It would be mere mockery to talk of the bona fides which exist in certain counties as to these subscriptions! Those behind the scenes know well what sort of good faith prompts the oaths taken by those who testify to the reality of the subscrip-

tions necessary to make up the sum required to obtain the grant. Still the shows are held every year, or almost every year; and what is the ordinary result? The majority of impartial men must admit that these exhibitions only serve to distribute, as equally as possible, under the cloak of prizes, the Government grant among, at most, 30 or 40 people, to bribe them to subscribe again the next season about a tenth of the value of their receipts. No fraud existing, the rest of the subscriptions are obtained by distributing gratis seeds of forage plants paid for out of the grant; and if the required sum is not completed by this means, the absence of fraud being always presupposed, the begging-box is carried round from door to door, to the Senator, to the two Members, to the priests, to the shop-keepers; and the tavern-keeper must not be left out of the list, at whose house the grand dinner with which the Directors repay themselves and their friends for all their trouble — always out of the Government grant — is to be given. Thus are matters carried on in sixty societies of agriculture out of the eighty which exist! It is only right to add, however, that of late years the societies keep, at their own expense, a few stallions, boars, etc., the use of which is allowed to members at a nominal charge. And this, with the gratuitous distribution of forage-plant seed, is by far the most useful expenditure incurred by them, always, again, presupposing that honesty presides over the distribution.

"We must proclaim it aloud: what is wanting to the whole of our agricultural organization is a wise head—a head responsible indeed to the Legislature, but entirely free from any danger of being embarrassed in his free action by the trammels of politics.

"But, it may be said, why, if the Commissioner is not able to conduct the agricultural business of the Province, is not that duty entrusted to the Council of Agriculture?"

"It must out: the Council of Agriculture gives the idea of a body composed of 23 members having no close connection—a body which has, indeed, the power of motion, but neither informing soul nor guiding head—a body, lastly, which is utterly incapable of dragging out the torpid carcass of our agriculture from the deep burrow of routine in which it has for so long reposed."

The farmers in Quebec who have to pay for that journal may some day ask themselves who established it, and for whose benefit it is circulated, as they have to pay for it and have the paper forced on them whether they wish it or not. That paper is published by the Government at the request of—whom? for the benefit of—whom? to send—where? and to show—what?

We do not coincide with the above views in regard to Township Societies. When 30 or 40 members take an active interest, they are pretty sure to be the farmers that are doing the most good to the country. If the indolent, ignorant or inactive drones do not exert themselves to improve their minds, their stock or their crops, it is right that they should be made to pay something to aid those who are doing good for them.

We notice that large sums are mentioned as having been expended for agricultural journals. We are very pleased to be able to inform you that the FARMER'S ADVOCATE cannot in any sense be included among the list of subsidized agricultural journals.

Farm Barn.

For a farm of moderate size, or one where the means of the owner are limited, the most economical mode of accommodating the stock and produce of the farm is in a barn and stable combined.

This building should be placed in a situation where, either naturally or artificially, the ground slopes, so that on one side the barn is entered on

mer. *A* is the threshing-floor, 12 feet wide, with a hay-mow on one side, *H*, 14 feet wide, open to roof, and grain, *G*, on the other side, also 14 feet wide. On one side of this floor is a space, *a*, through which roots are thrown into the root-cellar, and another, *b*, through which straw is thrown into the straw-room, both being in the basement, while on the other side are openings, *c*, *c*, through which the hay is placed in the racks of the horses, in the stable beneath.

Let us now examine the basement or stable story of this barn, Fig. 3. The first feature is the cow stable, *C*, occupying about 30 feet square, being that portion on the right hand of the plan, Fig. 3. Here is a large "feeding passage," *F P*, 11 feet wide, including the mangers, *f f*. This passage is supplied with hay, it will be remembered, through the hole *d*, in the ceiling (which is in the floor of the barn above). This well-hole acts also as a ventilator, whenever one is necessary, for the whole cow stable.

The cow stable accommodates 18 cows. The stalls measure 3 feet 2 inches from centre to centre. These stalls are formed of a series of light gates, or rather, each side of the stall is a single gate, swinging, not upon hinges likely to be broken, but upon a wooden pivot, made on the upper and lower end of the frame post, at one end of the gate. Supposing the cows entering the door *g*, Fig. 3, to be stalled for the night, the gates being all swung open, as the first three are represented—the first cow enters; the gate is shut behind her, and thus forms her stall; then another, and the gate is shut; and another, until all the gates are closed, as represented on the other side, *h*.

By taking out a gate, double stall can readily be made for a cow about to calve. Next, on the left, see Fig. 3, is the stable, 14 feet wide, with stalls (5 feet wide) for six horses. To the left of this is the carriage-house, *C H*, 12 feet wide. At the side of the door, on entering this apartment, is the pump, *e*, a large cistern, which takes all the water from this side of the roof, being built under the floor here. There is a spout running through the wall, and another through the stable, to convey water both into the yard and the stables.

The space, 14 feet wide, to the left of the carriage-house, is occupied by a small root-cellar, *R*; a place for straw used for litter, *S*; and a harness-room, or box stall. Here is also a flight of stairs which ascends to the grain-room on the barn floor above. The grain-room is 14 x 20 feet, and 10 feet high, and will hold 2,000 bushels. Division of space may be made to suit the necessities of the owner. The space, 10 x 14 feet, next to granary, may be used for the storage of farm machinery and utensils. The barn will contain 50 tons of hay, exclusive of space above granary. Over the granary 11 tons of hay may be stored.

That is, however, the natural place for the storage of straw for bedding. The basement wall is 8 feet high and 18 inches thick, and contains 24 cords of stone. Above basement the barn is boarded up and down with dressed stock boards, battened, and painted—two coats. In localities where common lumber is \$12 per thousand, and stone \$6 per cord, this barn may be built, all complete, for \$1,500.—[Factory & Farm. Five or six drops of ammonia to every pint of water, once a week, will make house-plants flourish.

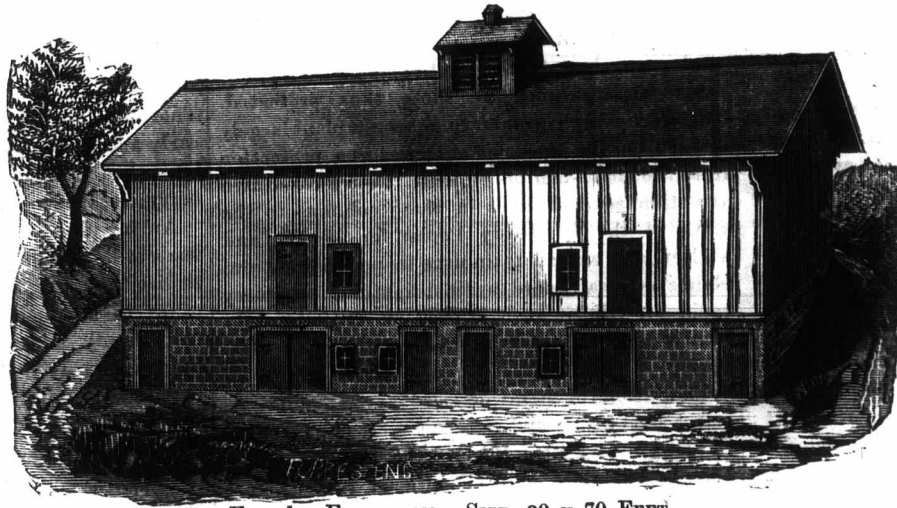


FIG. 1. ELEVATION. SIZE, 30 x 70 FEET.

the level of the ground, and on the other the stable, which is one story lower. The latter, or basement story, opens into the cattle yard, and contains accommodation for cows and horses, the root cellar, etc.; thus the same roof and walls cover and enclose at once the live stock below, and the hay and grain above.

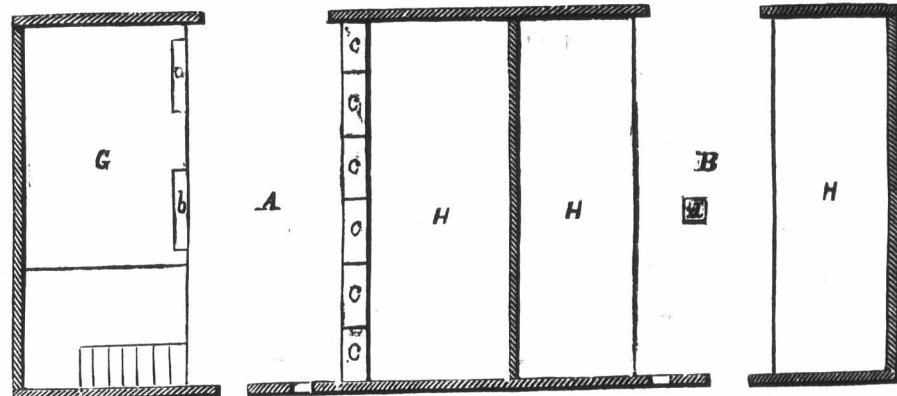


FIG. 2. PLAN OF THE MAIN FLOOR.

The elevation, Fig. 1, shows the stable or basement side, with both stories. The posts are 18 ft. long from the basement walls to the eaves. The basement is eight feet high in the clear. The opposite side, one story high, shows two pairs of double doors for driving in loads of hay and grain.

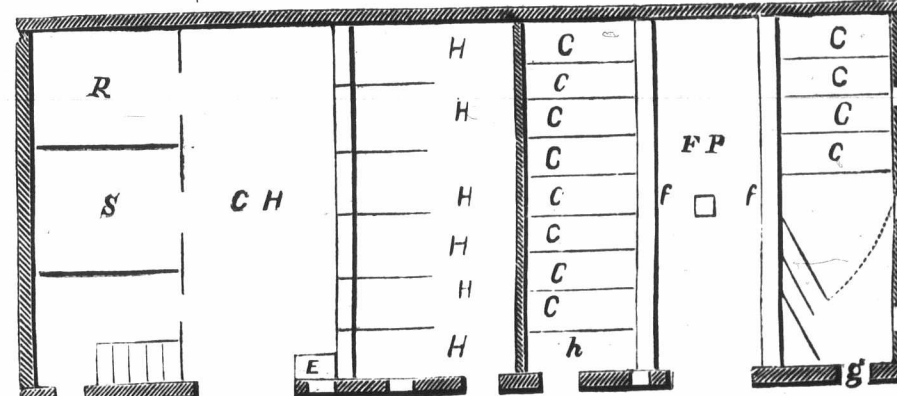


FIG. 3. PLAN OF THE BASEMENT FLOOR.

The whole building is 30 x 70 ft. outside, 30 ft. square being a hay-mow, under which is the stable for cows, and the remaining 40 ft. being a grain and hay barn, with horse stalls, carriage house, etc., below.

In Fig. 2, which is the plan of the barn floor, *B* is the main floor, 12 ft. wide, with a hay-mow, *H*, on each side, 9 ft. wide, open to roof. At *d* is a hay-well, or hole in the floor, with a curb round it, through which the hay is thrown into the feeding passage in the cow stable below. This curb is removed, and a trap-door put in its place in sum-

Garden and Orchard.

Seasonable Hints—September.

BY HORTUS.

September is generally the busiest month of the year, and plenty of work is found in gathering the fruits and vegetables, storing, marketing and shipping. It is also the month for imparting and procuring information on every subject of interest to the farmer and gardener. Exhibitions are to be held on a larger scale this fall than ever before in our country. Every facility is offered for exhibiting, and large prizes, so that everybody should be prompt to come forward and exhibit the products of their labor. It is quite a laudable ambition to try and excel your neighbors, as your efforts will result to their benefit, and we advise you to spare no pains in carefully selecting your fruit, your grain, cheese, butter, or anything which you wish to exhibit, leaving no stone unturned that will assist you in obtaining premiums. Another advice, and one very important, is: Exhibit everything you can. Do not be deterred with the fear that this is too small, or that is very inferior and not near as good as it was last year; take it along, it is only a little more trouble, and nine chances out of ten the very articles you thought would have no show will be the very ones to take prizes. This is the experience of exhibitors who have been a long time at it.

When picking out the kinds, say, for an entry of twenty varieties of apples, or ten varieties of pears, choose the very best standard kinds—the best of each season, taking into consideration what quality each fruit is most desirable for, and make up the entry accordingly. To old exhibitors this advice is superfluous, but we frequently notice they often err, and will have nineteen first-class varieties in an entry of twenty, with one variety no class at all, sufficient to condemn the whole entry. Excellence of varieties goes before size and color. Fruit requires careful packing when going any distance for exhibiting, and for this purpose waste paper answers best. Whether boxes or barrels are used, place a layer of paper between each layer of fruit, pressing all firmly. The hardest fruit place at the bottom, and so on, bringing the tenderest and ripest at the top. A good plan is to wrap up separate with soft paper each specimen of choice fruit. Never use bran or oats, or any substance that will pack closely around the fruit and remove the bloom, or that would require rubbing off fruit. Plums and grapes carry well in paper bags, or packed in cotton-batting in small boxes. Every legitimate means should be used that can be devised to set the fruit nicely on tables. Good arrangement and careful labelling is half the battle. The prospects of the apple crop are that it will be light, and that good apples will be dear; it is essential then that what fruit there is should be carefully picked, and kept in a good storeroom or packed in barrels for shipment.

For the cold districts of the Dominion we mention the following six varieties of apples as exceptionally hardy, viz.: Duchess of Oldenburg, Alexander, Irish Peach, Blue Pearmain, Red Astracan, and Golden Russet. These are all good apples, and well known; but we wish to make special mention of the Blue Pearmain. The tree is exceedingly hardy, and a good grower and heavy bearer. Fruit large to very large, color a dark purplish-red, covered with a blue bloom; flesh firm, sub-acid and pleasant flavor; keeps till March. This variety is not very well known, and deserves more attention and cultivation for its valuable qualities than it has hitherto received.

As the season approaches for fall planting, it will be well now to again draw your attention to the great importance of planting deciduous trees for shelter and protection. The damage done by lightning alone the past season has been enormous—every day, almost, cases may be heard of, of barns, houses and stock being destroyed by this terrible force. This may be guarded against by planting trees adjacent to buildings. Trees are also a great protection from fire; insurance companies are alive to this fact, and give very low rates for insurance to those thus protected. Therefore every careful farmer should plant largely either from the woods or nurseries as a protection from the above-mentioned evils. We have drawn attention several times in these columns to the value of the Lombardy Poplar for fencing and shelter, and we can again urge its peculiar natural claims as a safeguard against lightning. Of very rapid growth, it soon attains an altitude sufficiently high to act as a good conductor of electricity.

Plantations of strawberries may be made now; select good plants and water well. If not prepared to plant, a good plan is to set the young plants in beds where they will make good roots before winter, and be in fine condition for planting in spring. Evergreens can be planted now with every safety; those who have never tried planting at this season should make the experiment, and they will be surprised at their success. New beds of rhubarb may be put out, and old borders of shrubs and herbaceous plants should be renewed by trenching, manuring, dividing and replanting the old plants.

Birds and the Cherries.

The cherry crop has been more than usually good in most places this year; and even the birds have had to rejoice and sing "cherry ripe" in every note. But the bird trouble is getting to be a serious one where there are but a few trees; there are few left for the owner, robins and cat-birds getting nearly all. Some persons had the idea that when the sparrows came we should see the native birds fall back to the "original forest" which was once in the State of Ohio, but, in our case at least, there are more native birds than ever. They must have made a treaty offensive and defensive, for they live with the sparrows in peace and harmony. We wish the sparrows would drive them away a little about cherry-time. Robins, cat-birds, and the like, do an immense amount of good—from the time the frost leaves us till the cherries are ripe they live wholly on insects (friends and foes), and after the cherries are gone they again take to the grubs and caterpillars. But we do not like to lose the cherries. Perhaps we shall have to take to fish-netting to keep the birds from the trees, and there is the additional satisfaction of knowing that this is "the way they do it in Europe." Most kinds of fruit promise well for full crops. It is here that trouble often begins—for trees cannot bear forever on nothing, and many forget to give them food. The wise orchardist has thinned his fruit at an early stage of growth, and will now be looking around for material to fertilize them with. It is not too late to do it yet to advantage. We should surface-dress with manure, compost, or rich materials, any time between now and frost; but the earlier the better. There is not much use in putting it on after the soil is frozen. Rains wash its best portions away. As to the kind of manure it makes little difference. If the surface is not disturbed much, the richer the surface soil the better. We have noticed but little difference between animal manure and mineral. Some of the best and healthiest trees we know of stand near the manure-heaps in farmyards.—[Gardeners' Monthly.

Toads live almost wholly upon slugs, caterpillars, beetles and other insects, making their rounds at night when the farmer is asleep—and the birds too—and the insects are supposed to be having it all their own way. English gardeners understand these facts so well that they purchase toads at so much a dozen and turn them loose.

Raspberries—Varieties.

BY E. M., DRUMMONDVILLE, ONT.

The actual experience of growers is always of interest and value to intending planters. In this locality early raspberries are not desirable. Consumers who are glutted with cheap strawberries do not at once consent to give the increase of price which the inherent value, and cost of production and picking, of raspberries make necessary.

Among the Black-caps, Mammoth Cluster continues to be the leading variety. Davidson's Thornless is being discarded rapidly—berries early and small, and plant short-lived. Seneca is later than Mammoth Cluster, with a small good berry; it is a strong grower.

Among the Red rasps, Philadelphia probably leads still, though its dark-colored berries do not realize the highest prices. Last winter killed its canes to a considerable extent. Clark proved more hardy, and about as productive, while its berries sold at higher prices; quality excellent, berries large and bright red, but rather soft. The Turner is a magnificent grower; berries much like the Clark, but perhaps rather smaller, better and firmer; plant hardy so far. Herstine produces berries much like the Turner, but does not seem to have any special merit; plants do not seem to stand the summer's heat, though hardy as regards the winter's cold. Brandywine has several merits and several demerits; it is the only Red rasp that we have tested which can be sent bright and firm to distant markets. The berry is small, bright red in color, and is produced in considerable quantities until late in the season; the plant is a dwarf grower and produces innumerable suckers. If it grows as productive generally as it has in 1879, it will take a leading place among rasps. It probably requires a rich soil. The ordinary quality possessed by its berry is of little consequence—the public want and will have a firm bright-colored berry, and we don't propose to deny them. Arnold's Diadem, Read's Prolific, and Pride of the Hudson, though "promising" varieties, do not "perform" much with us. Will be glad to chronicle their success, if they have any, hereafter. Highland Hardy gives a small handsome and early berry which is not valuable here.

It will be understood that the above notes are the result of this season's operations, upon a moderately good sandy soil, in the vicinity of Niagara Falls. Other soils in other situations might tell a different tale.

The Linden as a Honey-Producer.

Several other plants would each probably furnish as much honey under the same circumstances as does the linden, but the best reports have come from the latter. It is quite a common thing during the best days of the linden harvest for a good colony (one hive) of bees to gather ten or fifteen pounds of honey per day, and many report much larger yields; Mr. J. W. Hosmer, of Minnesota, stated some years ago in the American Bee Journal that one of his colonies stored fifty-one pounds of liquid honey in one day during the linden yield. It is a popular, yet an erroneous, idea that bees gather just as much honey one pleasant day during the working season as any other day. Frequent examination of surplus honey boxes placed on the tops of the frames or hives, or the use of the honey extractor, will dispel this notion; or another way is to have a hive containing a fair colony suspended by means of a spring balance, and note the daily increase (sometimes decrease) in weight. This is especially valuable during such a yield as the linden or buckwheat, and when no after harvest can be expected, for it is then advisable to continue taking honey as long as possible, and still not deprive the bees of winter stores. Corn-tassels sometimes furnish quite a supply of honey just after the linden, and later still, buckwheat, where abundant, gives nearly always much more than is needed for winter stores; while if golden-rods and wild asters are plenty, it is generally safe to extract most of the linden honey.—[Ex.

Small-Fruit Crop of 1879.

BY E. M., DRUMMONDVILLE, ONT.

The berry crop of 1879 has been considerably above the average, and has been marketed at lower prices than ever. Several causes operated to produce the remarkably low prices realized this year. In addition to the abundant berry crop we have a large crop of the large fruits as well. Of these, cherries compete directly with the berries, and were sold at ridiculously low figures. Happy is the man who has no cherry-trees. The hard times, which seem to pinch us with greater severity than ever, were another force operating to knock prices down. The present vicious commission system has the same effect, and will continue to operate until fruit-growers make an organized effort to secure a better method. The profits of commission men depend upon the sum total of sales made. If at a certain price they can sell one package and make say 40c, while at a lower price they can sell three packages and make 25c on each, or 75c on all, they of course take the latter alternative and let the producer suffer.

Fruit-growers in Western Ontario would very greatly advance their own interests by meeting in convention and forming a practical organization. The writer would suggest that such convention be called to meet in Hamilton during the week of the Central Fair. Hamilton is within easy reach of Oakville, Grimsby, Jordan, Drummondville, and other fruit-centres.

A practical question will have to be answered by many intending fruit-growers—"Will it pay to plant small fruits?" Very often it will not do so. In some localities, with suitable soil and good attention, it may still pay. Those who have a good local market, and can avoid the intervention of commission men and the wholesale stealing of packages (which in Toronto has become an organized system), may generally succeed in securing fair profits. It is of course to the advantage of the general public to be able to use large supplies of fruit purchased at moderate prices. Fruit-producers have, however, a feeling of "goneness" in their purses, which indicates that this "moderation" of prices has been overdone this year.

[If the action of the commission men tends to lower the prices of berries, as stated, it must be to the advantage of purchasers—they too have an interest in the matter.]

THE ENGLISH WALNUT.—The Pacific Rural Press says: Experience with the English walnut has taught us to regard it as one of the most beautiful and rapid-growing trees for purposes of shade yet introduced on this coast. Independent of its desirability as a shade tree, it is valuable as a timber tree for various manufacturing purposes; in addition to which, the commercial value of the nuts after a few years would pay a good interest on the investment. It is very hardy, and seems peculiarly adapted to our Sacramento river-lands, to which alone our experience extends in growing it. We think it no exaggeration to say that fifty acres in walnut trees—set out now—would be worth, twenty years hence, more for nuts and timber than 500 acres of the best land in the county for grain. A grove of these trees, if set out at one-year-old, would not preclude the use of the land for other purposes beyond the first two years after planting. The following from the Marysville Appeal, as to the rapidity of their growth, corresponds with our own observation: At the gunsmith shop of B. Bigelow may be seen some very beautiful and valuable timber from English walnut trees grown at the old Briggs' ranch on Yuba River. In 1858 George Briggs planted the nuts, and the trees grew to be large and very prolific in yield, one being thirty-five inches in diameter at the time of their destruction by the flood of 1875, the roots being covered to such a depth by sand that they ceased to leaf and were soon after cut down and the body of the trees used. The annual growth for the 17 years is clearly discernible by the rings or grain of the larger pieces.

When Shall We Sow the Seeds of Fruit-trees?

The New York Tribune says: For the healthy and perfect germination of seeds, heat, moisture, air, and the exclusion of light, are all required. The seeds of apple, pear and plum trees, are usually sown in November, but they will show no signs of germination until the warmth of spring reaches them. Seeds planted too deeply do not grow. The depth of the covering should be regulated by the size of the seed. Small and delicate seeds may be sown almost on the surface, while large ones may be imbedded to the depth of four or five inches. The small seed requires but little moisture, and has but a feeble force to penetrate a covering, while the large one requires more moisture and has force enough to push its way up. When it is desired to obtain seedlings of a particular variety, free from any cross, cultivators protect the flowers while in blossom to guard against foreign impregnation, and save seeds only from the large and perfect specimens; the seeds should be plump and mature. Mr. Knight's mode of obtaining seedlings of the best varieties was to prepare stocks from some good sort that would strike from cuttings. These stocks he planted in rich, warm soil, and grafted with the kind he wanted the seed from. The first season after grafting he took them up, reduced the roots, and planted again. In this way he succeeded in making them bear fruit in two years. He allowed only two specimens to remain on each tree, and these in consequence were very large, mature, and in every way fine, and from these the seeds were taken.

In case of the plum, as disease is now so prevalent, it is generally recommended to have nothing to do with seedlings, unless grown from seed positively known to be the product of sound trees.

With butternut, as with all forest trees, follow nature as far as possible. Plant the nuts in the fall as soon as they drop from the trees. They may be planted in the spring if more convenient, in which case they should be packed in shallow boxes of sand during the winter. The first year's cultivation of nut-bearing trees consists in keeping the soil loose and free from weeds. A good mulch is also of advantage; indeed, an application of well-rotted barnyard manure perceptibly increases the growth both of butternut and black walnut trees. When possible it is advisable to plant the nuts in the place where the trees are desired, to avoid all risk and retarding of growth which accompany transporting such trees. When local obstacles in the way of soil, undue exposure, etc., exist, the safest plan is to consult a cultivator in the district and take advantage of his experience as to best varieties, etc.

Fall Planting and Protecting Trees.

If the work is well done, Fall planting has its advantages. Farmers usually can spare the time better in the Fall than Spring; the roads are in better condition to go for the trees; the tree gets an earlier start in Spring, sending out new roots so it can stand a Summer drouth better. But the work must be well done, or the tree is likely to Winter-kill. In filling in the earth about the roots every space should be filled, for while spaces of air are about the roots the freezing will kill the bark in such spots. The bark of the roots is absorbing a slight quantity of moisture all Winter.

Hence in transplanting let us know the importance of placing fine, moist earth and soil on all parts of the roots, so the absorbing force of the roots may be as little diminished as possible, for we have cut off a considerable portion of the roots in digging; and let us remember that no tree dies without a cause, and that the cause of a tree dying when transplanted is the want of that absorbing power at the roots.

Geraniums must have a season of rest during the summer if they are expected to bloom in winter. Keep the plants in pots out of doors, under the shade of some tree, till September, and water sparingly. In the beginning of September shake the soil from the roots, replant them in rich sandy loam, and bring them forward to the sun and air. Place them in a sunny window indoors, where there is no danger of frost, and when they begin to grow give them an occasional watering with liquid manure. They need plenty of sun and air, and a comparatively low temperature. In a hot room they will not do well. Cactus needs but little water, plenty of sun, and should have a small pot and light soil.—[Rural New Yorker.

The Culture of Violets.

It may surprise not a few of our readers to hear that Violets need culture. That culture affects all these is beyond a doubt. The size of the flower may be doubled or trebled by it. In some things an increase of size seems purchased too dearly by a diminution of fragrance. It is not so in Violets, but the reverse. The larger they are the sweeter also they grow, and though length of flower stem is much modified by variety, it may also be drawn up and out to some considerable extent by cultivation. The leaves of Violets should always accompany the flowers. Any other foliage is a mistake. All flowers should have their own leaves as the very best, because the most natural. A little culture changes the leaves of the Violet from mere disfigured patches, covered with red spider, to verdant beauty, fit to back up and enwreath the sweet flower.

As to the method of growth, it is simple enough. It consists in replanting the Violet every year, and in doing it early and carefully. The Violet throws out runners annually, somewhat in the manner of strawberries. These should be detached and planted immediately they are produced, which will be as soon as the plants have left off flowering. Plant in rich soil from six to eight inches or a foot apart, and keep the plants free of weeds and sufficiently moist to keep them growing freely throughout the summer months.

Some of the sorts will also attempt to form runners for the young plants. These should be pinched off, so as to concentrate all the strength of the plants into a fat and plump crown.

As to the best situation for the culture of these lovely Violets, much depends on locality. Behind a west or a north wall answers well on warm soils and sites. Sometimes a western border, fully exposed to the sun, proves most suitable in others. The great point is the annual renewal of the plants either by crown division or from runners. The latter is, on the whole, the best, and the old plants may then be divided and planted out, for it is impossible to have too many Violets, and few of the common or wild sorts have much or any fragrance.

Noxious Insects.

There are a great variety of insect pests that infest plants, but the green fly and red spider are most to be dreaded by the window gardener. Here, as in most other cases, "prevention is better than cure," and if plants are regularly syringed or sponged over with clean water, there will be little fear of insects troubling them. If the green fly makes its appearance on roses, geraniums, or other plants, it can be syringed off with clean water, laying them on their sides to prevent the roots being soddened with water.

If plants are allowed to get too dry, or are watered irregularly, they are liable to become infested with the red spider, a minute pest resembling a red cheese-mite. This is specially apt to make its appearance in hot and dry windows, and soon renders itself apparent by the leaves turning a rusty brown. Constant moisture is the best cure for it, or plants may be sponged over with soft soap and water. It often attacks Dracenas, but may be prevented by sponging the leaves with clean water every three or four days. For worms in the soil, lime-water will soon dislodge them; they must be removed as they come to the surface of the soil. This is rather beneficial to the plants than otherwise. The following decoction is useful for the thrip, red spider or green fly: "Boil an ounce of quassia chips in three pints of soft water, and either dip the plants or sponge them with the solution after it becomes cool." We have repeatedly tried this with the best results. If green fly exists only in small quantities, the fumes from a pipe or cigar will soon settle them, care being taken not to burn the plant in the operation. The best of all remedies against insects is to prevent their appearance by cleanliness, a liberal use of fresh water, and abundance of fresh air during favorable weather. Plants in close or Warden cases seldom become infested with insects, owing to the moist and genial atmosphere which prevails in those elegant contrivances.—[Cor. Gardeners' Monthly.

PANSIES.—Plant out from the cutting pans during showery weather, and shade till they make fresh roots.

ARICULAS should be turned out of their pots and re-potted in rich turfy loam in a very sweet state. If overpotted they never do well. Keep rather close for a week after potting.

Stock.

Straw as Cattle Food.

BY BERNARD DYER, F. C. S., A. I. C.

To form a strictly fair comparison between the different descriptions of straw, it would be necessary that each kind of straw should be cut at exactly the same stage of maturity. But, on the other hand, in practice we find that for the sake of the grain it is usual to allow one crop to attain a greater degree of ripeness than another. In the case of wheat, for example, it is better to cut the crop a little before it is quite ripe—and this is the custom of most good farmers. It is in this case quite feasible to take advantage of the superior conditions of the straw in a slightly unripe condition, without in any way injuring or deteriorating the quality of the grain. But barley is usually considered more suitable for the purposes of the malster when in a well-ripened condition, and barley is, therefore, usually allowed to stand ripening in the field for a comparatively longer period than wheat—and barley-straw is therefore usually riper than wheat-straw. Oats, again, are usually cut in an earlier stage of ripeness even than wheat, since the pendulous grain is liable to be shaken out by the wind and so lost, if the crop is allowed to ripen too much.

Wheat-straw, in an average condition, neither under nor over ripe, was found on analysis by Dr. Voelcker to contain between 1 and 2 per cent. of fatty matter, from 2 to 3 of nitrogenous compounds, about 4 to 6 per cent. of sugar and extractive and mucilaginous matter soluble in water, and about 20 per cent. of fibre in a sufficiently soft state to yield to the action of digestive liquids. Oat-straw is somewhat similar in composition, as far as the proportions of oil and nitrogenous compounds are concerned, but it contains more sugar and extractive matter, and a much larger proportion of digestible fibre. While in the case of wheat-straw rather more than one-fourth of the total fibre is digestible, in the case of oat-straw considerably more than one-half of the fibre is soluble in solutions corresponding in strength to the gastric juices. Oat-straw is, therefore, as a rule, superior in feeding value to wheat-straw, inasmuch as it contains a much larger proportion of digestible, fat-forming and heat-producing principles. Barley-straw contains more nitrogenous matter than either wheat or oat-straw, but in the ripe state, in which it is most often harvested, it contains but a very small proportion of sugar, more than nine-tenths of the fibre it contains being in a perfectly indigestible form. When less ripe, however, barley-straw is of a much more digestible nature, and on account of its superior value as a flesh-former it must, in that case, be considered as better fodder than wheat-straw. It is, however, rarely that barley-straw is harvested in such a condition as to be equal in feeding value to good oat-straw.

It is interesting to consider side by side with the straw of the cereals, the so-called "straw," or more properly speaking, the haulm, of peas. Pea-straw contains from 6 to 9 per cent. of nitrogenous compounds and about 2 per cent. of oil, about 8 per cent. of sugar and soluble extractive matters, and about 60 per cent. of fibre, of which nearly one-third may be regarded as digestible. Its composition more nearly resembles that of hay than does that of any of the common cereal straws, and it is a justly-prized article of food for both sheep and cattle.

The Choke Cure for Refractory Horses.

My method with balky horses—and I think it equally good in case of kicking or backing in harness, or running away—has proved very successful with my team, requires but a moment in its execution, and is not, I think, in the least inhuman. I take a strong string (three-ply broom twine is the best) long enough to reach from the horse's neck to the carriage, fasten one end around the horse's neck in a hard knot, so the loop will not slip, bring the throat-latch through the loop to prevent the string from working back on the neck. When the horse balks, do not strike or shout at him, but sit quietly in your seat and pull on the string until you choke him. If the horse is very stubborn you may have to choke him severely, but he will be willing to pull before he is choked down. Two or three chokings will render him afraid to balk. I tried this on my team last Fall, and have had no trouble with them since.—P.

Grades as Milkers.

BY PROF. LEVI STOCKBRIDGE.

A recent writer suggests two very important questions, the facts in relation to which, and the principles controlling the case, should be well understood by all dairymen and breeders of dairy stock. His query is, "Do heifers from native or scrub mothers, by bulls of thoroughbred milking stock, make better milkers than their dams; and if so, why? Why take the qualities of the stock from the sire rather than the dam?"

It is an indisputable fact that many native cows are superior milkers and butter-makers, and this quality is transmitted to their daughters, in some cases, until a family exists of local celebrity. This characteristic, however, has generally been lost in three or four generations for want of care in keeping up the regular line, or by the yearly infusion of blood of base or unknown quality. It is quite possible that remarkable milking qualities in an individual native cow might be perpetuated to remote descendants, and even increased, by careful selection of sire and in-and in breeding. But that is the method by which thoroughbreds are produced, and requires skill and intelligence of a high order, and years of observation and labor. With a good native cow as the basis or stock, much anxiety and time may be saved, by an immediate infusion of the fixed blood of a thoroughbred of the desired type, and the result will always answer the first query in the affirmative. The calf will be better than its dam in some respects, and worse in none. As an accident or sport, it is possible that the dam might be a better milker than the dam or breed of the sire, and the calf taking the type of the sire be inferior to her, but the rule taught by experience is the other way. In this case the characteristics of the offspring are determined by the long-known law—that the longer a class of animals is developed in a single line, the greater is their transmitting power, and with the more certainty do they impress their qualities on offspring. The blood of the dam having no line of descent, and no accumulated force, is overborne by the thoroughbred sire. Theoretically, the progeny of such a connection is more than half thoroughbred, and should develop more than half of the sire's stock qualities in milk and form. There is but little danger of reversion to original form if this method of breeding be adhered to; but even if there were, it is undoubtedly the cheapest, quickest and surest way to develop fixed milking qualities from native cows.—[Am. Agriculturist.

Fall Treatment of Calves.

Calves require special treatment at this season of the year. Grass begins to depreciate in value when the first frosts occur, and as cold weather approaches, calves not infrequently run down thin and weak, and are not prepared to meet the rigors of winter. There is no season of the year when extra care and feed are more needed than in the fall, before the animals go into winter quarters. Calves require to be kept in a thrifty, growing condition, and if checked in their growth during fall for want of proper nourishment, they will be apt to fall sick in early winter, and can only with great difficulty be kept alive. Winter is a very unfavorable time to resuscitate weak and sickly animals, and it is always better to guard against this trouble by care and good feeding during fall, for calves that are not allowed to lose flesh, and become weak at this season will, with fair treatment, go through the winter without trouble. It is well, then, to commence feeding calves a little grain or ground feed, pumpkin, the tops of turnips, beets, and carrots, when grass first begins to fall. Oats, either ground into meal or in the grain, make a good food for calves, and it is of advantage to teach them to eat extra food of the kind named early in the season, for later they will be more dainty in their appetites, especially if sick or debilitated.—[Rural New Yorker.

Good feed, whether it be good grass in summer or good hay and grain in winter, with pure water always within reach, will always give good returns, whether the outcome expected be butter, cheese, milk or meat.

In Youatt's famous book, "The Horse," printed under the superintendency of the Society for the Diffusion of Useful Knowledge, "Horses," says the writer, "will leave the best unsalted hay for that of an inferior quality that has been moistened with brine, and there can be no doubt that salt materially assists the process of digestion."

The Feeding Virtues of Bran.

In an article under this heading in the *N. Y. Times*, Alexander Hyde shows, from the analysis and manufacture of bran, that it is of very high value for stock feeding, and that Graham flour (that is, flour retaining the bran) is a more wholesome and nutritive food than flour when bolted. In concluding an elaborate article on the subject, he says:

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

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

SHORTHORNS FOR THE DAIRY.—Mr. Harris Lewis says he prefers thoroughbred cows of the Princess family to any other or all others for the dairy. He summarizes the good qualities of the Short-horns, saying that they have good teats and bags; are quiet and docile; utilize all food consumed; assume flesh when not milking; can be readily and cheaply turned into beef; yield a large quantity of milk well fitted for butter and cheese, and they are good looking.

TO PRESERVE BUTTER.—We add two teaspoonfuls of powdered saltpetre and two tablespoonfuls of granulated sugar to ten pounds of good, well-worked butter, when we put it away in the fall to keep all winter. It will keep good and sweet without these additions so long as the weather remains cool, but it does not keep well after it gets warm in the spring.—[Cor. N. Y. Tribune.

The Scientific Farmer says that it is very important that we should pay more attention to the amount of lime supplied in the ration of growing animals, when fed largely on grain, and particularly on Indian corn; and with growing pigs kept in small enclosures, it would undoubtedly be an advantage to feed considerable young clover, which is rich in lime, and when this cannot be had, to mix with the feed daily from half an ounce to an ounce of prepared chalk for eight or ten animals. With calves and lambs, the administration of prepared chalk would also prove beneficial at times, but whether it would pay to make it a regular practice when feeding grain, can hardly be decided at present.

To prevent lameness and keep your horses' feet in good condition, stuff them frequently with linseed meal mixed with soft soap.

There is more profit in feeding calves liberally during the first year than later, inasmuch as early development is essential to full success in later growth.

Keep a barrel of gypsum in the stables where cows are kept, and sprinkle the floor with it after the stalls are cleaned. It is a valuable absorbent of liquid manure and an excellent deodorizer.

English Notions About the Care of Horses.

To guard against chills and colds, with the loss of time, expense, and risk of unsound wind which often follows, horse owners require to be on the alert, especially at this season of the year. Horses alternately sharply worked, and when hot allowed to stand in the open air until nearly cool, should have warm coverings, waterproof on one side, for their back and loins. Farm, as well as town, horses often catch cold whilst their thirsty drivers are leisurely refreshing in the public house, and the mischief is sometimes aggravated by the extra spurt which is afterwards put on to make up lost time. Many horses, especially if they have senselessly been allowed to lie out during the later autumn nights, have already grown a long, thick winter coat, which causes ready perspiration; it is almost impossible to get them properly dry; they stand chilled throughout the greater part of the night, and hence thrive indifferently, and are especially liable to colds. Whether of the light or heavier breeds, all horses which, from habit or previous management, grow these long, heavy coats, should be singed or clipped entirely or partially. Trimming or singeing the long hairs along the chest and belly, and down the legs to the knees and hocks, usually suffices for farm horses. Where hard or fast work is required, the Irish plan of clipping the hair from the chest, belly, arms and thighs, proves a great comfort to the horse, and often saves half a bushel of corn a week. If they are to do their work cheerfully and well, horses changing their coats require for some weeks a little extra corn or other good food. Horses recently brought into full work require more consideration than they receive. It is apt to be forgotten that condition is acquired slowly, as a result of good feeding and properly regulated exercise or work. Many promising young horses are brought up to London and other large towns fresh and fat, but wanting hard condition, unfit to stand severe work, and at this season largely contribute to the sickness and mortality. Young, unseasoned horses, whether at town or farm work, if they are to maintain health and condition, should have a frequent off-day, and should be rested whenever they show dullness, loss of appetite, or cold. By the gradual breaking in of their raw recruits, by having a reasonable reserve force for contingencies, by never allowing a horse to go to work which had failed to clear up his supper, or which showed any sign of ailment, the London General Omnibus Company have recently reduced by one-half the casualties amongst their horses. The same sensible principles, intelligently carried out, will secure the same salutary results in other studs, whether in town or country. —[London Agricultural Gazette.

Heaves in Horses.

Is there any permanent cure for heaves? This is a query generally answered in the negative. In reply, the N. Y. Times says:—"There is no radical cure for the heaves in horses. The primary cause of this respiratory and air-passageway affection may be attributed to indigestion in its early stage. A slight cough in all these attacks is generally present, which develops a wheezing sound, in some instances resembling a kind of grunt. If the attack is not arrested early in its progress the subject soon becomes a confirmed dyspeptic; then he will usually manifest a voracious appetite, staring coat, enlarged abdomen (tympenic), spare muscles, a dull, miserable look, the head droops, he is unwilling to travel fast, and when urged to do so, especially up slightly inclined planes, becomes exhausted, and soon 'used up.' The excretions also indicate derangement of the digestive organs. In treating these cases the first object in view must be to improve the general condition of the patient. If this can be accomplished successfully an improvement in a curable case usually follows. Healthy digestion must necessarily be restored in order to eradicate indigestion. To produce these favorable results the following is indicated:—Give one-drachm doses of the tr. acid. sulph. aro. in one pint of water night and morning. This may, however, be put in his drinking-water night and morning if he will drink it. It will save you the trouble of drenching it down the throat. The following alterative should be given in the meantime in mash food consisting of equal parts of oats and bran, made with cold water: Take equal parts of finely powdered gentian root, African ginger, lac-sulphur, salt, cream of tartar, charcoal, licorice, elecampane and

caraway seeds. Dose, one ounce every night, incorporated well through the mash food. Frequent changes in diet, which should be free from must, mow-burn or decay; exercise and good management are indispensable agents. When considerable improvement in the general condition of the patient is perceptible the aromatic tincture may with safety be omitted, and the alterative preparation should be given in four-drachm doses instead of one-ounce doses, as recommended to commence with. The patient should be given his water from a bucket in small quantities at a time and should be regularly watered and fed three times daily. If he is inclined to eat the bedding or other foul provender, a muzzle should be placed on his head and only removed at meal time. This treatment, if thoroughly preserved in, will no doubt result efficaciously in a reasonable time. Please report its effects after giving a few weeks' trial.

Wintering Sheep.

The papers have little to say on this subject, especially here in New Hampshire, and generally throughout New England, probably from the fact that so few are raised. I am firmly persuaded that fewer dogs and more sheep would add materially to the wealth and comfort of the community. Just now I am interested in the winter management of sheep; the best arrangement as to feeding and stabling a flock. It requires no little attention, and suitable feeding apparatus to prevent their wasting fodder; so I have found it. I am wintering some twenty sheep, with six lambs a month old. My stable is twenty-five by twelve feet, opening into a yard having the sun, and well protected from the wind, with a good supply of pure spring water, by short aqueduct, and seldom freezing over in the tub. To the water and the yard they have free access, but remain most of the time in the stable, where they are fed regularly three times a day with hay varying in quality from the best English to medium and lower grades. As extra they have each day fine cut roots, sixteen quarts, with a few damaged beans. They seem to relish a change each feeding, taking with seeming equal avidity each quality. By mere accident I found them eager for rubbish cut in the pasture, for bedding, consisting of pod, ferns, briars, young and tender sprouts, rushes and coarse grass. The rattling of a dry leaf will call forth a responsive "baa" as promptly as the shaking of a salt dish. Once a day, I feed them this bedding, and they devour it all to the dry sticks. I had known before that they were fond of bush leaves, cut and cured with the hay, but I did not suppose they cared for pasture pod and "hog bral es," as old people used to call them.—[Mirror and Farmer.

PIGS AS INSECT DESTROYERS.—The white grub which infests meadows and other lands is the larva of the May beetle, and, as it lives in the ground until the third season before it transforms, it often does great damage to crops. The grass roots are frequently eaten off from one to two inches under the surface, by these pests. Hogs are fond of insects, and are well known destroyers of the white grubs, as also of field mice. It has been thought by some German farmers that the late plague of mice in Germany may be attributed to the practice now prevalent there of keeping swine entirely penned up instead of allowing them as heretofore their liberty in the fields. Certainly it is, that not only in the fields but in our orchards swine may become great helps in the destruction of not only vermin but many noxious insects.

Dr. Anderson, of Scotland, estimates that one cow, well fed, will furnish an amount of manure annually which will yield 103 pounds of ammonia, 88 pounds of potash and 64 pounds of phosphoric acid; and that these elements represent a value of \$22.75, based on their availability, as compared with artificial fertilizers in which they are found.

NO CURE FOR STRINGHALT.—Stringhalt is an affection of the nerves, and is incurable. It is caused by a loss of power of the nerve which controls the muscle by which the leg is lifted; the action is then spasmodic, irregular, and excessive, causing the high lifting usual in this disorder.

Feed stock regularly at stated hours each day. Stock become wonderfully observant on this point, and become restless when the time arrives for giving their food should that food not be at hand.

GLEANINGS.

Many persons seem to think that evergreen trees standing about a lawn should not be pruned at all; and others go to the opposite extreme and clip them with shears, annually, into round or conical shape, about as natural and graceful as a post or any other wooden structure painted green. All ordinary evergreens have the power of forming new shoots where twigs and small branches are cut off, and hence their form or manner of growth can be modified to suit one's taste or purpose by a little judicious pruning bestowed each year. We have seen the various kinds of pines as well as spruces dwarfed and thickened in this way so as to fit them nicely for small lots, or situations where tall trees were not desirable. For this purpose the longest shoots on all sides and at the top should be cut well back with a knife or short shears.

The San Francisco Bulletin says:—"A sugar planter at the Hawaiian Islands in 1860 having a large quantity of land with no streams of water within reach, set his wits to work to bring the moisture from the mountains down to his plantation. For this purpose he planted 50,000 forest trees, which under his care grew rapidly. Soon the clouds hung on the new forest and the rain came down abundantly. He has now a very flourishing sugar plantation. But he has made it out of a dry plain, which, without water, would be of very little value. It is the most economical irrigation which has yet been brought forward. There are no better hydraulic pipes than groups of forest trees.

Tecumseh Herald: "Reports have been received by me from farmers in different States, saying that liberal application of slacked lime, 8 to 10 bushels per acre, spread late in autumn or early spring, prevents injury by worms and other insects to wheat, and stimulates better growth. Also, that six to eight bushel of salt to the acre, applied and dragged in at the time of seeding, very generally prevents disaster to wheat from rust, smut and insects; it may not always prove successful but generally does—and is also a valuable fertilizer."

Hydrangeas are showy summer-flowering plants, and a few may be grown to assist in dressing vases, steps, or balconies. Very neat-flowering specimens, only six inches high, may be had by taking off the points of the strongest shoots, inserting them in three-inch pots. Tie up their heavy leaves to a small stick; water freely, so as never to allow them to flag; place under bell glasses till struck. The following season they will each produce a large truss of flowers.

CLOVER AS A WEED EXTERMINATOR.—Among its other excellencies, clover is a good weed exterminator. When it is thick, as it should be, it smothers down a great many noxious plants, and if cut at the proper time, not a weed will have a chance to ripen its seed. For both these reasons it is hard on the Canada thistles, and I verily believe a course of clovering will be found about as effectual a remedy as can be devised against that worst of vegetable pests.

Prof. Thomas, State Entomologist of Illinois, reports to the State Board of Agriculture that a new insect is now injuring the corn in some parts of that State. It is similar to the striped cucumber bug or flea beetle, and has been known as very destructive heretofore in the Middle States. We have no reports of its appearance here.

Pelargoniums should be turned out of their pots, and the old compost shaken off for repotting, but never until they have broken well after having been cut down. Give plenty of drainage, and use as small pots as possible. Sow seeds gathered this season of all kinds of geraniums.

To keep black ants out of the sugar-barrel, draw a big mark with common chalk around the barrel, and the work is done. Small red ants, a real pest, are easily banished by a free use of cayenne pepper placed and blown into their resorts.

The great secret of keeping verbenas and petunias through the winter is to have them struck early, and planted either in boxes or pots by the middle of September, so as to be established before winter.

By constantly removing decaying flowers before a seed pod can swell, the growth of the plant and the continued development of new buds and flowers upon the new growth are matters of course.

Hanging baskets are best watered by plunging them in a tub of water, and allowing them to get thoroughly soaked through.

Miscellaneous.

How to Preserve Cider.

A pure, sweet cider is only obtainable from clean, sound fruit, and the fruit should therefore be carefully examined and wiped before grinding.

In the press, use hair cloth or gunny in place of straw. As the cider runs from the press let it pass through a hair sieve into a large open vessel that will hold as much juice as can be expressed in one day. In one day, or sometimes less, the pomace will rise to the top, and in a short time grow very thick. When little white bubbles break through it, draw off the liquid through a very small spigot placed about three inches from the bottom, so that the lees may be left behind. The cider must be drawn off into very clean, sweet casks, preferably fresh liquor casks, and closely watched. The moment the white bubbles, before mentioned, are perceived rising at the bung-hole, rack it again. It is usually necessary to repeat this three times. Then fill up the cask with cider in every respect like that originally contained in it, add a tumbler of warm sweet oil, and bung up tight. For very fine cider it is customary to add at this stage of the process about half a pound of glucose (starch sugar), or a smaller portion of white sugar. The cask should then be allowed to remain in a cool place until the cider has acquired the desired flavor. In the meantime clean barrels for its reception should be prepared, as follows: Some clean strips of rags are dipped in melted sulphur, lighted and burned in the bung-hole, and the bung laid loosely on the end of the rag so as to retain the sulphur vapor within the barrel. Then tie up half a pound of mustard seed in a coarse muslin bag, and put in a barrel, fill the barrel with cider, add about a quarter of a pound of isinglass or fine gelatine dissolved in hot water.

This is the old fashioned way, and will keep cider in the same condition as when it went into the barrel, if kept in a cool place, for a year.

Professional cider makers are now using calcium sulphite (sulphite of lime), instead of mustard and sulphur vapor. It is much more convenient and effectual. To use it, it is simply requisite to add one-eighth to one-quarter of an ounce of the sulphite to each gallon of cider in the cask and giving the latter a thorough shaking or rolling. After standing bunged several days to allow the sulphite to exert its full action it may be bottled off.

The sulphite of lime (which should not be mistaken for the sulphate of lime) is a commercial article, costing about 40 cents a pound by the barrel. It will preserve the sweetness of the cider perfectly, but unless care is taken not to add too much of it, it will impart a slight sulphurous taste to the cider. The bottles and corks used should be perfectly clean, and the corks wired down.

A little cinnamon, wintergreen, or sassafras, etc., is often added to sweet cider in the bottle, together with a drachm or so of bicarbonate of soda at the moment of driving the stopper. This helps to neutralize free acids, and renders the liquid effervescent when unstoppered; but if used in excess it may prejudicially affect the taste.—[Scientific American.]

The perils of having such a poison as Paris green about and in daily familiar use are great, and with more use and a growing carelessness, the results will be every year worse, probably, until the use of it will have to be made a matter of restrictive legislation. It is so with almost every dangerous thing. Until we make a law regulating his use of it, man is willing to forget it has any dangers. The chances with regard to Paris green are several. It may be flooded off by a sudden rain into some water supply, and so prove deadly. It may be blown from potato patches upon lettuce, beet-tops, strawberries and other eatable things, and more than one genius engaged in agriculture is not above the level of experimenting with it on these things. The law of ignorance and carelessness playing among 6,000,000 farmers has got to find some ignoramuses. Then, too, it is possible out of millions of bushels of potatoes raised any year for the Paris green to get in some way by some of these upon some tables and cause fatal results. Here are the outright dangers, besides the possibility of children getting at the stuff.

DEATH TO THE CABBAGE WORM.—Take common elder leaves and boil them, sprinkle the tea over the cabbage. Two applications will effectually destroy the worms, and not injure the plants.

Poultry.

Green Food.

The importance of green food for poultry at all seasons of the year is no longer a subject of doubt, but that it is absolutely necessary to their existence, or that the hens will not lay without it, may be questioned, for many a city yard in times past has not known a green thing from the sere and yellow leaf of autumn to the fresh, green grass of spring, and the fowls have thriven after a fashion. Now, however, thanks to our poultry literature, which is either bought or borrowed by everybody who keeps even an old hen to scratch around the back door, a more enlightened age has dawned and the feathered race are better cared for, much to their own comfort and to their owners' profit. The poultry of the farmer, with the wild birds of the fields, often have to get their green food as best they can, for I fear that very few farmers even now give a thought to the wants of the fowls beyond a feeding of corn morning and evening, and when they find a portion of their young wheat or rye field entirely eaten off they blame the fowls for getting as best they can a food which they prize as highly as their daily mess of corn. The fowls in the country also get for green food in winter the grass in protected and wet places, hay and hayseed around the barn, buds from the trees as they are trimmed, roots from the cellar, and green food which is given to the cattle, aside from their deprivations where the snow leaves a winter crop uncovered.

It is the city breeder who most needs to study this question and provide himself for this great want of his fowls, and it can be easily done. Cabbage is one of the best, if not the best, all things considered. They like it and it can easily be fed. A dozen or so heads, with the stumps and roots, may be placed in the cellar. If a portion of the bottom of the cellar is earth, a trench may be dug and the roots covered in it, or the roots may be covered with earth from the garden. They may be fed by fastening them suspended in easy reach of the fowls, or a stake may be driven in the ground, the top sharpened and the head of cabbage put on it, or they may be chopped fine with onions, apples, turnips, etc., so that the fowls get them fresh when they want them, it does not matter much how. Potatoes are best boiled, and all the other vegetables that I think of are best raw. No one who keeps poultry should fail to keep on hand a good supply of onions; the common red variety are as good as any. They should be chopped fine, and it is not well to use them all, for in the spring when they have sprouted they may be set in the garden in a bed prepared for them, and as fast as they grow pull them and cut them up for little chickens; they will be found to have nice young onions on the bottom. I make a practice of having a good bed of young onions every spring in my garden. Every day I pull a handful, cut fine with my pocket-knife, and throw to the chicks. If they have a grass run they will relish the onions all the same.

Those who study the wants of their fowls will have no trouble in finding out what the fowls like best. They will also know when the fowls appreciate their care in the returns which they give.—[N. H., in Poultry Monthly.]

Bad Flavored Eggs.

Speaking of ill flavor of eggs the *Journal of Horticulture*, London, remarks that it is the result of one or two causes—either the food on which the fowls are fed or the substance on which the eggs are laid, and adds:—"This may be easily tested by shutting up a laying hen and giving her garlic or melted barley to eat. In a few days the eggs will taste of the food. We have tried this ourselves and know it to be correct. Another theory is—but we cannot speak of it with the same certainty—that an egg laid on any strong smelling substance will contract it. This is explained by the fact that the shell, when the egg is first laid is comparatively soft and impressionable, and only hard after contact with the atmosphere. Let your birds be wholesomely fed on plain food and your nests be made with clean straw. Hay nests have a tendency to make eggs taste. Follow nature and you will have nothing to complain of."

Veterinary.

Catarrh.

The veterinary writer for the N. Y. World, in reply to an enquiry from a correspondent, says:

Your description of symptoms indicates the attack to be catarrh. The green grass is a well adapted provender in these cases. The following medicinal remedies are adapted to the attack: Give her a drench composed of fourteen ounces raw linseed oil, one drachm each of powdered Cape aloes and antimonii et potassa tartras. Mix all thoroughly together and pour slowly from a common drenching-horn or a smooth-necked champagne bottle. Feed equal parts of sound and sweet oats and bran, made into a hot mash, morning and evening. On top of each mash place a powder, without mixing in, composed of two drachms each of finely powdered gentian radix, African ginger, lac-sulphur, sassafras-radix, cream of tartar, and one drachm of antimonii et potassa tartras. As soon as the mash is scalded place it into a nose-bag and the powder on top, and hang the nose-bag on the head with the mash a sufficient distance only from the muzzle to secure it from being scalded. Liberal quantities of cleanly washed carrots or small turnips should be properly sliced and fed to your animal daily. The body and limbs should be kept warm by placing blankets on the former and adjusting flannel bandages to the limbs in a manner that they will not slip down from their proper place. If you bandage the limbs too tightly edema or swelling of the legs will be the result, making this remedy far worse than the disease. Do not in any way expose your horse to the atmospheric changes continually taking place in the weather at this season of the year. Upon giving proper method to the hygienic and dietary care and general management of your horse and perseveringly executing the treatment herein prescribed depends the efficaciousness of the result which will accrue if these rules are strictly conformed with, but not otherwise.

TO GET RID OF RATS.—A farmer says: "Four years ago my farm was fearfully infested with rats. They were so numerous that I had great fears of my whole crop being destroyed by them after it was housed; but having two acres of wild peppermint that grew in a field of wheat, cut and bound with the wheat, it drove the rats from my premises. I have not been troubled with them since, while my neighbors have any quantity of them. I felt convinced that any person who is troubled with these pests could easily get rid of them by gathering a good supply of mint and placing it around the walls or base of their barns."

SHEEP AND DOGS.—A Missouri farmer has been figuring out the effects of keeping dogs in that State in relation to sheep raising. He states that in 32 counties in that State 10,602 sheep were killed by dogs; he estimates the number of dogs in these counties at 452,000; that a hog will thrive on the food necessary to support an able-bodied dog, and at the end of the year weigh two hundred pounds; therefore, if the food for these 463,000 dogs went to the hogs, it would make 92,000,000 pounds of pork, worth at least six cents a pound, or \$4,550,000—nearly twice the value of all the school houses in the State, and more than twice the amount used by the State for school purposes.

Water made almost as thick as ordinary cream by the addition of fresh cow manure, and poured on young melon vines, is the only effectual remedy I have ever found to prevent the ravages of the white beetle. Should one application not be sufficient, it should be followed by another until the enemy becomes nauseated and retires in disgust. Such a liquid is a great stimulant to young plants. To retain it about plants in sufficient quantity the melon hills should be made with a slight cavity in the centre.

Root crops have done much to redeem the agriculture of England. The sugar beet is doing wonders for France. It may be that in this country we can not stand the labor necessary for raising and feeding roots to our live stock, while corn and hay are so cheap and abundant, yet it is possible that as a condiment, and for variety, roots would pay as well as any crop we can raise.



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

Philadelphia Raspberries.

SIR,—Occasionally I correspond with the ADVOCATE for information on several things. I have cultivated some Philadelphia raspberries for the last three years. The first year I planted two dozen canes; of course they produced very little fruit the first season, but the second year some of them bore some fine berries, while others were worthless—from two to four grains on each berry. From the whole I planted out another row of canes, but in the new row there were the same worthless bushes as in the other. It was really provoking to see them amongst the other bushes, which were loaded to the ground with fine berries. Have those canes degenerated, and will they still bear the same worthless kind of berries? My wife was so displeased with them she told me to tear them up. When I observed them at the first fruiting I thought the cause was the dryness of the season, and especially as the bad canes were on a gravelly spot; but they turn out the same wherever planted. They grow as healthy as the others, bloom as abundantly, and are of the same color.

I hoped they might be different another year, and therefore I have not dug them up. I have another variety of raspberries—the Franconia; I will tear these up, however, for they are worthless, at least with me.

We have very few winter apples in this part of the country this year, and the cockle worm has the largest share of what there is. It is strange that notwithstanding all the remedies prescribed, the destruction of this pest seems to be a failure. Our cabbage seems to be at the mercy of the green worm this year as well as last.

I have some Clinton grape-vines with an abundant crop, but there are hundreds of thousands of little white flies or lice on the under side of the leaves, which suck all the sap of the leaves; they then creep up and the fruit shrinks and does not mature right. I have tried hellebore in water from a syringe, but without effect; they fly off for a moment, but are soon on again. I would like to hear of a better remedy, if one can be had.

M. B. C., Walkerton, Ont.

[The Philadelphia raspberries referred to in Mr. C.'s letter are no doubt a mixed lot; either some worthless variety has been sent with the Philadelphia, or else that berry itself has sprouted, producing some worthless specimens. I should think the former is most probable, and would recommend in any case that they be dug up and destroyed without delay, and their places filled by suckers from the other plants known to be good. The Franconia is an excellent berry where they prove hardy, but I should think are too tender for your section, unless you took the trouble of pegging down the canes in the fall and covering them with a little earth. The codling moth is destructive in many localities this season, and will continue probably to increase until apple-growers can be induced to apply persistently the remedies which have been recommended. The small insects on the Clinton vine are commonly known as Thrip. Hellebore and water will have no effect on them, but a strong decoction of tobacco will kill them, or smoking them well with tobacco smoke.]

SIR,—Please inform me if there is a cure for swollen legs in horses. I have a mare that sprained her leg several times last spring, and the swelling is not all gone yet.

E., Durham, Picton, Nova Scotia.

[Bathe well with cold water, and bandage the leg at night. Apply a stimulating liniment, such as a mixture of ammonia, turpentine and sweet oil.]

Farming for Profit.

SIR,—In all likelihood the proper way to make money by farming is by selling fat meats, which can be done most easily in summer. Yet the farmer or any other man cannot subsist exclusively on meats, and must, of course, make manure to renovate his oft tired-out wheat lands. This can be brought about most successfully by turnip-raising to stall feed. Since manure depends on rich fodder for efficacy, the turnip is just the article required for this object. No man can make rich manure except by turning the manure heap over as soon as frost leaves. Any farmer ought to know that raw or green manure does not possess the requisite constituents that create a suitable and profitable fertilizer, being effected by fermentation; and in order to save manures for turnips, which can be so easily utilized in winter, farmers are turning their attention to the raising of potatoes from sod. The fly pest is the most obstructive difficulty in turnip-raising, but this can be remedied wonderfully by sowing guano or superphosphate well pulverized along with the seed, which so feeds and urges the roots to grow that the plant overcomes the fly's ravages. Turnip-raising is one of the grandest arts in the agricultural world. It was not until about the year of the Battle of Waterloo that a man named Culey first sowed turnip seed in drills, on the banks of the River Tweed, on the border of Scotland.

PRACTICAL FARMER.

Gas Lime.

SIR,—Could you inform me is there any value in the refuse lime from gas works, and would it be worth the labor of hauling it 8 or 10 miles to a farm? If so, how should it be applied? It strikes me that there is much waste of materials that might be profitably used in enriching the soil. This is very much the case in towns, at tanneries, gas works and other such places. The fields are hungry for manure, and what might be used to feed them is going to waste. J. P., Dorchester, Ont.

[Gas lime is less valuable as a fertilizer than lime that has not been used for such purposes. Lime loses its fertilizing power by long exposure to the air, and is of greater value when used fresh from the kiln. Still even gas lime has not lost all its good qualities. It will, if judiciously applied, be of benefit to such soil as needs lime, such as is deficient in lime; and it is worth at least the cost of hauling it, as you ask, ten miles to a farm, if it be got for the hauling, or even a low price additional. Gas lime is caustic, and will kill any plants on which it is laid thickly. Grass land may, however, receive a slight application of it without injury. The best way to use it is to compost it with muck, sods or earth from ditches and headlands; or to spread it on land before plowing in the fall and early winter. It will set free elements of fertility that have been locked up in the earth.]

SIR,—I send two small boxes containing Entomological specimens—one box with two specimens from the Island of Anticosti, the other with several specimens collected here. Will you kindly send them to Wm. Saunders, Esq., President of the Entomological Society, and give the names in the September number of the ADVOCATE.

C. J., Presquile P. O.

[The two insects from the Island of Anticosti are beetles; the one, *Crioccephalus agrestis*, belongs to the family of borers, all of which are destructive, many of them boring into our forest trees to their great detriment; the other, *Necrophorus orbicollis*, is one of the burying beetles, a very useful family of insects, whose special office it is to dispose of the bodies of dead animals, which would otherwise taint the air during their decomposition. A few of these beetles, small as they are, will completely bury a dead bird, or even a dead cat, within two or three days. They scoop the earth out from under the dead body with their legs, and thus gradually let it down until it is low enough for them to cover it up. Both these beetles are found commonly in the Province of Quebec, and occasionally in Ontario also. The other box sent contains five specimens, four moths and a water-fly, the latter belonging to the order Neuroptera. The fly and two of the moths are so battered as to be unrecognizable. The large moth of the other two is a very beautiful insect, belonging to the family of Arctians, and is known as the virgin tiger moth, *Arctia virginica*. The other is a small moth, also very pretty, which feeds on chickweed, *Pellonia succussaria*.—W. S.]

How to Raise Early Strawberries.

In reply to J. L., we quote the following from Purdy's Fruit Recorder:

Strawberries in early spring, a week to two weeks before they can be obtained out doors, are a luxury that all may enjoy who have a small patch of ground, and now is the time to begin operations by potting off young plants for that purpose.

A good way to do this, and one that we shall practice quite largely, is to cut stiff sod in wet weather in blocks, three or four inches square, and bury these, grass down, close to the roots of old kinds we wish to force, and over them fasten the runners so that the young plant therefrom will root into the sod. After getting well rooted transplant the sods of plants in a warm, southerly and protected place, so that the plants will not be over a foot apart each way, around the beds of plants (beds should not be over six feet wide and as long as one likes), set up boards edgewise, securing them by strong stakes, and banking up against them with coarse manure, and as winter sets in protect the vines with a little covering of hay or leaves, leaving it on until hard freezings are over in the spring, when it may be removed; and by putting over the beds glass or oiled cloth in cold weather, and leaving open in warm weather, early fruit may be had. Plants may also be saved by growing in pots or cheap berry boxes, or they can be taken up from matted beds in August and September and transplanted to the spot where they are to be fruited. If started in hot beds or glass houses, they must be kept as close to the glass as possible, and, too, air must be given them warm days.

The Triumph de Gand, Windsor Chief, Nicanor, Prouty, Forest Rose, Capt. Jack, Green Prolific and Golden Queen are all good for this purpose.

How to Have Apples Every Year.

J. W., Fingal, Ont., writes how he has succeeded in having apples every year by changing the bearing year of one of the two trees. They had both been laden with fruit every alternate year for ten years. Last year they were both covered with blossoms, and being desirous to change the bearing year of one of them, he with his son resolved to pick off the blossoms. They commenced at 7 o'clock in the morning and completed their work by 11. The result of this experiment is that this year he is well rewarded for his labor; the tree from which he picked the blossoms is so heavily laden that the branches are well nigh breaking with the load, while the tree that bore last year has on not more than a dozen apples. By this means he expects to have one tree bearing well every year, giving him sufficient for his family's use. If shaking or knocking off the young fruit would have the same effect, it would be a much easier and quicker way of preventing the tree bearing for the season; but of this he has had no experience. He would advise those whose orchards are bearing fruit alternately to try the experiment next year.

SIR,—I like the ADVOCATE—one reason being that it is a Canadian publication. The railroads work against you. I have had seeds from Hamilton and Toronto; it takes four weeks to get them here. I ordered seed wheat this year from a seed merchant in Hamilton; it was shipped May 5th, and it arrived here July 2nd. I can get no redress from the R. R.

Please inform me will bees do as well left all winter on their summer stands as taken in-doors. Some advocate one plan and some the other. Our place is rather bleak with a southern aspect.

I sowed one bushel of Russian wheat this season—got from a Toronto seedsman. I pickled it as I have always done. Sowed it on sandy land on May 1st. It never put in an appearance. I cannot tell what was the cause of its not growing. I put thirty-five grains in wet flannel, and only three sprouted to grow. Some few made weak sprouts and died away again; the weather was favorable. I have a heavy crop of Australian oats, the seed of which I got from the same house.

D. G. E., Kings Co., New Brunswick.

[It is better to move your bees; they should in winter be in a dry place, and not too warm. The seed wheat that failed to grow may have been too old, or, what is more likely, it may have been dried for saving by an artificial process, and by this the germinating vitality of the grain killed. Such things have occurred, but who is at fault we cannot say—whether the cultivator, the merchant or the shipper.]

Guinea Fowls.

SIR,—I noticed in the May number of 1878 about guinea fowls keeping potatoes clear from potato-bugs. I have always kept this fowl, and have never been troubled with the bugs. All my neighbors had their potatoes eaten up by the bugs—although they were always picking them. To make sure that the guinea fowls will attend to their business in this respect, plant your potatoes convenient to the buildings, and the fowls will almost live on them.

M. LER., Calunett Island.

[The above is from a subscriber in the Province of Quebec. He has increased his profits by putting to actual test what may only have been adduced as mere theory. With him that theory has proved to be fact. We are always desirous that our readers will put to the test what they see in the *ADVOCATE*, and let us know the result. Let the farmer once known that, with greater knowledge of his business, the production of his farm will be greater and consequently increase his profits—and he will not be so backward in experimenting, and testing the truth of that which, should he prove it a fact, would tend greatly to his benefit.]

Seed Wheat Humbug.

SIR,—I believe that you desire to protect your readers from fraud. In this county there has been an enormous fraud practiced in supplying wheat to farmers. The Eldorado wheat gulled many. The Aranataca wheat has been sold here at from \$1.50 to \$2; the same wheat was also sold under the name of Russian Siberian at \$5 per bushel. Both these wheats are only the old Wild Goose wheat. Arnold's Victor and Gold Medal wheats are both the same variety, and have been sold here for \$4 per bushel. They are not equal to the Clawson. The common Fife has been sold here for the Lost Nation wheat. If such humbug could be prevented it would be greatly to the benefit of the country. Could not a person be prosecuted for selling seed grain under false names? By answering in your next issue you will oblige a well-wisher.

R. S., Hensall.

[Certainly you can prosecute and recover if you have met with a loss from such deception. But if farmers would read more and post themselves in their business, they might save themselves considerable unnecessary expense, disappointment and loss.]

SIR,—One of my young cows, for the last few weeks, has been falling off in her supply of milk, giving scarcely a pint at each milking. She calved in April last, and runs the bush during the day and the pasture at night. I have tried giving her hay, young Indian corn and bran mash, but nothing increases the supply of milk. She is in splendid condition. Other cows in the neighborhood are similarly affected, and all are known to have been good milkers. You will kindly advise us what course to pursue with them. —MUSKOKA.

[Your cow requires opening medicine. Give three-fourths to a pound of Epsom salts, adding a tablespoonful of ginger to prevent griping. Repeat once a week. Several cows in this locality have been affected the same, and this treatment has put them to rights. See that she has plenty of good water.]

SIR,—I have a couple of Poland-China pigs five months old, which I imported this spring, and they have got stocked up in their legs, making them somewhat lame. They do not seem hurt otherwise, as they eat well and are growing well. I lay it to feeding them too much bran in warm weather, thus overheating their blood. I have stopped feeding it and they are better since, but not well. As I want to fit them up for the fall shows, I should like to know what to give them to bring them round all right. J. M., Oban.

[Turn them on grass, and give them a little salt-petre and sulphur occasionally. They have had food rather too strong when young.]

SIR,—Would it be a profitable business to buy bulls at \$10 or \$12 each, and fatten them for spring market? Would it be advisable to castrate? Where would be the best market to dispose of such beef? Would barley or corn be best feed to use? O. F., Mallorytown.

[If you could purchase bulls at the price you speak of, we have no doubt but that you would

do well by fattening them. They would soon be picked up here at three or four times that price. We have seen car-loads of fat bulls in Montreal; they were much fatter than steers of the same sire. They were not castrated—they seldom castrate bulls in America before being killed, unless operated on when young. It is only a really good judge of meat that is always able to detect the difference. The price of barley must guide your judgment as to which to use. At present prices here we should prefer corn.]

SIR,—My wife wants you to inform her about the Dutch sets—when to pull and how to cure them. She had some last year, and planted them this year, but they are going, most of them, to seed. You will much oblige by giving the required information. W. J., Johnson P.O.

[The reason your Dutch sets are running to seed is because they were too large when planted. When about the size of marbles they should be pulled and allowed to remain until they are dry, then take a coarse linen bag, say a peck bag, and hang in a cool, airy cellar, or place them very thinly on a shelf in the cellar, and keep them from freezing. Dutch sets should be set out as early in the spring as possible.]

Horticultural Notes.

PROTECTION OF GRAPES.—Those who desire to have choice bunches of table grapes from their vines are recommended to make bags of mosquito netting. These bags are made large enough to permit of the growth of the bunch, and are tied around the stem of the bunch with a piece of thread or twine. These bags afford protection both from birds and insects. The grapes are not stung, nor do wasps or bees get at them to spoil the berries. A distinguished fruit-grower states that he has used this covering for his grapes each summer for fifteen years, and the bags have always proved an ample protection. In fact, it is difficult to grow fine or perfect bunches without them, there being so many birds and insects which prey upon grapes either in the house or in the open air as soon as they reach a certain growth.

Coal ashes have hitherto been deemed utterly worthless, and are usually thrown into the street. To some soils, however—particularly to those which are too heavy—they are a very useful addition; and, as they are a powerful absorbent, there is no doubt that if mixed with night-soil or some similar matter they would prove an excellent article—more lasting and consequently better than night-soil itself. They should never be thrown away, however, as they contain lime, iron, and minute though appreciable quantities of alkalies—soda usually predominating. It is also quite possible that they contain minute traces of phosphates, though in no analysis with which we have met is it mentioned. Where the coal has been burned at a high temperature, the alkali is in general reduced, and the metal volatilized.

Valuable Grape Vines, planted with great care, are often left to take care of themselves at this season of the year—when they need care most. For the first two years a good, stout stake, say six feet long, is all that is necessary for a support. This should be firmly set in the ground and the vines kept tied to it. Should other shoots start from the old wood, rub them off and keep lateral shoots pinched back to one or two leaves. Remove all injurious insect-pests by hand, and dust with flour of sulphur should mildew appear.

In Pennsylvania an owner of property on which trees are planted along the highways has his road tax reduced at the rate of \$1 for each four trees planted. The trees must be living one year after planting, and be well protected from animals. Injury to such trees is punishable by fine.

Market gardeners in the vicinity of Boston are discarding lath trellises for tomato plants and substituting straw. This material is placed loosely under the plants which rest upon it. It serves as a mulch and at the same time keeps the fruit free from dirt.

It is a very curious fact that no insect is ever seen upon, or known to destroy, the common elder bush of this country. If the leaves are sprinkled among any other plants, insects give the place a wide berth.

As an antidote for grub ravages among strawberries the Iowa State Horticultural Society speaks highly of salt applied to the soil.

It is no more trouble to graft to a grapevine successfully than to a fruit-tree.

Painting.

This part of our business is often neglected. Many erect costly houses, ornamental and expensive fences, and then let them fall into decay for the lack of a coat or two of paint. Many of our farm implements never receive a coat of paint after they leave the manufacturer's shop. When living on our farm we painted our house inside and out; we used to paint our wagons, harrows, etc., and we believe it paid us as well as the money expended in stock or seed. Now your harvest is over, you may have a little leisure time to use your paint-brush profitably. It is now an easier job to paint than it was formerly. This Rubber Paint, although an American invention, appears to us to be just the article you require. It is mixed and colored ready to put on. The samples of colors of the paint are sent by mail to parties to select from. It is cheaper than the ordinary paint used, and it is claimed to last much longer, as a protection to the wood, than other kinds. We have put a coat on the outside of our office to try it, and we consider ourselves justified in recommending it to you. You can see it if you call at our office. We like it so well that we intend having more work done inside with it. At any rate, you can procure some kind of paint this fall, and cover the wood before decay sets in. On every concession, and in most barnyards, a voice cries out to you "paint me, and save me!"

Effect of Epizootic Influenza.

The veterinary correspondent of the *N. Y. Times*, in reply to an enquirer, says:—The disease often leaves the horse in an unhealthy condition. The inflamed membranes continue to secrete purulent matter for some time, and sometimes permanently, and the blood remains diseased. The only remedy is to administer an antiseptic which will purify the blood and remove the abnormal conditions. Give one ounce of hyposulphite of soda daily; change the Hungarian grass for timothy hay or grass, and give no corn-meal for a time. Continue the bran and flax-seed and mash the bran. Wash the nose with water in which a few drops of carbolic acid are dissolved. If troubled with worms, give one dram of copperas daily in the feed, and an injection of one pint of linseed-oil and one ounce of turpentine.

Thompson & Williams Manufacturing Co., of Stratford Ont., are furnishing the motive power for the machinery hall at the Toronto exhibition, consisting of their celebrated Brown's variable cut off engine, 41 horse-power, furnished with air pump and condenser. The steam is also supplied with one of their 60 horse-power boilers. This firm will also exhibit a large variety of agricultural implements, harvesters, combined and single, and their self-binding reaper, this reaper binds with cord instead of wire.

The following is a good recipe for worms in horses: Powdered poplar bark, two ounces; powdered sulphur, four ounces; salt, three ounces; mix well. Divide this mass into twelve parts, and mix one with the food every night. This will not only remove worms, but will also tone up the digestive organs so that the parasite cannot find a foothold. Three parts wood ashes and two of salt, a tablespoonful fed daily with the food, is a simple and effectual remedy.

Fuchsias after being exhausted with blooming, should have the terminal shoots of all their branches clipped off; then set aside for two or three weeks, giving very little water; then replot in a soil composed of well decomposed leaf mould, mixed with a sprinkling of good garden soil, a few rusty nails, and a layer of charcoal at the bottom of the pot to secure good drainage. In a few weeks new shoots full of flower buds will start all over, growing rapidly.

Our readers will bear in mind the choice stock sales of Thomas McCrea, and the Ontario School of Agriculture at Guelph, on 11th and 12th Sept. Reduced railway rates; see advertisements.



The Family Circle.

"Home, Sweet Home."

WHO TOOK IT?

"Will you take charge of £20 till to-morrow morning, Marian?" "Take charge of £20, Harold!" echoed my wife in amazement. "What do you mean?" I settled myself down to an explanation. Explanations are things I hate, nevertheless they are necessary sometimes. One was due on this occasion. "You know, my dear Marian," I began with a business-like air, "that the failure of Hardinge Brothers threw scores of men, women, and children in this neighbourhood out of work, in the very hardest part of a very bad year. This evening a meeting was held with a view to enlisting the sympathy of the public. A subscription list was got up, and a collection made there and then to the tune of £20. As nothing else could be done with the money to-night, I was, as treasurer, obliged to bring it home; and very nervous I felt, I can assure you, at coming along these lonely roads with such a sum. However, I have reached home safely in spite of my fears, and now I shall deliver it over to you until I can get rid of it."

"And so free your mind from all responsibility," added my wife with a smile. She knows that one of my weaknesses is a dread of responsibility. "As far as possible," I replied. We immediately went into a consultation as to where the money should be put. I suggested the meat-safe, as a place to which thieves would never dream of going for money, but my wife pooch-pooched the idea, as well as several other suggestions of mine, which I thought were not so bad. At last an idea struck her in the shape of the wine-drawer, in the cupboard of the sideboard. By this means the money would be doubly safe, she argued, for the drawer might first be locked, in addition to locking the door. I looked rather contemptuously on the plan, for, if the truth be told, I felt it was only due to myself to do so, since my wife treated every suggestion of mine in a similar manner.

Both of us falling, hit upon anything better, the wine-bin was agreed upon; and, as I looked over my evening paper, I watched her place the black japanned box in the drawer, lock it, lock the sideboard, and place the key in her own purse. "There!" she exclaimed triumphantly; "I shouldn't think any one would get at that before to-morrow morning, for this purse goes into the well of my dressing-case to-night, and that will be locked and the keys put away in my dressing-table to-night, and that will be locked and the keys put away in my dressing-table drawer, so we are doubly and trebly secure."

In spite of these precautions there was a load on my mind, that I felt would only be removed when the money was safe in the bank. I envied my wife her happy insensibility, for in less than half an hour she was quietly sleeping, while I tossed restlessly to and fro, thinking about the money, and wondering whether any one could possibly get at it. At last a grand idea struck me, which was to put it inside the piano. Who would dream of searching for a treasure in such a place? whereas, what robber coming into a house would not go to a sideboard? and the very fact of finding it doubly locked would make him suspect that something was hidden there. Plainly enough Mistress Marian, with all her cleverness, had chosen the very worst place possible. Should I go down and remove it? I knew where the keys were to be found. I had half a mind to do so, if only for the sake of quieting my mind and getting a little sleep. No doubt I should have done so, had not a circumstance intervened—I fell asleep.

It seemed scarcely an hour afterwards that I awoke and heard sounds of life in the street below. Well, so far all was safe enough; no robbers had molested us, and I felt so comfortable and easy now that all danger was over, that I began to laugh at my nervous fears. How stupid it would have been to have gone down-stairs in the middle of such a bitter night! Thank goodness I had been too strong-minded for that. I fell off into another doze, and as a natural consequence was late for breakfast. That meal was a hurried one, and when it was over and I had my coat and hat on, ready to start off to an important case, I reminded Marian of the money, and begged her to get it out quickly.

"I had quite forgotten it," she exclaimed. "Here, Martha, run up-stairs and fetch my purse out of my dressing case; the keys are in my dressing table drawer." "Martha flew up-stairs to do her mistress's bidding, while I stood and chaffed in the hall and submitted to having my coat brushed. In a moment she returned, bringing the purse, and Marian ran into the dining-room. Two or three minutes passed, and Marian was still fumbling about at the sideboard. I entered the room impatiently. Marian looked at me crossly.

"This is quite too bad, Harold. What have you done with the box?" "Done with the box?" I exclaimed; "what do you mean, Marian?" "I won't stand this trifling any longer," replied my wife. "It's a shame to give me the responsibility of that money and then tease me like this." "What on earth is the woman talking about?" I cried, bewildered. "Say what you mean in plain words, I beg." "The money's not here. It's gone, box and all," Marian replied, with a white face. "Gone!" I cried "gone? Where's it gone, how's it gone, or who has taken it, I should like to know? You must be raving. Let me come and look."

Marian moved aside and I knelt down to the drawer. No sign of a box was there. As my wife had said, the money was gone. But how, when, or where? The drawer was locked, the cupboard was locked, the dressing-case was locked, the purse was inside it, the keys in the dressing-table drawer. These things my wife and Martha were sure of. A man placed in

such a position is bound to have an idea on the subject and to assert it, so I suggested that Martha must be the culprit. "No, no, don't say that," cried my wife excitedly. "I'd as soon believe that I was the thief as she. I've known her all my life. No, no, it isn't Martha." "You talk like a child," I replied, with an air of superiority, for really women have no reasoning powers whatever—not even the best of them. "Can you suggest any one else who by any possibility could have taken the money?" "Indeed I cannot," Marian replied. "It could not be a housebreaker, for the locks were just as I left them; nothing had been touched apparently." "You admit that it could not be any one outside the house, so it must be Martha, that is plain logic," I said, with as much evenness of temper as I could command at the moment. "It isn't Martha," replied my wife stubbornly; "I'll never believe it."

For my part, I felt sure that it was Martha. And as it was quite impossible that she could have got rid of it yet, I hoped I should easily discover it. But she denied the charge so emphatically that it was with a very anxious heart I betook myself to the bedside of my patient. The case was a complicated and peculiar one, and my mind soon became so interested in the progress of various symptoms, that my own cares became as things of nought. After paying one or two minor visits I returned home. Martha opened the door, and immediately retired into the kitchen, without a word. Marian was nowhere to be found. I went up-stairs in search of her. She was not there, but a little table in the corner covered with writing materials betrayed her recent presence. An open letter in a handwriting I knew and detested attracted my attention. Husbands have certain prerogatives. I asserted one at that moment and read the letter. If you care to do the same, here it is; if not, skip it.

"DEAR MARY.—If you don't contrive to send me £10 before this day week it will be ruin for me. If you send it you will enable me to retrieve my former position, and become a credit to my family.—Yours affectionately, FRANK."

"The young rascal, what mess has he been getting into?" I exclaimed angrily. This same Frank had been the source of untold squabbles between myself and Marian; holding a fairly good position in the city, for an unmarried man, and yet always getting into debt. Presently I heard Marian enter the house. With the letter in my hand I confronted her. She turned first white, and then red, and asked me by what right a gentleman entered a lady's private room and read her correspondence. I paid no attention to this high-faloot language, but replied by asking her whether she had been out to post a letter. She admitted she had.

"To Frank?" I inquired. "I decline to say," she replied haughtily. "Containing money?" I asked. "That I also decline to say," she replied. Here was a pretty pass things had come to—my own wife openly refusing to answer my questions! What was I to do? I think any one else in my place would have come to the same conclusion as I did—namely, that the letter was to Frank, and that it contained money. A few inquiries at the post-office confirmed my supposition. From the time of this discovery a cloud seemed to have settled over our usually happy household. Marian was sullen and angry, and usually the head of the table without speaking a word. Between meal-times I scarcely ever saw her. Martha sided with her mistress, and always looked at me reproachfully.

In the meantime other cares were pressing hard and fast upon me. In spite of a rigid examination I could discover no clue to the lost money. Of course I had been obliged to make it good, and, in order to do this, had drained myself of every available farthing. These events happened at a time of year when it was impossible to call in many outstanding debts; so that after a while of desperate struggle against our unfortunate circumstances, I was compelled, sorely against my will, to appeal to my father. All this while I had not been inert about the lost money, but had held several discussions with a detective. A fear of incurring additional expenses with a detective, and of setting him to work; but as he seemed to think that to trace the money would be the easiest thing in the world, I at last gave him authority to commence a strict investigation.

From the detective's, I went to my father; and, plainly stating the facts, asked him if he would lend me the sum I had lost. This he agreed to do; and the conversation turned on family matters generally. The unhappy coolness which had arisen between myself and Marian was presently discussed; and when my father taxed me with unkindness towards her, I felt bound to explain to him Frank's demand, and her resentment of my interference. My mother started up suddenly from a fit of thinking and plied me with questions. "Was Marian the only person who had access to the sideboard?" "As far as I knew, the only person," I replied. "And did you say her letter to her brother Frank contained money?" "Yes—a P. O. O. for £10."

"Had she £10 of her own?" "Not that I knew of."

"Was she likely to have saved it from her allowance for housekeeping or private purposes?" "Very unlikely indeed."

"Then," my mother continued, "it seems to me that the nearer home you look for your money, the sooner you will find it." When I arrived home, my mind was torn and distracted by conflicting opinions. I felt very anxious to discover some sign of innocence, or maybe guilt. "Marian," I said, as gently as I could, "where did you get the money from that you sent to Frank?" She started, and turned quickly round upon me. "How did you know I sent money to Frank?" "Never mind how I knew it," I replied. "Where did you obtain it? You must answer me that question before you leave this room." I added, more sternly; for her evasion of my question disquieted me. She looked me steadily in the face for a minute, then dropping her eyes, and clasping her hands tightly together, she exclaimed— "I see now the drift of your question. The money was lost at the same time that I sent some to Frank. Harold, you suspect me—your own wife—of being the thief, and you have sent that man (I saw he was a detective directly) to track me out, and prove this against me. Do you intend to send me to prison?" "Marian," I answered excitedly, "when I sent that man here, no such suspicion had ever occurred to me; and now

that I must confess it has, one word from you will dispel it, or, if it should be otherwise (here I extended my hand to her; but she flung it from her), you have only to acknowledge it, to obtain my free forgiveness."

"Your forgiveness!" she added haughtily. "I do not need it," and without another word she left me. For some minutes I remained stunned by this new aspect of affairs. Could it be possible that my Marian was guilty? I would never believe it. And yet she had not attempted to deny it. Again, the anxious face she had lately worn, together with the other circumstances of the case, served only to confirm the idea. Would that it had not been so, or even being so, that she would come to me for the reconciliation I was longing for, and the forgiveness I was only too anxious to bestow!

A day or two after this, I found a note awaiting me when I returned home to dinner. The hand-writing was Marian's, and my delight at seeing it was so great that I kissed it again and again. Eagerly I opened and read it. It ran as follows:—

"The society of a thief cannot be congenial. For that reason I have kept out of your way till I had made up my mind what to do. I shall not trouble you any more. Baby and I have gone to my father. I know you can claim baby if you like to do so, but I think you will see that it is better for him to be with me. Do not ask me to come back. I never can. The miserable life I have been leading lately would soon have killed me, and my life is precious to my child. "Your unhappy wife, "MARIAN"

That was all except a few words at the end that had been hastily scratched out, of which I could distinguish only, "Oh, Harold!"

Strange as it may seem, this note did not shock me as the discovery of Marian's guilt had done. I felt so angry with her for her unreasoning conduct that my tender feelings remained almost untouched. My love for the Marian of former days had not decreased one whit, but my anger with the present Marian was for the moment paramount. The child was better with her, and for the present she should keep him, for I had no idea of fetching her back. She had left me through no unkindness of my own, and no wife could be justified in leaving her husband in the way Marian had left me.

I was beginning to get a little accustomed to my renewed bachelorhood, when one night, very late, a telegram was brought to me, worded thus:—"Come at once to baby."

The night train would leave in about an hour's time. I packed a few things and started to catch it. In about three hours more I was conducted into the room where Marian was sitting with our little one lying in her lap, struggling hard for life. Some medical man was already there, bending over the child and anxiously gazing at its contorted and livid features, but, as far as I could see, doing but little to assist in the battle against death. He left at once, and Marian looked up into my face and said, "Thank God, you have come! He was doing no good. Oh, Harold! save my baby; save my child."

"I will do what I can to save our child," I answered. I called a servant and gave my instructions. In a few minutes the room was filled with vapour, every vent being carefully guarded. The cloud of vapour kept on steadily increasing, till drops of water began to trickle down the walls. Still the child on Marian's lap almost choked, its struggles fainter each succeeding time. The cloud was still pouring out into Marian's knee, watching for the approach of some favourable symptom. Only once Marian spoke, and then it was to ask me with blanched face and faltering lips if there was any hope.

"To the last moment, yes," I answered, and she was relieved at once, hardly comprehending from my words how faint that hope was. Presently the struggles grew more frequent; gradually the almost lifeless Maria became imbued with fresh vigour, the heavy lids relaxed, the gasps for breath became more effectual, and with a mighty effort nature asserted her sway. In a short time baby was nestling peacefully in Marian's arms, wrapped in a sweet life-giving plume.

When he was laid in his cot, his mother turned to me and said pathetically, "Oh, Harold! when baby was so near death, and you far away, I could not help seeing how wicked I had been to leave you as I did. Will you forgive me, dear, and take me back, for baby's sake?"

I could only kiss her, and press her to my heart. After awhile I said, "It was only those words, 'Will you forgive me?' that I wanted. If you would have spoken them sooner, we need never have parted." "Oh, Harold! how can you? It was not that I was asking you to forgive me, but my folly in leaving you. I am as innocent of taking that wretched money as my own child. Won't you believe me?" "I do, my darling, I do," I replied, with genuine delight. "I would have believed you then if you had said this to me; but you know you never designed me a word, and what was I to think?"

"I was so horrified at your even suspecting me that I fancied it was beneath me to deny it. I cannot now understand what could have prompted you to think such a dreadful thing of me. It is very hard to bear."

I was beginning to wonder, too, how I could have suspected my own Marian. Circumstances and my mother were more to blame than I, however.

In answer, I murmured something about Frank.

"Ah, that letter to Frank, I remember it. You were always so hard upon him that I didn't like to tell you about it. He really had been trying to keep on steadily at the post your kindness had obtained him, but old debts were constantly coming in, and his limited salary would not meet them and keep him as well. There was one man who pressed him hard for £10. He had spent his last quarter's salary within a pound or two, and more would not be coming for some time. He wrote and told me this, asking me to help him, but I could not. He wrote again, and said he must draw on his salary, but I begged him not to do so, so soon. I was sure his employers would think it a bad sign. The man threatened to expose his former habits to the firm, which you know might have ruined him with them. I resolved to help him this once, and in order to do so sold my diamond brooch, which I scarcely ever had occasion to wear. I got £10 for it, and I sent him notes to that amount—he little guessed at what cost."

"My poor, persecuted, self-sacrificing little woman; why did you not tell me all this? Why could you not trust me?" "Why could you not trust?" Marian demanded half-playfully, half-pathetically. Then she added earnestly, "I have been very much to blame. I was proud and self-willed and all sorts of bad things, and then leaving you was worse than

all. Harold, dear, I am so ashamed of myself for that. No woman is justified in leaving her husband on so slight a pretext as I had."

I thought so too. She was becoming the most sensible little woman in the world; but I had been to blame too, and I was not going to let all the magnanimity be on her side.

"We were both to blame," I replied. "I am not going to exonerate you quite, little wife, but I am going to own to my fault. I was a brute to doubt you. Marian, you must forgive me, dear."

"Oh, Harold! we shall be so happy again now, shan't we?" the little woman replied; and then she wound up our reconciliation in a truly womanly style, with tears and smiles and kisses.

But the mystery of the money was still more dark after Marian's explanation, and it was months before we penetrated it. We did so at last, however.

Our piano being sadly in want of repair, I sent to a professional man to come and "do it up." I was in the room when he proceeded to take it to pieces. As soon as the front was removed I perceived a little black box snugly lodged inside, which I immediately recognized. My grand idea now flashed into my mind. Here, then, was the clue to the mystery. *It was the thief!* In my anxiety I had placed the money inside the piano, while still under the influence of sleep.

Marian was delighted. She actually shed tears of joy when I told her of my discovery.

"Oh, you abandoned man," she said, shaking her head at me, "to suspect me when all the time you had stolen your own money!"

THE END.

Ventilation of Bedrooms.

The *Lancet* says that the sleeper is entirely dependent upon the atmosphere supplied to him for the means of carrying on the chemical purification and nutrition of his body. He must breathe the air that surrounds him, and he does this for a lengthy portion of each period of twenty-four hours, although it is probable that in a large majority of cases the atmosphere has become so deteriorated by the expiration of carbon and the emanations from the body generally that if the senses were on the alert some change would be sought as a mere matter of preference. When a person places himself in a condition to take in all air without being able to exercise any control over its delivery, he ought to make sure that the supply will be adequate, not merely for the maintenance of life, but for the preservation of health. If a man were to deliberately shut himself for some six or eight hours daily in a close room, with closed doors and windows (the doors not being opened even to change the air during the period of incarceration), and were then to complain of headache and debility, he would be justly told that his own want of intelligent foresight was the cause of his suffering. Nevertheless, this is what the great mass of people do every night of their lives, with no thought of their imprudence. There are few bedrooms in which it is perfectly safe to pass the night without something more than ordinary precautions to secure an inflow of fresh air. Foul air will find an exit if pure air is admitted in sufficient quantity, but it is not certain pure air will be drawn in if the impure is drawn away. So far as sleeping rooms are concerned, it is wise to let in air from without. The aim must be to accomplish the object without causing a great fall of temperature or a draught. The windows may be drawn down an inch or two at the top with advantage, and a fold of muslin will form a "ventilator" to take off the feeling of draught. This, with an open fire-place, will generally suffice and produce no unpleasant consequences, even when the weather is cold. It is, however, essential that the air should be pure. Little is likely to be gained by letting in a fog, or even a town mist.

"Mamma," remarked an interesting infant of four, "where do you go when you die?"

"One can't be quite certain, darling. How can mamma tell?—she has never died yet."

"Yes, but haven't you studied geography?"

Scene in the cars:—

A candy-boy, passing through a car, meets a cross old gentleman, and says, "Pop-corn! Pop-corn!"

"Hain't got no teeth," angrily replies the man.

"Gum-drops! Gum-drops!" Calls the smart boy.

The letter D is truly an old salt—been following the C for years.

It is lucky to pick up a horse-shoe, unless, of course, it happens to be attached to a mule's hind leg.

Minnie May's Department.

MY DEAR NIECES,—Of late years it has become a favorite amusement to gather quantities of the most beautiful autumn leaves, mosses, and grasses. Many of the grass bouquets we see are failures for the reason that there is too much crowded into them. A collection of the rarest and most elegant grasses, if tied into a bunch and crowded into a heavy vase, will fail to be pleasing. The beauty of grasses depends upon their ease and freedom. Some color the grasses, or incrust them with alum crystals. There are numerous kinds of wild grasses suitable for bouquets; dry them in a cool, dark room, free from dust. As you take your autumn walks, eagerly search for the gayest leaves and ferns to decorate your windows and pictures, and fill your vases. Gather the smallest leaves you can see—the dark maroon wild rose, the bright red huckleberry, the delicately notched Miller grapevine, clover, and toadsorel; then do not forget the maple, which are always so beautifully tinted. Press them carefully between books. When they are dry, varnish them with copal varnish. Mottoes make pretty gifts, and are easily made with leaves. Draw with a pencil the outline of your letters on cardboard, then carefully stick on the leaves with common flour paste or mucilage. The word WELCOME! made in this manner is very pretty to hang in the hall. Bookmarks with motto on one side and initials on the other make pretty birthday gifts. We frequently have seen directions for bleaching ferns, but in the fall of the year we experience no difficulty in finding them pretty enough without that trouble. Besides the white, there are straw-color, pea-green, and many beautiful shades of brown. Some of our nieces who are lovers of the beautiful will take great pleasure in arranging their bright leaves for decorating. Japanese work is very simple and pretty; the materials required are some fine black paint, a piece of sandpaper, a little isinglass, and a bottle of shellac or copal varnish, ferns and leaves. Any article may be ornamented by this "elegant domestic art," such as the old workbox, writing-desk, tea-caddy, fire-screen, flower-pots, small tables, wall-pockets, etc. Select perfect leaves, carefully pressed and dried, rub the surface of whatever you wish to ornament smooth with sandpaper, cover the surface with black paint, let this dry thoroughly and add two more coats of paint, then gum your leaves on after the paint is quite dry. Dissolve a little of the isinglass in hot water, and with a brush apply a coat of it while it is warm. When this is dry, give the work three coats of copal varnish, allowing ample time for each coat to dry. To make the work very Japanese or Chinese-looking, the leaves are put on in every possible way, but we think it is more tasteful to arrange the leaves and ferns in bouquets, clusters, wreaths or garlands. An old table which has been thrown aside for its defacement can be made into a thing of beauty, of which the most fastidious might feel proud. If a round or oval table, fashion a wreath of leaves; but if square, make a wreath or bouquet in the centre, and pretty figures in the corners. Flower-pots look very nice with a small garland around them. In fact many are the beautiful articles of use and adornment that can be made by this pleasing art.

MINNIE MAY.

"John, did you go round and ask how old Mrs. Jones is this morning, as I told you to do last night?" "Yes, sir." "Well, what's the result?" "She said that seeing as how you'd had the impudence to send to ask how old she was, she'd no objection to telling you that she's twenty-four."

RECIPES.

EMBROIDERING ON WOOD.

DEAR MINNIE MAY,—I have received so much information from your department that I offer as a slight return the following directions for embroidering on wood, which were sent to me from abroad:

Select a cigar-box of smooth and prettily marked wood. Take out the nails which hold the sides together. Then clean each piece and oil and polish it thoroughly, thus bringing out the natural beauty of the wood. Upon the sides trace with a pencil any kind of geometrical pattern, taking care to have it consist of straight lines only, which, however, will form a variety of beautiful figures. Then at the end of each line in the figure bore a small hole with a gimlet or awl. At a point where several lines meet the hole should be larger. In and through the holes work brilliant zephyrs of divers colors. Into the holes put large beads or tufts of wool. Fancy round buttons inserted in a hole at each corner of the bottom of the box, and held by a pin through the eye, will serve as feet. The box may be fastened together again with the nails which were extracted from it and then lined with colored silk or less expensive material, according to fancy. Other varieties of wood and other ornamental articles are equally pretty embroidered in this manner.

A subscriber sends in a very appropriate season a hasty method of

PICKING FOWLS.

Dip the fowl in boiling water; then wrap a flannel cloth around two or three times, and let it remain about ten minutes. The feathers will then be dry and their liveliness not destroyed.

PLUM JELLY.

Pour sufficient boiling water over your plums to cover them, turning it off immediately and draining them. This removes the bitter taste of the skins. Then boil your fruit with enough water to cover them till the skins burst and the juice is extracted. Pour off your syrup, strain it, and to each pound of syrup add one pound of white sugar, return to your kettle and boil twenty minutes. The plums may be sweetened and used for pies or sauce.

A TEA DISH.

A nice dish for tea is made by putting six or eight butter crackers in a dish, pour boiling water over them and grate loaf sugar and nutmeg or lemon over, and lay on slices of jelly. Pour enough sweet cream over them to make a nice sauce.

FOR THE HANDS AND SKIN.

Bathe the face in buttermilk, sour of course; it is not quite agreeable, I know. Take a soft rag and dip into a cup of the buttermilk, and wash every part of the face, neck and hands. If there has been a greater exposure to the sun than usual, after washing the face well squeeze out the cloth and just wipe the skin off, and let it remain on without washing till morning. You will be astonished to see how soon the freckles and tan will disappear. For keeping the hands white and the skin soft, there is nothing equal to buttermilk. When one gets burned with the hot sun, one or two bathings in buttermilk will cause the smarting to cease, take out the inflammation, and render it comfortable quicker than any other remedy I ever tried. There is something in the acid contained in the buttermilk that does the work. When one has stained fingers, with either berries, apples or nuts, it will remove the stains almost immediately. It is particularly cooling to the skin. You will never try any other lotion for beautifying the complexion after using the buttermilk, if you can obtain that.

FOR CLEANING CHILDREN'S HEADS.

Take half a pint of wheat bran in a tin dish, turn a quart of boiling water upon it, stir it thoroughly, and let it stand and settle till cold. Drain off the liquor, and add a teaspoonful of spirits of ammonia. Wash the head and hair well with a sponge dipped in the liquid; then rinse with pure soft water, and you will have your little people's heads as clean and sweet as you could wish. Dry off by rubbing with a soft dry towel, and a good brushing. (Fine-toothed combs are not a good thing to use with children unless you are obliged to.) I find this wash for cleaning heads just as good for grown-up folks heads as for children, and they need it applied quite as frequently.

This liquid will keep sweet two or three weeks if a little salt is added, and it is kept in a bottle, either in the cellar or refrigerator. Try it once to prove efficacy, and you will not wish to test any other recipe for cleaning heads.

TOMATO PICKLE.

Take the small-sized round tomatoes, those which are called "volunteers;" wash thoroughly and dry; take a knitting-needle and pass it once or twice through each tomato; get a large jar and put in a layer of salt on bottom, then layers of tomatoes and salt until the jar is full; let them remain for a week. To each gallon of tomatoes take 4 ounces of ground mustard, 4 ounces of ground pepper, 1 ounce of cloves, and 12 small onions which have been sliced. Take out tomatoes from jar, wipe them and replace again in the jar, putting in the above ingredients as layers of tomatoes are made. Heat vinegar almost to boiling point and pour on the tomatoes. The tomatoes will keep their form and color.—H. T.

PICKLED MANGOES.

Pickled mangoes will keep several years when made by the following recipe (so says Marion Harland, whose common-sense directions in preparing food have been very acceptable to housekeepers generally): Ingredients—Young musk or nutmeg melons; English mustard seed, two handfuls, mixed with scraped horseradish, one handful; mace or nutmeg pounded, one teaspoonful; chopped garlic, two teaspoonfuls; a little ginger; one dozen whole peppercorns. A half-tablespoonful ground mustard to a pint of the mixture; one tablespoonful sugar to the same quantity; also one tablespoonful best salad oil to the same; one teaspoonful celery seed. Cut a slip in the side of the melon, in which insert your fingers and extract all the seeds; lay the mangoes in strong brine for three days; drain off the brine and freshen in pure water twenty-four hours; green as you would cucumbers and lay in cold water until cold and firm; fill with the stuffing, sew or tie up the slit, pack in a deep stone jar and pour scalding vinegar over them. Repeat this process three times at intervals of two days, then tie up and set away in a cool, dry place. The mangoes will not be "ripe" until four months. Pepper mangoes are put up in the same way, using green peppers that are full grown but not tinged with red. Musk melon or cantaloupe sweet pickles may be made by cutting ripe melons into slices of about one inch thick, and for every five pounds of melon make a syrup of two and half pounds of sugar and one pint of vinegar, with spices. Cinnamon, cloves and mace are generally preferred. Tie the spices in a thin muslin bag and put in the melon; let it cook slowly three or four hours, or until it becomes clear. Then take out the melon and boil the syrup until it is thick; pour it over the melon and seal up in glass jars.

FLOUR.

Here are a few good rules worth remembering when one has occasion to select flour for family use. Of course the color is of prime importance. If it is white, with a yellowish colored tint, buy it. If it is white, with a bluish coat, or with white specks in it, refuse it. Second, examine its adhesiveness—wet and knead a little of it between your fingers; if it works soft and sticky, it is poor. Third, throw a little lump of dried flour against a smooth surface; if it falls like powder it is bad. Fourth, squeeze some of the flour tightly in your hand; if it retains the shape given by the pressure, that, too, is a good sign. It is safe to buy flour that will stand all these tests.

FRUIT STAINS.

Oxalic acid dissolved in luke-warm water will remove stains of fruit, ink, iron, mud, etc., from white goods. Use it carefully, as it is rank poison.

REMEDIES FOR HICCUP.

According to the *Lyon Medicale*, Dr. Grellety has observed that hiccup in children was immediately stopped by giving them a lump of sugar saturated with table vinegar. The same remedy was tried on adults, with similar instantaneous success.

FLICKERING LAMP.

A California correspondent says she remedied the flickering of her student lamp by not pressing the glass chimney too far down in the socket. When the air was allowed to draw freely through the air holes the little "unpleasantness" ceased immediately.

FROED MILK

Is one of the most delicious draughts on a hot day that can be quickly obtained; if one is very

much heated a quarter of a teaspoonful of Cayenne pepper stirred in is salutary, as it raises the internal heat to an equilibrium with the atmosphere and prevents chills and cools one off very quickly.

SOUR DRINK.

One gallon of water, one pint of cider vinegar, one pound of sugar, two spoonfuls of ginger; stir well together and add a lump of ice. Some like a trifle of soda stirred in each glass so as to have it foam and sparkle.

Answers to Inquirers.

J. R.—There is no rule which dictates the length of time to which a social call should be prolonged except the rule of common sense.

MAUD.—A lady has no right to make a present to a gentleman who is a mere acquaintance, whether it be on his birthday or any other occasion.

VIOLET.—When two persons who are engaged separate for a while, it ought to be a matter of pre-arrangement between them who is to write first, and how often letters are to be written. There is no rule on the subject; it is a matter of agreement in all its details.

FRED.—The engagement ring is generally the first present that a gentleman gives to a lady on the occasion of their becoming engaged to each other.

CONSTANT READER.—Shampooing is washing the head with a preparation made of the white of egg instead of soap.

JENNIE.—How often must I water my flowers? is the incessant query. It is just as unreasonable as one man asking another—How often shall I drink water? And the answer is equally obvious to man and plant—Only when thirsty, and never otherwise. Watering by dribblers is a sure way of killing flowers; always give sufficient to penetrate the entire mass of roots and soil.

Out of Fashion, out of the World.

Most of the outcry against the fashionable follies of women comes from men. And it may be asked what do men know about it? What would a woman look like, in nine instances in ten, if she allowed her husband to select the material for her dress, and then give the instructions for having it made up? If she followed his instructions, and then went out on the street with that dress on, he would get a divorce from her. He sneers at her light, glove-fitting shoes. If she wore the great square-toed, double-soled cow-hides he prescribes for her, her foot would appear somewhat larger than his own, which he cases in the finest calf-skin. If she wore her dress, as he sometimes wishes she would, the same pattern that his grandmother wore, he wouldn't speak to her on the street.

As the rule, a man indulges in his tirades against fashion more with the object of hearing himself talk than because he really has any ideas on the subject. He knows that his wife looks infinitely better when she is dressed in the prevailing fashion than when she appears in the styles of two or three or thirty years ago. And he knows he wouldn't wear the same kind of a coat or hat that his grandfather did, not for money.

It is no less women's privilege than her duty, to dress in the style, so fully as she can afford it. She will not only look better, but she will feel better. She will feel more on an equality with other women. She will be better satisfied with herself, and her husband, or the young man who would like to be her husband will feel better satisfied with her.

Cold fomentations are useful in sprains, but not until the active inflammation has subsided, and it is required to give tone and strength to the part. The best way of applying them is to put a thick bandage upon the part and keep pouring cold water over it.

Apples and pop corn are always associated with farm life. Would you improve the corn a little? If so, take one cup of sugar and one-half cup of cider, melt together, and when boiled to a candy stir in the corn and see if you have not something nice.

Single cream is cream that has stood on the milk twelve hours. It is best for tea and coffee. Double cream stands on its milk 24 hours, and cream for butter frequently stands 48 hours. Cream that is to be whipped should not be butter cream, lest in whipping it change to butter.

Mixed Pickles.

In making a crust of any kind do not melt the lard in the flour. Melting will injure the crust.

The water used in mixing bread must be tepid hot. If it is too hot the loaf will be full of great holes.

To boil potatoes successfully: When the skin breaks pour off the water, and let them finish cooking in their own steam.

In boiling dumplings of any kind put them into the water one at a time. If they are put in together they will mix with each other.

A cloth dipped in essence of peppermint, and spread over a burn as quickly as possible, will remove the fire and prevent blistering.

Many persons, on leaving a room, turn down the lamp, to save oil, but such economy is liable to cause an explosion, which is anything but economical.

Chlorate of potash, which is a tasteless substance, looking like rock salt, is the best antidote to bad breath. Let a crystal dissolve in the mouth frequently through the day.

You can get a bottle or barrel of oil of any carpet or woollen stuff by applying dry buckwheat plentifully and faithfully. Never put water to such a grease spot, or liquid of any kind.

Damp linen is very pliable, and a good pull will alter a fourteen-inch into a fifteen-inch collar in the twinkling of an eye. Both collars and shirt-bosoms should be stretched crosswise instead of lengthwise in doing them up.

To fumigate and cleanse the air of an apartment, we know of no more simple way than to heat a common iron shovel quite hot, and pour vinegar slowly upon it. The steam arising from this process is pungent, and of a disinfectant character. Open windows and doors at the same time.

A sick person, wanting nourishment, and having lost appetite, can often be sustained by the following, when nothing else can be taken: Make a strong cup of coffee, adding boiling milk as usual, only sweetening rather more; take an egg, beat yolk and white together, and pour it over the beaten egg in the cup you are going to serve it in.

A modern philosopher thinks it is a mistake to suppose that women have stronger attachments than men. A man is often attached to an old hat; but, he asks, "Who ever heard of a woman being attached to an old bonnet?"

A little girl was asked what was the meaning of the word happy. She gave a pretty answer, saying, "It's to feel as if you wanted to give all your things to your little sister."

A country paper makes the following correction: "For it is a poor mule that won't work both ways," in yesterday's issue, please read, "It's a poor rule," etc.

"Miss" said a gentleman, proffering his arm and umbrella to a lady in a shower, "permit me to be your beau." "Thank you for your politeness," was the reply, "and as I have plenty of fair-weather beaus I will call you my rainbeau."

A boy came home with his hair dripping wet, having just come out of the swimming hole. He was equal to the emergency, and escaped a busy time with his mother and a birch sprout by wearily wiping his forehead and remarking, "It's awful hot work hoeing down there in the garden."

Aunt Emily—"Why, Nellie, don't you know it is unkind to catch hold of your sister and pull her hair?"

"Nellie" (who doesn't see it)—"Well, Auntie, I saw you holding Cousin Frank round the neck quite tightly, yesterday, when mamma was out, and pulling his hair, and he didn't say anything."

A little four-year-old girl going to church with her mother for the first time the other Sunday, saw the long-handled contribution boxes passed. With great wonder in her face, and to the great amusement of all about her, she broke out with the loudly whispered exclamation, "Mamma, mamma, what makes them pass those corn-poppers round for?"

Bulbous-Rooted Flowers.

This class of flowers are of great beauty, easy of culture, and many of them are adapted for window culture and blooming. A want of knowledge as to the proper time has been a hindrance to their general introduction into our flower gardens. We have often known seedsmen and florists to receive orders in the spring for bulbs that should be planted in the fall, and which, if taken up and sold to the purchaser in the spring would be sure to perish; and we hope that all lovers of flowers will bear in mind that the fall is the proper time to plant bulbs.

The most of bulbs are grown in Holland, where soil, climate, and cheap labor render their production much less expensive than it would be here. For this reason our florists annually import them from that country, and have them on hand, ready or their customers, in time for planting at the proper season.

Those who wish to have a bed of these beautiful fragrant flowers should choose if possible a window that looks towards the south. Most of them delight in all the sunlight and sun-heat we can give them. They prefer a rich moist sandy loam, drained well, and free from all stagnant water in the soil. Those who are willing to take the trouble to prepare a soil by gathering together a few wheel-barrow loads of sod from an old pasture every summer, and stacking them in some out-of-the-way-corner, in alternate layers of sod and cow-manure, will secure the best dressing for these and all other flowers, that they can have.

This also is the best soil for pots, if it is desired to grow any of the bulbs in the house, adding to it enough sand to make it lighter. To those who are unacquainted with the names of the different bulbs, we would recommend the following:—Hyacinths, tulips, crocuses, snowdrops, lilies, narcissus, and crown imperials.

October is the best time for planting, though it can be done at any time before the ground freezes. The larger bulbs—as hyacinths, tulips and narcissus—should be set four inches deep and six apart; the smaller bulbs—as crocus and snowdrops—not quite so deep. As soon as the ground begins to freeze, and where the snow cannot be relied upon for a covering, a light covering of leaves or straw, held down by a few sticks so as not to be blown off, and thick enough to prevent the frost from penetrating into the beds.

When grown in pots, select six-inch for the size and plant one in each pot of the large bulbs and three or four of the small bulbs. When potted the top of the bulb should just appear above the soil and the earth be about half an inch from the rim. When done potting, let them be taken to a dark, cool cellar, free from frost, the soil kept moist until the pot is filled with roots, which can be ascertained by placing the left hand over the top of the pot, inverting it and then hitting the rim smartly against the edge of the table so as to knock the ball of earth loose from the pot, when the pot can be gently lifted with the right hand enough to see whether the white roots have run through the soil. When they have filled the earth with roots they are ready to be removed into the room where they are to bloom, giving them plenty of light, and not colder than 50 degrees at night and not more than 75 by day. They will now begin to show leaves, and will require more water, and will soon astonish you with their beauty and fragrance.

Hyacinths may be grown either in pots or glasses; if glasses are preferred, ask for "Hyacinth Glasses," which can be obtained from the florist, of various patterns; or instead of glasses is a turnip or carrot, hollowed out so as to hold the bulb and sufficient water below it. By hollowing

out the root in such a way as to leave a part of the crown in a circle around the hyacinth, the leaves will grow up out of its root and conceal the bulb, producing a pleasing effect. The glass or hollowed root should be filled with water just so that the



bottom of the bulb may touch the water; rain water is preferred. Bulbs flowered in water will not bloom the next year, and are usually thrown away when done flowering; those planted in earth are good for years.

Speak Gently.

Speak gently—it is better far
To rule by love than fear—
Speak gently—let no harsh word mar
The good we might do here!

Speak gently—love doth whisper low,
The vows that true hearts bind!
And gently friendship's accents flow;
Affection's voice is kind.

Speak gently to the little child,
Its love be sure to gain;
Teach it in accents soft and mild;
It may not long remain.

Speak gently to the young, for they
Will have enough to bear—
Pass through this life as best they may.
'Tis full of anxious care!

Speak gently to the aged one,
Grieve not the care-worn heart,
The sands of life are nearly run,
Let such in peace depart.

Speak gently, kindly to the poor—
Let no harsh tone be heard;
They have enough they must endure,
Without an unkind word!

Speak gently to the erring ones—
They must have toiled in vain;
Perchance unkindness made them so,
Oh, win them back again.

Speak gently!—He who gave his life
To bend men's stubborn will,
When elements were fierce with strife
Said to them, "Peace, be still."

Speak gently!—'tis a little thing
Dropped in the heart's deep well;
The good, the joy it may bring,
Eternity shall tell.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—Again the holiday season has expired, and many of you must turn your attention to school at the ring of the nine o'clock bell. It is a sad mistake with some farmers to suppose their sons and daughters do not need to be educated. The farmer without education sinks to a mere drudge, and can never hope to attain an equal position with other professions. The uneducated farmer wonders why his sons and daughters wish to leave the farm to choose other occupations. The reason is obvious—they do not want to be kept a century behind the times. But why should farmers' sons and daughters not be well educated? To the intelligent, the farm holds out far more delightful inducements than any trade. Cultivate a taste for reading, and reflect and observe the thoughts of others. The boy or girl who wishes to make their mark in this age must use all their faculties.

UNCLE TOM.

PUZZLES.**81—ENIGMA.**

I'm kept by every king and queen,
Duke and baron, peasant, dean;
Lords and ladies prize me too,
I'm admired by them as well as you.
I'm high, I'm low, I'm short, I'm long;
I'm thin, I'm thick, I'm weak, I'm strong;
I'm plain, I'm fancy, and handsome, too;
For comfort sake I'm used by you.
I am found in every place you roam,
Whether mountain, valley, or at home.
I please at times, at others tease;
I cause you pain, I give you ease.
Abuse me not and I'm your friend,
And I'll take you to your journey's end.

82—CHARADE.

My first was well known to the misers of old,
'Twas oft filled with silver, and sometimes with gold;
It is not a coffer, nor is it a trunk,
But if you can't guess it, don't think it is "sunk;"
For though, I dare say, it was often done that to,
To find out this puzzle 'twill not give a clue.

My second is eaten by monkeys and apes,
They are all sorts of sizes and all sorts of shapes,
And at a particular time of the year
They are eaten in liquor, but not sour beer,
At a time when turkeys, plum-puddings, mince-pies,
Float in young brains and before little eyes.

My whole is the fruit of a fine old tree,
Growing in clusters of one, two and three.
They are gathered by school boys, who like to have larks,
They are found in thick groves and in shady old parks.

Now, this puzzle is very easy,
And you may have no doubt,
That if you take pains
You will soon find it out.

EDITH BESSIE SALAMAN, (aged 13½ years.)
Clifton Villa, Lower Norwood, England.

83—GEOGRAPHICAL DOUBLE ACROSTIC.

A small country in the west of Europe.
A large peninsula in the south of Asia.
A county in Connaught, Ireland.
A high mountain in Europe.
A town in Suffolk.
A river in Egypt.
A river in the north of India.
A town in Lunburg, Belgium.
A town in South Australia.
An island in the east of Africa.

The initials and finals read downwards form the names of two of the chief towns in England.

M. S. B.

84—BURIED TOWNS.

- 1.—The air is soft, the sun shines bright
On the rippling of the channel light;
And o'er the sea, so far and wide,
The sails of ships, like white swans, glide.
- 2.—Truly on silk-worms rests the fame
Of this town. Can you guess its name?

3.—Some a melon do not relish,
But I'll no more my rhyme embellish.—E. C.

85—DOUBLE ACROSTIC.

The initials of the following, read downwards, make the initials of a great Roman Emperor, and the initials of his great rival.

- A covering for the head.
- A yellow dye.
- Mineral salts.
- Juice that issues from trees.
- An ancient town in the Holy Land.
- A species of fish.

M. B.

86—SIX-LETTER SQUARE PUZZLE.

1. One of the territories of western North America.
2. A great river of Hindostan.
3. A trading city of China.
4. The capital of a German duchy.
5. A seaboard city of Yorkshire, England, noted for a peculiar kind of jewelry stone which it exports.
6. A river near Zululand.

The letters of the square running downward from left to right, spell the name of a river of Europe.

87—CROSS-WORD ENIGMA.

My first can be found in tippie,
My second in every plan;
My third is a part of ripple,
My fourth is in Englishman;
My fifth you can see in a sink,
My sixth in every town;
My seventh in every drop of ink,
And my eighth in every nun;
My ninth in one-fourth of game,
And now I'm most done with my rhyme;
My whole is a country of fame,
Guess what it is when you have time. E. H.

88—ILLUSTRATED REBUS.



89—ENIGMA.

I am seen in the river, but not in the stream;
You may find me in milk, but not in the cream;
I'm seen in the hill, but not in the vale;
I sport in the wind, but not in the gale;
I'm always in window, but never in door;
I'm up on the ceiling, not down on the floor;
In history's page I ever am found,
And in winter when snow thickly covers the ground;
And though I may visit a king on his throne,
I always am greatest when standing alone. E. V. S.

Answers to August Puzzles.

71. 1, Pansy; 2, Hollyhock; 3, Pink; 4, Mignonette;
- 5, Larkspur; 6, Tulip; 7, Peony; 8, Phlox; 9, Portulacca.
72. Often in a wooden house a golden room we find.
Dawn, iron,
Acre, rove,
Writ, over,
Nets, nets.
74. Red rock.
75. Grasp, gasp, gray, gay, stay, say, steam, scam.
76. LOITER
OCTAVE
ITALIC
TALENT
EVINCE
RECTES (erects)
77. 1, Time, thyme; 2, Site, sight; 3, Might, mite; 4, Rhyme, rime; 5, Right, write; 6, Eight, ate—and the sentences will read sensibly.
78. 1, Pickwick. 2, Caravan.
79. Genteel.
80. It's no use crying over spilled milk.

"Your face is your fortune," said a forward young man to a handsome, but poor girl. "Your cheek ought to make yours," was her retort.

Names of Those Who Sent Correct Answers to August Puzzles.

Lucy Johnson, Minnie P Dean, Ethel V Snary, Herbert Marsh, Lucy Harding, John Freeland, J C Chisholm, Nellie Anderson, Frank Saunders, Walter Niles, Ralph Ferguson, S A Arnold, Wm Sharpe, Wm Johnson, Susan Harker, J D Delow, Georgia Nesbitt, Lucinda E Taylor, Clover Walker, M P Meekes, F J Inch, Jas Dutton, Willie Grey, Maud Wilson, Wm Russel, Alice Clark, Lizzie Cornell, Francis Logie, Mary Ball, Jas Glennon, Fata Shander, Lizzie Northwood, Rosie Cutten, Chas F Chase, Lawrence Shuff, Roland McNabb, Edward Friendship, Henry Willis, Jos Thompson, Bessie Nichols, Jane Orman, J P O'Hanlon, S Marie Jacobs, Nellie Bell, John Shoebottom.

Resignation.

WRITTEN FOR THE HOME MAGAZINE, BY FRANK LAWSON.

I am sick and weary to-night, Martha; this year's very likely my last.
But I'll bend to the will of the Saviour, as ever I've done in the past.
Just draw your chair up to the fire; let's talk of old sorrows and strife,
For all day I have been reflecting on the by-ways and crossings of life;
I have thought of the rich and the learn'd, who are climbing the mountain of fame;
They are struggling 'mid rocks, huge and rugged, to leave amid laurels their name.
And I've thought of their journey when ended; though glorious and great they may be,
They will surely, as Providence reigneth, be buried as lowly as we.
With theirs our life I've contrasted, our life so obscure and unknown,
And I think, of the two, the more credit deserves to be given our own;
For though man may extol hard ambition, and praise those on glory intent,
And disdain our ways, rude and humble, and scorn us because we're content;
I defy their disdain and their scorning—they may use all the words that they will—
Though rhetoric and logic may aid them, I tell you Truth's mightier still.
They pretend to believe in the Bible, and when to their Saviour they pray,
They ask Him for comfort and guidance, and bread but to last for a day;
Thus in words they remember the lesson, which ne'er in their bosom doth ring:
That they know not, as saith our Saviour, what a day or an hour may bring.
But amid the contentions of business, by fraudulent wiles and mean stealth,
They are planning, and working, and striving, to gain themselves glory and wealth.
Then, Martha, though humble our life is, though labor may roughen our hands,
Remember their load of contention, and their blindness to heaven's commands;
And I think in the different positions, their's famous, and our's unknown,
You'll conclude of the two the more credit deserves to be given our own.
For though man may extol mad ambition, and praise those on glory intent,
We can raise our eyes up to heaven, and thank God that we are content.

HUMOROUS.

HAD HIM THERE.—Priest: "You drunken sot! The very beasts of the field give you a lesson! Paddy; "Yes, yer riv'rence. But where did the bastes iver come across a sthrame o' whiskey?"

He was inclined to be facetious. "What quantities of dried grasses you keep here, Miss Stebbins! Nice room for a donkey to get into?" "Make yourself at home," she responded, with sweet gravity.

A western editor speaks of his rival as, "mean enough to steal the swill from a blind hog!" The rival retorts by saying: "He knows he lies: I never stole his swill."

"Charles, are you going to bid good-bye to your sisters?" "If they loved me less, mamma, if their affection were less sincere and unconventional. But I must positively put my foot down once for all. I cannot be rumped!"

A young man dressed in the height of fashion, and with a poetic turn of mind, was driving along a country road, and, upon gazing at the pond which skirted the highway, said: "Oh, how I would like to lave my heated head in those cooling waters." An Irishman, overhearing the exclamation, immediately replied: "Bedad, you might lave it there and it would not sink."

At the Old Farm.

Yes 'tis true. The blinds are closed, and the front door streams with crape.
Surely through the house last eve stole a vague and awful shape,
Dimly seen by only one—viewless, soundless to the rest;
Only one descried the arrow ere its death pang pierced his breast.

Why, they say he kissed his wife! She was sitting by the door,
With her patient, workworn hands folded, for the day was o'er,
And the twilight wind stirred softly, tapped the lilacs on the pane,
While belated bees swung slowly homeward thro' the lane.

"Ruth," he said, and touched her brow, gently as a lover might,
Stooped and kissed her, sitting there. She was struck with sudden fright.
"An' what is it, John?" she cried. "Do you think I'm going to die?"
"No!" he answered; "no, dear wife. If 'tis any one 'tis I."

Full ten years or more had passed since he'd given her a word
Thoughtful, feeling-like, caressing. She could scarce believe she heard
Rightly now. Their talk, you see, was, most part, about the farm—
Butter, eggs, the new Alderney, making hay; they meant no harm—

Kindly, honest, Christian folk, both the deacon and his wife;
Only, somehow, they had lost all the romance out of life,
And the love which they began with, like a flower o'ergrown with weeds,
Struggled on, half choked, half buried, in the strife for worldly needs.

Well, the night came on apace. All the usual chores were done,
And they went to bed as usual; rising always with the sun,
'Twas not worth while burning candles; and at midnight, lo! a call
Woke the sleepers. One was taken, one was left—and that was all.

Lucy told me of the kiss. On her way to meet the choir,
She had stopped to see Aunt Ruth, she and Neighbour Brown's Desire.
They were not surprised this morning when they heard that he was dead;
That he must have had a warning is what our Lucy said.

But I think the real love, the true love, that never dies,
Once two loyal hearts have known it, wakened 'neath those evening skies,
And 'twill be a comfort sweet, in her lonely time to be,
That before he went he spoke to the "dear wife" tenderly.

—Margaret E. Sangster.

An Ambitious Text.

The parsons do, after all, tell the best stories. Rev. Dr. — is responsible for the following:

In the early part of his ministry a very eminent clergyman of his own denomination visited him and spent a Sabbath with him. Of course he invited him to preach for him, and, to his great satisfaction, he consented. Rev. Dr. — is tall, and his pulpit was rather high, to accommodate his manuscript to his sight; his visitor was short, rather stout, and had a shining bald head. Rev. Dr. — proposed to lower the pulpit a little, but his friend declined, and, on the contrary, desired that it should be raised higher. It seemed that he was near-sighted, but for some reason preferred not to wear spectacles. The desk being raised, he proceeded to pile upon it the closed pulpit Bible, two hymn-books, a pile of about a dozen sermons, and finally his manuscript and then, his bald head just glimmering over the top of his extempore fortification, he announced his text—"Thou shalt see greater things than these."—[Harpers Magazine.]

Agricultural Education.

It is evident that, to equalize the production of our various industries, agriculture must soon receive an impetus in some shape or other. This must certainly come in the way of a better technical education. It requires as good a man in every way to make a successful farmer now-a-days as to make a lawyer, a doctor, a preacher, or an engineer. Yet if we compare the numbers of the students in the law, medical or theological schools with those in agricultural colleges, what a contrast is offered!

Commercial.

London Markets.

London, August 30, 1879.

Table with columns for GRAIN, MEAT, and PRODUCE. Includes items like Deihl Wheat, Treadwell, Barley, Peas, Oats, Corn, Beef, Mutton, Veal, Lamb, Potatoes, Butter, Cheese, Flour, Eggs, Carrots, Turkeys, and Geese.

English Markets.

Liverpool, August 29.

Floating cargoes at opening rather easier: Corn—the demand for the Continent continues. Cargoes on passage and for shipment—Wheat steady. Mark Lane—Wheat, quiet; corn, firm. English country markets, firm; French, do. Weather on the continent fair. Liverpool, at spot, on opening, dull; corn, firmer.

Table with columns for s, d, and s, d. Lists prices for Flour, Wheat, Red Winter, White Winter, Club, Corn, Oats, Barley, Peas, Pork, Cheese, Bacon, Tallow, and Lard.

Montreal Markets.

Montreal, August 28.

Market quiet and steady; prices unchanged. Flour—Superior, \$5 to \$5 10; extra, \$4 95 to \$5; spring extra (old ground) \$4 60 to \$4 70; fresh ground, \$4 75 to \$4 80; superfine, \$4 60 to \$4 65; strong baker's, \$5 to \$5 25; fine, \$4 10 to \$4 25; middling, \$3 25 to \$3 50; Ontario bags, \$2 30 to \$2 40; city bags, \$2 30 to \$2 40. A large amount of flour has been shipped during the past week.

LIVE STOCK MARKET.

Lower prices had to be accepted to induce business; some dealers sold at figures they refused last week, and in some cases at prices below what the cattle cost them; prices ranged from \$3 to \$4 per 100 lbs for fair to good butchers; shippers bought very sparingly, prices on the other side being down; \$4 50 was the outside figure. Two car loads of live hogs were offered, sales being at \$4 70 to \$4 80, and one car of sheep and lambs, with sales at \$2 50 to \$3.

Toronto Markets.

Toronto, August 29.

Barley, 40 to 47c; spring wheat, 90 to 95c; red winter, 90 to 95c; treadwell, 90 to 97c; deihl, 90c to \$1. Oats, 35c to 37c; peas, 50 to 55c; hogs, \$5 to \$5 25; flour, superior, \$3 75; spring extra, \$4 55; extra, \$4 65; butter, 7c to 10c; wool, 20c.

New York Markets.

New York, August 29.

Flour, steady; receipts 23,000 barrels, sales, 15,000 barrels; \$3 50 to \$4 for superior state and western; \$4 20 to \$4 30 for common to choice extra state; \$4 20 to \$4 50 for western. Corn, 45c; oats, 26c to 38c; pork, \$5 65; butter, 6c to 18c; Rye 64c to 67c; Canada peas, 70c; barley malt, city and Canadian, \$1 20 to \$1 30.

Chicago Markets.

Chicago, July 26.

Wheat—No. 1 Chicago spring, 96c; No. 2, 86c, cash, Sept. Corn, 32c cash, 32c September; oats, 21c; rye steady and unchanged; barley, 70c, September; pork, \$7 85 to \$7 90; lard, \$5 50.

LIVE STOCK MARKET.

Hogs, prices lower; mixed packing, \$3 to \$3 25; light, \$3 40 to \$3 75; choice heavy, \$3 30 to \$3 50. Cattle—Very scarce and steady; good to choice shipping moderately active, \$4 30 to \$4 60; some choice, \$4 80; western cattle fairly active; through grasses, \$2 40 to \$2 60. Exportation of horses sent through Montreal to the United States in 1879:—Total number, 6,032; value, 491,235.

Detroit Markets.

Detroit, August 26.

Wheat—Extra, \$1 01; white, 90c.

Cheese Markets.

LITTLE FALLS, August 29.—The sales of factory-made cheese to-day were 3,200 boxes; the bulk sold at 5c; prices ranging from 5c to 5 1/2c; dairy-made cheese, 4c to 5c; 791 boxes changing hands; 30 packages of butter sold at 12 1/2c to 15c.

UTICA, August 29.—12,000 boxes of cheese sold at 4 1/2 to 5 1/2c; leading price, 5c; average, 5 1/2c.

INGERSOLL, Ont., August 29.—Eleven factories registered 3,700 boxes on the board. Many factories not registering. Total offering, 7,100 bxs; sales, 4,640 do; 1,600 do on pt; 700 do at 5c; 1,400 do at 5 1/2c; 940 do at 5 1/2c. Last half of July sold at 5 1/2c; first half of August at 6 1/2 c. Better feeling prevailing with buyers and sellers.

MONTREAL, August 29.—A number of factories are shutting down as they say prices are below cost of production; only good factories that obtain the top price for their product are able to pay expenses. The situation with regard to butter is no better. Township selections bring 12c to 12 1/2c and a great deal of good quality sells at 10c to 11c; for Brockville and Morrisburg selections 11 1/2c to 12c may be quoted, and Western Dairy selections about 8c to 8 1/2c; finest creamery is still quoted 15c to 15 1/2c; we have heard complaints that some creamery is not selling for more than ordinary dairy butter, and the makers naturally want to know the reason why. It is simply that some of them are manufacturing from sweet cream, and the butter will not keep. Creamery that has gone off is just as difficult to sell as any other inferior butter; the name alone is not sufficient to bring good prices, which can only be obtained for a good keeping article.

Little Falls Cheese and Butter Market.

Reported for the FARMERS' ADVOCATE by PROF. X. A. WILLARD.

LITTLE FALLS, N. Y., August 26, 1879.

During the month there has been no improvement in the cheese market, and for the last three weeks great depression has been felt in the trade.

The offerings from factories have been at the rate of from 12,000 to 14,000 boxes per week, the most of which changed hands on the day offered, while those who made the experiment of holding over a week in expectation of better prices, made from a 1/2c to 3/4c loss per pound on their goods. The range for good factories has been about 5c, while fancies and gilt-edged lots have brought from 1/2c to 3/4c more money. In one or two instances 6c has been reached on "fancy white cheese," an extra price having been forced by sharp competition. White cheese has been in demand through the entire month, and prices have generally ranged from 1/2c to 3/4c better than for colored cheese. Goods also adapted to the home trade have met with quicker sales and a shade better price than shipping cheese. First-class farm dairies therefore have sold for more money than factories.

But a dull market and a low price have not been the only discouraging outlooks for dairymen. The

weather has been hot and dry—with scarcely any rain—the afterfield in meadows has not come forward, and in consequence fall feed is scanty, and cows are shrinking in their milk, thus promising a small make of fall cheese.

On the 25th, the market day for the closing week of the month, about 14,000 boxes of cheese were offered, and 9,000 changed hands, trade being dull and the market weak. The ruling price for good factories was 5c, and the top mark for fancy, 5 1/2c; with two or three lots of extra white cheese, on sharp competition, reaching an outside figure of 5 3/4c to 5 1/2c, and which are not to be considered as quotations indicating the tone of the market.

On the same day farm dairies, of which 800 boxes were delivered, were sold at a range of from 4c to 5 1/2c, according to quality, and bought to supply the home trade.

Butter during the month has been firm, with an upward tendency, ranging during the first half at from 12c to 15c, and during the last half of the month from 14c to 17c, the demand being for the home trade. As to the quality of the goods offered, both butter and cheese, buyers agree in pronouncing it of fine description; and the low prices can in no way be attributed to any defect in make.

As to the outlook for next month, there are conflicting views as to prices, but the general impression among the best informed is that the bottom has been reached, and that an advance in rates may be confidently expected.

We have advices from England to the middle of August. Our London correspondent reports that fine English cheese is wanted, and that Dutch cheese maintains previous rates. As to American cheese, agents meet buyers liberally, and owing to warm weather it is selling at unprecedentedly low rates. Extra fine American is quoted in the London market at 34s to 36s; fine, 30s to 32s; good, 28s to 30s; and secondary at 20s to 26s per cwt. English Cheddar brings 60s to 76s; Cheshire medium, 50s to 60s; fine, 60s to 70s; Scotch, 50s to 56s, and Dutch Edams, 54s per cwt.

There is a marked improvement in the butter market, and sales are made of all sorts of butter, with Normandy again in favor, and fine mild Irish in demand. Prices are as follows:—

Clonmels, 86s to 94s; Cinks, 77s; Irish creams, 96s; Dorsets, 124s to 126s; Danish, 100s to 108s; Normandy, 70s to 100s; American and Canadian, 60s to 80s; and creamery, 76s to 84s per cwt.

Oleomargarine or artificial butter sells fairly at from 50s to 66s, and fresh at 70s per cwt.

Stock Notes.

During the past week there were 787 head of cattle, 4,307 sheep, and 17 horses shipped from Montreal to England.

On Saturday, 30th ult., J. & C. Coughlin shipped from London, Ont., per G. W. R., 800 sheep and 500 head of cattle to the Old Country.

In the Agricultural Gazette, Aug. 11, we see among the lists of ram sales that a higher price has been paid for a Shropshire ram than for any other breed, namely, £80—about \$400. Prices for other breeds were not much over half this amount.

FRAUDULENT PEDIGREE.—A case has just been tried in the English Courts in Gloucester. Alsopp purchased a bull calf from Hopkins. The calf was a handsome grade and took first prize at the Exhibition as a Shorthorn, the entry having been made from false representations. Verdict against Hopkins is recorded—£750, equal to about \$3,750. Hopkins bought the calf for £5, and sold it for £115. This should show unscrupulous persons the danger of tampering with pedigrees. We have heard of doubtful, we might add, fraudulent, acts having been done by a name or two in Canada that would hardly be credited at the present time if published.

County, Township, and Other Fairs.

Industrial Exhibition, Toronto, Ont.	Sept. 1, 19
Horticultural, Sarnia	Sept. 2
South Leeds, Delta	Sept. 10, 11
West Hastings, Belleville	Sept. 11, 12
Central Exhibition, Guelph, Ont.	Sept. 16, 19
Hullett, Clinton	Sept. 16, 17
East Huron, Goderich	Sept. 17, 18
South Ontario, Whitby	Sept. 18, 19
North Norwich and East Oxford, Norwich	Sept. 19, 20
Normandy, Neustadt	Sept. 22
Ontario Provincial, Ottawa	Sept. 22, 28
South Oxford, Ingersoll	Sept. 23, 24
Northern, Walkerton	Sept. 23, 26
Clifford, Clifford	Sept. 23, 25
Kinloss, Lucknow	Sept. 23
Stephen and Osborne, Exeter	Sept. 23, 24
Northern, Ailsa Craig	Sept. 23, 26
Morris, Emerson	Sept. 24, 26
Wilmot, Hamburg	Sept. 24
North Perth, Stratford	Sept. 25, 26
North Oxford and Blandford, Woodstock	Sept. 25, 26
North Grey, Owen Sound	Sept. 25, 26
South Huron, Seaford	Sept. 25, 26
Turnberry, Wingham	Sept. 25, 26
Bentick, Hanover	Sept. 26
Western Fair, London, Ont.	Sept. 29 to Oct. 3
Brook, Sunderland	Sept. 29, 30
E. and W. Whitby, Oshawa	Sept. 29, 31
Nova Scotia Provincial, Halifax	Sept. 29, Oct. 3
West Wellington, Palmerston	Sept. 30, Oct. 1
Grand Central Exhibition, Hamilton, Ont.	Sept. 29, Oct. 3
North Bruce, Paisley	Sept. 30, Oct. 2
South Grey, Durham	Sept. 30, Oct. 1
North Victoria, Victoria Road	Sept. 30
Blenheim, Drumbo	Sept. 31, Oct. 1
Elma, Newry	Sept. 30
Whitechurch, Stouffville	Sept. 30, Oct. 1
Aurora, Aurora	Sept. 30, Oct. 1
Holland, Chatsworth	Sept. 30
Midland, Kingston	Oct. 1, 4
Beach, Scugog and Port Perry, Port Perry	Oct. 1, 2
North Brock, Cannington	Oct. 1, 2
Pictou, Pictou	Oct. 1, 2
East Grey, Flesherton	Oct. 2, 3
East Huron, Brussels	Oct. 2, 3
E. York and Markham, Markham	Oct. 2, 3
Elma and Wallace, Listowel	Oct. 2, 3
Nassagaya, Brookville	Oct. 3
Carrick, Mildmay	Oct. 6
Lennox, Napanee	Oct. 7, 8
Saugen, Port Elgin	Oct. 7, 8
North Ontario, Uxbridge	Oct. 7, 8
Pickering, Brougham	Oct. 7, 8
South Perth, St. Marys	Oct. 7, 8
Brant Southern, Brantford	Oct. 7, 9
North Waterloo, Waterloo	Oct. 7, 9
Puslinch, Aberfoyle	Oct. 7, 9
North York, Newmarket	Oct. 7, 8
Union, Dundalk	Oct. 7
South Victoria, Lindsay	Oct. 8, 9
East Wawanosh, Belgrave	Oct. 8, 9
E. Durham and Hope, Port Hope	Oct. 8, 9
Cartwright, Williamsburg	Oct. 8, 10
South Waterloo, Ayr	Oct. 9, 10
Eramosa, Rockwood	Oct. 9
Greenock, Pinkerton	Oct. 10
Welland	Oct. 10, 11
Mornington, Millbank	Oct. 10
Centreville, Centreville	Oct. 12
Mariposa, Oakwood	Oct. 14, 15
East Peterboro', Norwood	Oct. 14, 15
Huron, Clinton	Oct. 15, 16
Erin, Erin	Oct. 16

PRINCIPAL AMERICAN FAIRS.

American Institute, New-York	Sept. 15, Dec. 1
American Pomological, Rochester, N.Y.	Sept. 17, 19
Cincinnati Industrial, Cincinnati	Sept. 10, Oct. 11
Connecticut, Hartford	Oct. 7, 10
Illinois, Springfield	Sept. 29, Oct. 4
Indiana, Indianapolis	Sept. 29, Oct. 4
Iowa, Des Moines	Sept. 1, 15
Illinois Fat Stock, Chicago	Nov. 10, 15
Inter-State, Chicago	Sept. 3, Oct. 18
Kentucky, Lexington	Aug. 26, 30
Minnesota, Minneapolis	Sept. 1, 6
Michigan, Detroit	Sept. 15, 19
Maine, Portland	Sept. 16, 19
Missouri, Cape Girardeau	Oct. 14, 18
Massachusetts Horticultural, Boston	Sept. 9, 12
New Hampshire, Dover	Sept. 16, 19
New York, Utica	Sept. 8, 12
New England, Worcester, Mass.	Sept. 2, 6
New Jersey, Waverley	Sept. 15, 20
Northern Ohio, Cleveland	Sept. 1, 5
Nebraska, Lincoln	Sept. 8, 12
Ohio, Columbus	Aug. 25, 29
Pennsylvania, Philadelphia	Sept. 8, 20
Tri-State, Toledo, Ohio	Sept. 8, 13
Vermont, Montpelier	Sept. 9, 11
Wisconsin, Madison	Sept. 8, 12
Western Michigan, Grand Rapids	Sept. 22, 27

The British Dairy Show will be held in London, England, from the 13th to the 17th of October.

Industrial Dairy Fair is to be held in New York second and third weeks of December.

The Fruit Growers' Association Fair, at Nova Scotia, 10th and 11th of Sept.

THE EFFECTS OF ADVERTISING.—An advertiser has just stepped into our office to say that in response to a small advertisement he inserted lately in the FARMER'S ADVOCATE, of eggs for sale, he has disposed of nearly 100 dozen. Comment is unnecessary.

NEW ADVERTISEMENTS.

**THE
Great Central Fair,
HAMILTON, ONT.
30th Sep., 1st, 2d & 3d Oct. '79**

A larger amount offered in Prizes than at any previous Exhibition,

for Stock, Agricultural and Horticultural products, Poultry, Implements, Manufactures, Fine Arts, Ladies' Work, etc. etc.

The Railway Companies will carry passengers and animals and articles to and from the Exhibition for

ONE FARE THE DOUBLE JOURNEY.
The Entry Books will be closed on the 23rd September.

Prize Lists and Entry Forms can be had on application to

F. C. BRUCE, Treasurer, Hamilton. JONATHAN DAVIS, Secretary, Mount Albion.

**CENTRAL EXHIBITION — 1879
will be held in the
CITY OF GUELPH**

ON SEPTEMBER 16, 17, 18 and 19.

OPEN TO ALL.

The Governor-General and H. R. H. Princess Louise will be present on Wednesday, the 17th, to open the exhibition. A grand rally of the yeomanry of the country is expected on that occasion.

Prize Lists and Entry Papers can be had at the Secretary's Office, Guelph, and also from the Secretaries of other Societies throughout the Province. Parties not receiving their entry tickets prior to the Show, will find them at the Secretary's office.

The several Railways will carry freight and passengers to and from the exhibition at single fare.

G. MURTON, Secretary. T. PARKINSON, President.

NORTHERN EXHIBITION, 1879

The Northern Exhibition will be held in the

TOWN OF WALKERTON

On **TUESDAY, WEDNESDAY, THURSDAY and FRIDAY**
September 23, 24, 25 and 26, when

\$5,000

Will be offered in prizes for farm products, implements, manufactures, fine arts, ladies' work, etc. etc.

Open to the World.

JACOB SEEGMILLER, Secretary. RICHD. RIVERS, President.

\$20,000 in Prizes

**THREE WEEKS
Agricultural and Industrial
EXHIBITION,
AT TORONTO.**

From 1st to 19th Sept., 1879

To be Opened by His Excellency the Governor-General and H.R.H. the Princess Louise.

\$20,000 in prizes for Agricultural, Horticultural and Dairy products, Implements, Machinery, and all kinds of Manufactures, Fine Arts and Ladies' Work, &c., &c.

Cheap rates and excursions on all the Railway and Steamboat Lines.

Entries close first week in August.

Prize List and Forms of Entry now ready.

Grand Band Competition, Boat Races, Dog Show, Illumination of the City, and other attractions during the Exhibition.

J. J. WITHROW, President. JAS. McGEE, Manager & Treas. H. J. HILL, Secretary.

THE

Western Fair

will be held in the

CITY OF LONDON

Sep. 29, 30 & Oct. 1, 2, 3, next

MOTIVE POWER FURNISHED.

Size of turned shafting 2 1/2-32 inches, revolutions per minute 300—exhibitors to furnish their own pulleys.

ENTRIES

Required to be sent in on or before Sept. 27. Entry papers furnished on application to Secretary.

A. McCORMICK, President. WM. McBRIDE, Secretary.

London, Ont., 29th August, 1879.

AUCTION SALE

OF THOROUGHBRED

Cotswold & Leicester Sheep

the property of

Mr. THOMAS McCRAE, JANEFIELD, GUELPH.

(1 1/2 miles from City Hall, adjoining Ontario Experimental Farm.)

COTSWOLDS—

- 6 Rams, two shears and over,
- 6 Shearling Rams.
- 9 Ram Lambs.
- 16 Ewes, two shears and over.
- 15 Shearling Ewes.
- 21 Ewe Lambs.

LEICESTERS—

- 1 Ram, two shears.
- 4 Ram Lambs.
- 6 Ewes, two shears and over.
- 5 Shearling Ewes.
- 5 Ewe Lambs.

All the stock warranted of pure blood.

TERMS.—\$20 and under, cash; over \$20, twelve months' credit on approved endorsed note, with interest at eight per cent.

SALE TO COMMENCE AT 1 O'CLOCK ON THURSDAY, SEPTEMBER 11TH, 1879. dl1

PUBLIC SALE

OF

Thoroughbred Stock.

THE THIRD ANNUAL SALE OF LIVE STOCK at the Ontario Experimental Farm, Guelph, will take place on Friday, 12th Sept., 1879, when several

Shorthorn and Hereford Bulls,

Ayrshire Heifers, a large number of Leicester, Cotswold, Oxford Down, and Southdown Ram and Ewes; as also Berk and Windsor Boars and Sows; with probably several varieties of Seed Wheat, will be offered without reserve.

Catalogues, after 1st of August, on application to

WM. BROWN.

Dg-3

**50 Cotswold Rams) FOR
30 Southdown ") SALE.**

Bred entirely from my own Importations.

F. W. STONE,

dl2 GUELPH, ONTARIO, CANADA.

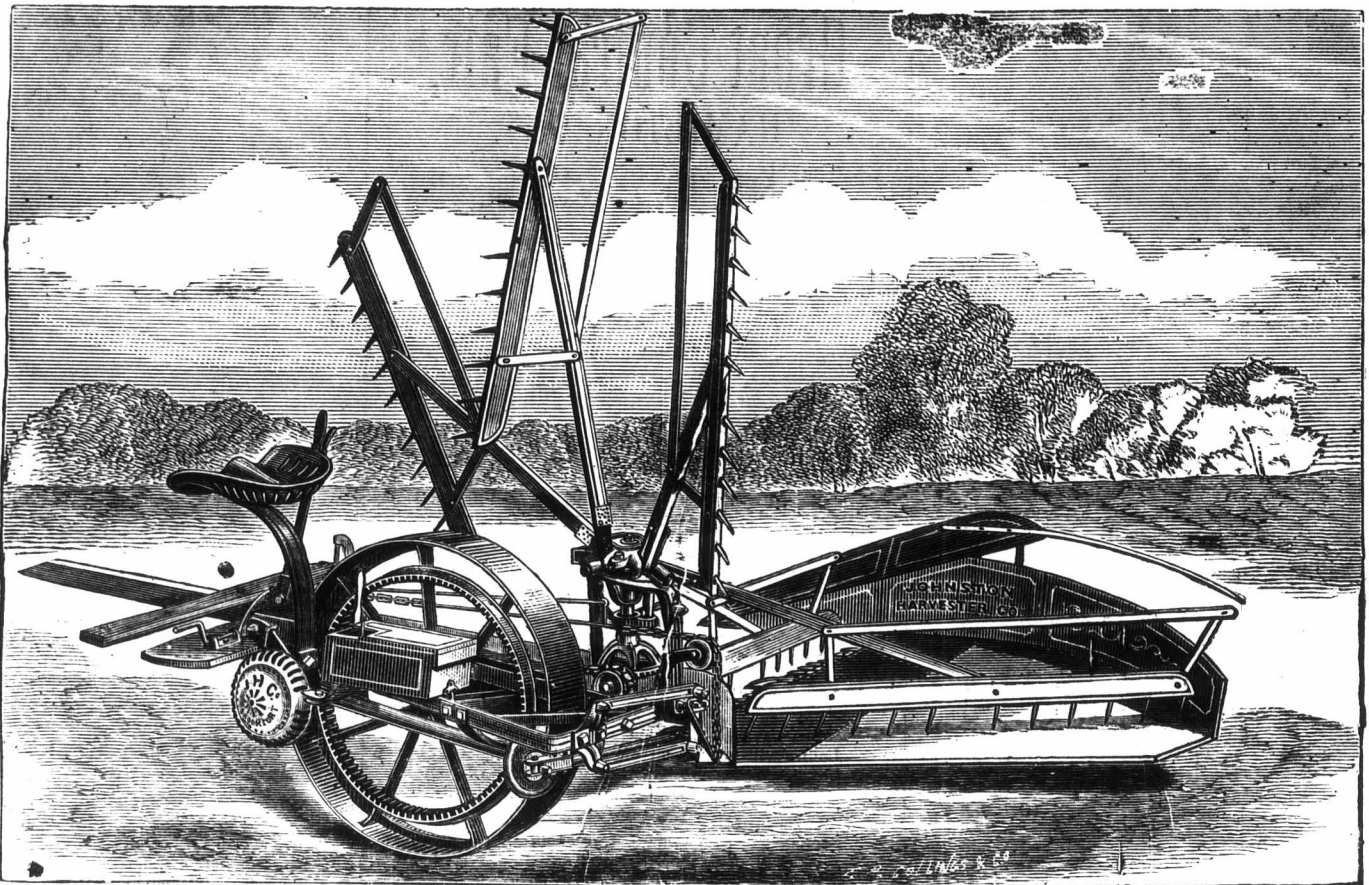
Farmers! Feed your cattle with the Great Devonshire Cattle Food and they will feed you. See that the name "Devonshire" is on every box. Price one dollar. John Lumbers, sole manufacturer, Toronto. dl-6

FARMS AND HOMES

On the Kansas Pacific Railway, 3,000,000 Acres for Sale in the GOLDEN BELT \$3 to \$7 per acre. 11 years credit. Wheat 20 to 50 bushels; Corn 40 to 100 bush. per acre. No Manure needed. Good climate, pure water, fine schools, churches, and good society. Railroad and market facilities excellent. Maps and full information FREE. Address S. GILMORE, Land Commissioner, Salina, Kansas.

THE THOMSON & WILLIAMS MANFG. CO'Y OF STRATFORD, ONT.

Guaranteed to cut and handle satisfactorily the heaviest, lightest, shortest, tallest, grassiest, and worst lodged and tangled grain; also the heaviest sowed corn. Lightest draught machine in the market!



Shipped on trial at our expense to any station in Ontario. One of these machines cut lodged clover, rolled down, after other machines had gone over it and failed, at Yarmouth Centre, June 25th, 1878.

THE JOHNSTON WROUGHT-IRON HARVESTER

THE WORLD'S PRIZE REAPER.

Paris Field Trial at Mormont, July 22nd, 1878—Record, the highest and only prize offered, against 35 competitors.

NOTE VARIETY—Single Mowers, 4 sizes; Single Reapers, 3 sizes Combined Machines, Nos. 1 and 2.

dc-4

NEW ADVERTISEMENTS.

SEED WHEAT

The Bearded Deihl and other varieties of Fall Wheat IN STOCK. Address for circular, etc.

WILLIAM RENNIE,
Seedsman, Toronto.

LOVETT'S WHITE WHEAT!

In introducing to the public this new variety of wheat, grown by Mr. Charles Lovett, in the Township of Brantford, we would state that five years ago Mr. Lovett found amongst his Deihl and Treadwell four heads stooled from one grain, bearded, and different from the rest, which he saved next season, and the produce of it the following seasons, until he has now thirty acres of the same. It winters better than the Clawson, and is not subject to rust. The following farmers have noted its growth, and recommend it for seed this year:—Daniel Perley, Chas. Gurney, Robert Potruff, John Ansebrooke, William Underhill and Thomas Lovett, all of the Township of Brantford.

Wheat offered by others called "Lovett's white" is not genuine, unless purchased from us, as we have secured the whole crop, and now offer it at the price of \$2.51 per bushel, in parcels of ten bushels and upwards, and \$3 in smaller parcels.

WHITLAW, BAIRD & CO.

COTTON YARN.

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

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

JOHN ABEL, Woodbridge, Manufacturer of Steam Threshing Machines, Reapers, Mowers, etc. Send for Catalogue.

PLANTS STRAWBERRY PLANTS

E. P. ROE offers one of the LARGEST and FINEST stocks of Pot-Grown and Layer Strawberry Plants ever grown in this country. Prices very reasonable. New Descriptive Catalogue free to all. Address ditto E. P. ROE, Cornwall-on-Hudson, N. Y.

Dutch Flowering Bulbs.

IMPORTED DIRECT FROM THE GROWERS. Our selected stock of choice bulbs, comprising Hyacinths, Tulips, Crocuses, Snowdrops, Lilies, etc., etc., will arrive about the 20th September. Price list mailed free on application to

CAN. AGRICULTURAL EMPORIUM,
360 Richmond street, London, Ont.

TREES A large assortment of Fruit, Shade, Ornamental Trees, and Shrubs, Roses, Greenhouse Plants, etc.: Gregg Raspberry, Snyder Blackberry, Apple Seedlings. New Fall Catalogue free. Established 1852. BAIRD and TUTTLE, Agents, Bloomington Nursery, Illinois ditto

WHEAT SOWING.

DOWN'S FARMERS' FRIEND

Has stood the test of upward of 40 years, and is acknowledged the safest and most effectual preventive of Smut in Wheat, Barley, Oats, &c., &c., the ravages of the slug, grub, and wireworm, and the incursions of rooks and vermin, as the testimonials, and high reputation of the gentlemen whose names they bear will testify. It will also promote the germination and growth of the seed wheat, and increase the produce of the crop equal to a chance of seed.

A packet is sufficient for six bushels of seed, which can be dressed and fit to sow in a quarter of an hour.

Testimonials from the largest wheat growers in Great Britain, bearing testimony to its great power and efficacy, may be had on application.

Per Mail, Postpaid, 50c per Packet.

For sale at
CANADIAN AGRICULTURAL EMPORIUM,
360 Richmond Street, London, Ont.,
Canada.

DG-3

OSBORN



GUELPH SEWING MACHINE CO.

Invite inspection and a trial of their

"OSBORN A" STAND,

OR...

"B" Hand Shuttle Sewing Machines,

OR THEIR...

UNEQUALLED LAWN MOWER.

Mrs. Potts' Sad Irons & the Dover Egg-Beater.

All first-class articles, necessary in every house. Try them!

W. WILKIE, Manufacturer,
Guelph, Ont.

Patent Knife CURD MILL.

This mill will pay for its use in saving of quality and quantity, as by its use no white whey (cream) is squeezed out.

Much better Cheese with less skill can be made by the use of them.

For further particulars, address,

WHITMAN & BURRELL,

LITTLE FALLS, NEW YORK, U.S.

L. D. SAWYER & CO.

Hamilton, Ont.

ORIGINAL AND ONLY GENUINE

"Grain-Saver" THRESHING MACHINERY.

THE Matchless Grain-saving, Time-saving and Money-saving Threshers of the day. Beyond all rivalry for Rapid Work, Perfect Cleaning, and for Saving Grain from Wastage, etc.



STEAM-POWER Threshers a Specialty. Special sizes of Separators made expressly for steam-power.

THE Entire Threshing Expenses (and often much more) can be made by the extra Grain SAVED by these Machines.

GRAIN-RAISERS will not submit to the enormous wastage of GRAIN and the inferior work done by other machines, when once posted on the difference.

NOT only vastly superior for Wheat, Oats, Barley, Rye, and like grains, but the only successful Thresher in Flax, Timothy, Millet, Clover, and like seeds. Requires no "attachments" or "re-building" to change from grain to seeds.

IN thorough workmanship, elegant finish, perfection of parts, completeness of equipment, etc., our "Grain-Saver" outfits are incomparable.

MARVELOUS for simplicity of parts, using less than one-half the usual belts and gears. Makes clean work, with no litterings or scatterings.

For particulars write to us for Illustrated Circular of our Mowers, Reapers and Threshing Machines, which we mail free.