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FARMER'S ADVOCATE

AND HOME MAGAZINE.

VOL. XVI.

LONDON, ONT., FEBRUARY, 1881.

NO. 2.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

THE FARMER'S ADVOCATE

—AND—
Home Magazine.

WILLIAM WELD, Editor and Proprietor
—FOUNDED 1866.—

The Only Illustrated Agricultural Journal
Published in the Dominion.

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Prize Essay.

A prize of \$5 will be given for the best essay on the following questions: "On what soils have superphosphates and ground bone been found most profitable; what quantities should be used per acre; what are the best methods of applying to the soil; will the use of these manures be profitable to Canadian farmers?"
Essay to be in our office by the 20th of March.
We will extend the time for the essay on the questions on the Model Farm to the 20th of Feb'y.

IN the British House of Commons Mr. Chaplin gave notice that he would move, on the 22nd Feb., to prohibit the importation of cattle from countries where disease is known to exist, as their slaughter on lauding has proved insufficient to arrest the spread of the disease. We cannot call the attention of the Government too importunately to this subject, as it is, in our opinion, of more importance to the farmers of Canada than the Railway Syndicate, Protection or any other subject that has agitated the country for years. It is absolutely necessary that we should look closely after our own interests in this matter. It must be constantly borne in mind, at this crisis that the free access of Canadian cattle to the British markets is of vital importance to the country at large. Every effort should be made to prevent our country from even suspicion of being infected with the disease, which can only be done by seeing to it that American meat is not placed on the European market as Canadian.

To Subscribers,

We return most sincere thanks to our readers for their continued patronage and for the numerous new subscriptions sent in by our friends. December and January are the most important months to us, as the majority of renewals come in during these months. We never have had so many highly satisfactory letters as during the past two months. Not only is this the case from complimentary remarks, which are always cheering and pleasing, but from the very small proportion of refusals and the very large number of renewals and new subscribers. We have reason to thank our subscribers when we say the receipts have never been equalled since we commenced the publication of the ADVOCATE.

What has been contained in the ADVOCATE for the past fifteen years has been free, unbiassed thought. Freedom and right must eventually disperse darkness and deception. We must have the coming men among our readers, as our readers are undeniably the independent thinkers, and they must prefer light and light must conquer darkness. There are only very few real independent minds. Nearly all the inhabitants of the world are merely copyists or followers; they take up some other person's words and opinions, and act and speak as if they were their own ideas. No doubt we have some of that class, but we have no hesitation in saying that our readers are the most free to think and act, and they must be the leaders in their localities, perhaps on this continent. They may have to labor as we have done, but time and patience will conquer with such a class of readers; and knowing that every line and every word is scrutinized by so many, we feel that we need greater discernment as subjects of greater magnitude present themselves. We must ask of you, the independent in Canada, to give us your aid to strengthen us where weak and correct where you think we may be wrong.

We do not hold ourselves responsible for all the ideas expressed by our correspondents. Should any of our readers believe any correspondence erroneous, we particularly wish he or they would write and correct the mistake without delay, for time obliterates circumstances.

Chip dirt, drift hay from the edges of the marshes, and all refuse matter that can be collected about a farm, if not used in the compost heap, makes an excellent mulch for orchards. Mulching, says a writer, has all the benefits of ploughing, with none of its disadvantages, keeping the surface mellow with no damage to the roots by the plough or to the trunk or branches by the team. It keeps down the grass and invites the earthworm to work and make the soil fine and rich. It tends to retain the moisture for a much longer time, and remedy in a great measure the evil effects of drought. The fruit which falls upon it is not bruised. It is the way nature adopts to manure and enrich the forest trees.

Handling Colts.

(Supplement to the Essay on "Fall and Winter Management of Colts.")

It is seldom necessary to handle foals till weaning time, but as some foals are very timid, it is well to get familiar with them, and particular care should be taken not to frighten them unnecessarily. They should be approached gently, and allowed to smell the hand before making any attempt to handle them. Coax them with a dainty bunch of clover or green oats, or some tempting kind of food. If they refuse to take it from you, never throw it at them, but lay it down on the ground where they can find it. They will observe your motions, and soon learn that you intend to be on friendly terms with them. Thus you will soon be able to stroke them first on the nose, then on the neck, and so forth. It is not well to slap them about the hind quarters till you are on quite familiar terms with them.

When first confined to their loose box after weaning is the proper time to cultivate their acquaintance in earnest (being weaned from their dam, they naturally turn to man as their best friend. Alas! how often are they deceived); here you have them more under your control, and now is the proper time to show them that you are really their friend. Whenever you go in take advantage of the occasion to give them something from the hand, a little salt, a handful of oats, an apple, or potato or carrot, or something to tempt the appetite until you have attained a sufficient hold on their friendship, and do not wish to cultivate a closer acquaintance. Colts sometimes become troublesome by being too much petted. It is then only necessary to check them by gentle correction and less familiarity. You having gained their good will, it rests with yourself how much of it you will have.

Having arrived at a proper understanding, avoid playing with them or learning them tricks, such as nipping or kicking, as it may cause trouble to break them of it afterwards. They should be lightly rubbed down occasionally with a wisp of straw or a soft brush, commencing at the neck, then down the back and sides, then the fore legs may be rubbed, and afterwards the hind legs, if the colt is gentle; if not, do not be in too great a hurry to go all over at one time, rub the fore legs and gradually work back till he becomes accustomed to it. Then take up one fore leg and handle the foot. Another time try the opposite leg, being careful not to irritate or frighten the colt by so doing. Stroke them down after each handling, and always leave them in good temper.

This treatment practised once or twice a week at first and occasionally afterwards is all that is necessary the first winter. T. H., Meaford.

English Letter, No. 22.

[FROM OUR OWN CORRESPONDENT.]

Liverpool January 4th.

My first and most pleasant duty is to wish you and all your readers a truly happy, and really prosperous new year; and I do so most heartily.

Here, at any rate, the new year is full of troubles, and fears of troubles to come. Commercially, there is a much healthier feeling than I have noticed for a long time past. When people, and commercial people especially, begin to talk with hope and confidence of a good time coming, the battle is more than half won; for they themselves are in the right mind for enterprise, which is the parent of success. People are so talking now, and freely: *ergo*, the good time is coming. In other respects, however, the lookout is not a pleasant one. The Irish trouble seems chronic; and if the present government succeed in curing it, they will be among the cleverest political doctors in history. Let us only hope that the process of cure will not involve any of the old-fashioned remedy known as blood-letting.

The Zulu war has been succeeded by a still more formidable trouble in the Transvaal; and the feeling here is that, unless the difficulty is handled with great delicacy, we shall have the whole of the South African tribes in revolt, aided by the Dutch Boers, who have already proved themselves formidable foes. The worst of it is that they seem rather to have justice on their side. Parliament meets this week, and a very brisk political season is anticipated.

But now to matters more immediately interesting to your readers. Scarcely one of them, I should imagine, has failed to hear of Mr. J. J. Mechi, of Tiptree Hall, Essex, who for many years has occupied a first rank among scientific agriculturists. Poor fellow, he has come to a sad ending. About twenty years ago he lost £30,000 by a bank failure; but was just pulling himself together again nicely, when the advent of co-operative societies, &c., &c., sapped his business in London, and compelled him some weeks ago, when at the age of 79, and in ill health, to place his affairs in the hands of his creditors. He did not long survive this sharp reverse, but died a few days before Christmas. He declared in a circular addressed to his creditors that his agricultural experiments in no way contributed to his failure, having been fairly successful, with the exception of the disastrous season of 1879. For many years past his experiments at Tiptree were watched with immense interest by the agricultural world; and many of them worked quite a revolution in some branches of farm work. In some things, however, he was rather chimerical, and his friends and neighbors had not always reason to be satisfied with the results when they followed in his footsteps. However, he is gone, and altogether, few men have so long occupied so prominent a place in agriculture.

One of our leading agricultural papers says there was not, perhaps, at the late great annual show at Smithfield, a more interesting exhibit than that of the Canadian produce to be seen at the stand of Messrs. Sutton & Sons. "In our opinion," says this journal, "it went further than volumes written by travellers and farmers' delegates towards indicating the capabilities of Canada and its newly acquired North-western territory. No better evidence could be adduced of the fertility of the soils of Manitoba and Ontario than this exhibition of their produce." Notices of these, and of the fruit exhibits which were sent by your Middlesex association and selected at the London Western Fair last autumn, have appeared in all the leading papers in this country, and it is to be hoped that the gentlemen who took the trouble to prepare and

send forward these exhibits will be satisfied with the result, and that next season similar specimens will be sent to this country.

Foot and mouth disease is now rampant through many counties in England. In fact, the Privy Council have scheduled two counties on this account within the past week. Devonshire and Buckinghamshire are the last counties reported. In the latter 101 animals are announced to be affected, 99 beasts and 2 pigs; and the Privy Council have been requested to declare the whole of the county an infected area. I understand that important purchases of cattle for export to Canada have recently been made, and it will therefore require increased vigilance on the part of your government officials in examining and quarantining these imports, so as to prevent a much dreaded disease entering the Dominion. Although not so insidious as pleuro-pneumonia, foot and mouth disease can be conveyed in trucks, fodder, and many different ways; indeed it has been proved that hares and rabbits have conveyed it from one farm to another.

As usual, a very large quantity of poultry—turkeys, geese and chickens—have been sent from Canada to this country for the Christmas markets. Whether owing to the cold in Canada, or to the riper experience of the shippers, the poultry has arrived in wonderfully good condition this season. No difficulty was experienced in disposing of turkeys at from eightpence to one shilling (25 cents) per pound, according to size and weight. The demand, indeed, far exceeded the supply. Mr. Dawson, of Brampton, near Toronto, was exceedingly fortunate with his shipment; but I must say that, having paid special attention to the requirements of this market, he has had no more than a fair reward for his trouble and enterprise.

The demand for Canadian fruit of good quality still continues, and fair prices are realized; but some recent consignments having been touched by frost, rather affected the sale of other shipments.

The "Mark Lane Express" has changed both its address and appearance. As it is one of the oldest and most conservative papers in the country, the fact that it has adopted as a "print" over its lead page the picture of a homestead with the motto, "Tenant Rights, Live and let Live," is, I suppose one of the signs of the times, although its Canadian correspondent, who used to be so bitter against everything Canadian, is dead; one of its editors keeps up the bias, and generally contrives to have something nasty to say about the Dominion.

At a recent meeting of the Farmer's Club several ill-natured remarks were made about the resources of the Dominion; but I am sure your readers will be pleased to learn that Mr. Thomas Duckham, farmer's Member of Parliament for Herefordshire, ably defended the fair name of Ontario and its agriculturists.

In conversation the other day with one of the largest London sheep salesmen, I found that a shipment of fine wether sheep had been sent from Quebec to Deptford, via Boston, in consequence, I presume, of their not being able to get space via Canadian ports. The sheep were of very fine quality and realized about 50s. a head. If, however, they had been allowed to pass alive into the country, at least 12s. a head more would have been realized. He informed me also that the States importers are using every effort to get the slaughtering clause abolished. He is confident that the loss sustained on Canadian sheep sent via States ports is at least 4s. per head, whilst on fat cattle it is not less than £4, and on store cattle even more.

We are having a remarkably mild winter—at least in this section of the country, and the farmers have been able to make up for lost time through excessive wet, &c., in the fall.

From the United States.

[BY OUR OWN CORRESPONDENT.]

Washington, D. C., Jan. 16, 1881.

The efforts of the Agricultural Department to introduce the culture and manufacture of tea in the United States will, when entirely successful, as it now gives fair promise, prove of vast importance and value to the agricultural and commercial interests of this country, and of great benefit to our neighbor Canada, in supplying her at cheaper rates with this Chinese commodity: 69,000 tea plants were distributed by the Agricultural Department in the Southern States during the last year, and a "government tea garden" established near Columbia, South Carolina, where the Chinese and Assam tea of India have been successfully cultivated and prepared by the Superintendent, a Scotch gentleman, who has had many years experience as the superintendent of a tea plantation, owned by an English Company in India.

The department have also distributed to agriculturists in different parts of the States during the past year, 28,000 strawberry plants, 9,748 grapevines, 13,921 plants of oranges, olive, fig and semi-tropical fruits and plants of various kinds; 5,000 plants of Japanese persimmons, and 70,000 scions of Russian apples. The commissioner of agriculture reports that the kaki, Spanish chestnut, English walnuts, olives and camphor trees, and other plants and vines distributed during the year, are uniformly reported upon as thriving and doing well.

The reports from farmers who were furnished with the red Brazilian artichoke, during the last season, show the immense yield, the wide range of soil and climate in which they will flourish, and their great value for stock-feeding. The reports from Michigan show that the average yield is 1,000 bushels per acre. An old farmer in Illinois reports: "My success with the red Brazilian Artichoke sent to me from your department was very satisfactory. Dug my artichokes about the 15th of April, making a yield of 1,600 bushels per acre. I find that eaten raw they are equal to turnips, and served up like new potatoes, they come in as such any time from November to the middle of May. Horses, cows, pigs and sheep eat them with a relish." The reports from thirteen different States place the average yield at 1,000 bushels to the acre, commend them highly for feeding cattle and hogs, and from Wisconsin it is reported that, "hogs prefer them to corn." It is said that an important element of their value for feeding swine is their availability, while the ground is not frozen, without any cost for harvesting.

The reports from farmers in the wheat growing States and territories east of the Rocky Mountains, show that Fultz is the favorite. In Michigan, Minnesota, Nebraska and Montana, improved Fife and Clawson are highly spoken of in some sections, the yield in Custer Co., of Montana, being 38 bushels per acre of improved Fife. On the Pacific Slope the "mold wheats" do better, the yield in some parts of California being as high as 54 bushels per acre.

The reports on oats are almost universally in favor of "Board of Trade." In Genesee and Huron counties, Michigan, "Board of Trade" oats are reported as yielding full 15 per cent. better than Norway on same soil, and in New York State they report them at 38 to 40 lbs. to the bushel, and free from rust and damage by insects, while other varieties were both smutty and rusty.

The Department of Agriculture have received numerous letters from correspondents in Western States, giving information as to the poisonous action upon horses, cattle and sheep of various

plants popularly known as "locoweeds," or "crazy weeds." These reports from widely separated regions agree closely as to the injurious and frequently fatal effect upon animals of eating these "loco weeds." The habit of eating these weeds seems to be formed because of the scarcity at certain seasons of nutritive grasses. All, or nearly all, of these plants have a bitter disagreeable taste, yet after the habit has once been formed, the animals reject the sweetest grasses. Among the symptoms first noticed are loss of flesh, general lassitude and impaired vision; later the animal's mind seems to be affected, and it becomes often vicious and unmanageable. The time required for these weeds to kill animals varies greatly, some dying within three or four days, others lingering a year or longer. The commissioner has recommended that a properly constituted commission be organized to visit the localities where the loss of animals has been greatest, inquire thoroughly into the matter, and gather specimens of the weeds for analysis. As these weeds may be found in Canada, the investigation should not be lost sight of by her farmers.

LOTUS.

The Annual Agricultural Meetings.

During the past month the election of officers has taken place. We attended one, perhaps the most important one in Ontario, that of East Middlesex; as this Society, in conjunction with the City of London, compose the Board of the Western Fair, which proves independent of other attractions outside of agriculture, has always proved itself to be the best purely agricultural exhibition in Canada, even surpassing in many respects the Provincial and Dominion Exhibitions. This we have previously supported, and no person has as yet disputed the fact, as we have never read a letter from any one or seen it refuted in any journal that has any agricultural standing. From political, personal or other causes the meeting was a packed one, as three times the usual number attended. Some persons were elected contrary to the wish of the regular attendants. Among those rejected were Messrs. G. Douglas, Hogg, Nicholson, F. Shore, &c., men that stand with unimpeachable names as agriculturists, business men, and as good workers for the Society, and men firm in the retention of the present Agricultural Grounds, which every one admits are the best in the Dominion. There are some persons that have used every possible means to get the grounds disposed of. It is thought that some of the new members are not so firm in this question as the rejected candidates, and there is great danger of an irrepressible injury being done by them to the agriculturists. There are some good men in the Board, but a dissatisfaction exists. Perhaps some other meetings may have been packed—it is difficult to prevent it—and such instances tend to discourage the real industrious, honest farmer. We think that an alteration in the mode of electing officers to look after our agricultural interest should be made, and farmers who pay a tax should have an opportunity of voting for any person that holds office and receives Government pay; also that the present mode can be greatly improved.

There arrived in London, Eng., a consignment of frozen meat from Australia in the Orient Steamship Company's mailboat Orient. A luncheon was held on board the vessel, and it is reported by those who partook of it that it might safely enter into competition with the newly-killed produce supplied in London markets. The beef and mutton killed in Australia were brought to the table in such a state that the guests could not tell that it had not come from Smithfield Market unless they had been previously made aware of the fact.

Danger—Duty Neglected.

TO OUR LEGISLATORS.

It is our painful duty to again call the attention of the public to what we deem an injustice to our farmers, and to our best friends, the Europeans. We have personally been in Europe and are prepared to state that our friends in England are supplied with large quantities of meat under a disguise of name, which is deception or fraud. We have seen hogs suffering with hog cholera and foot and mouth disease, and we have known diseased animals to be slaughtered and sold for food. We have seen many car loads of hogs imported from the



States alive, killed in Canada, and these hogs have been dressed in the form of English or Irish bacon and shipped from Canada.

We have on previous occasions called attention to this. We informed some of the members of the Board of Agriculture of the facts. We took one of the members of the Board to a packing-house where this business is carried on, and he saw hundreds of these American hogs killed and ready for



packing, and is aware of the above facts, as are many members of that Board. One member of the Board at least had a lot of hogs diseased with hog cholera himself, and yet nothing has been done to prevent this dangerous—may we say dishonest system.

We have had these illustrations hurriedly made to attract more attention to this important subject. The first shows the hogs in transit from Chicago



to Toronto; second, slaughtering in Toronto; third, selling American meat in England. Americans have many dangerous and deadly diseases among their cattle and hogs, and foreigners know it. Canada has no dangerous or deadly contagious diseases, and we should let the world know it. We should prevent the introduction of diseases and take care that Americans do not palm off their inferior productions for Canadian, thus obtaining higher prices than they otherwise would do, and robbing Canadian farmers of the good name and prices they would otherwise obtain. Coun-

tenancing this dishonorable practice of selling goods under false representation should be discouraged, and the danger of spreading the disease, of which we have repeatedly spoken. We know our writings have had some effect already, but there are yet dangers; and even the existing law that has been enacted for preventative purposes is not as strictly enforced as the exigency of the case deserves, and which some of those who are receiving Government money are cognizant of, should cause a fair, just and impartial investigation by unbiased farmers, not picked men, or men who through fear or favor, shield an iniquity. Prevention is better than cure. We ask for preventative measures being fairly, justly and unfearedly administered, and would feel satisfied if we can be anyway instrumental in preventing the spread of contagious diseases among our stock.

In our last issue we showed to you that the American pork is being discarded from the tables of the most intelligent in their own country for fear of introducing the deadly Trichinosis into their families, which has already sent many to untimely graves both in America and in Germany. The latter nation now discards American pork. The best families in England will not use it if they know it, but as yet they are deceived. They believe Canada to be free from these diseases. But this will not be long so; truth will eventually ascend and be known.

Farmers, you may depend that unless more vigorous steps are taken, and a fair, searching investigation made, not by partisans who desire to shield friends or individuals, but by really independent, honorable and truthful men—men who will let their yea be yea, and nay, nay, without variations—we shall assuredly have our meat classed as a second or third class article. As it is at present, the Canadian farmers' grain-fed pork is unsurpassed by any in the British market, even English or Irish bacon, and these facts have been shown to the proper Canadian authorities years ago. The present or future generations shall not be able to refer to the FARMER'S ADVOCATE and say we have not done our duty to you.

We have sent frequent telegrams at our expense. We have interviewed members of Parliament, Senators and members of the Agricultural Board for years. They have done a little when compelled to from foreign pressure; but there is and has been a grave neglect on the part of some that should know better.

Oleomargarine.

In order to give the readers of the ADVOCATE some idea of what kind of material tallow butter is made of, we clip the following from a Montreal paper:—

The following is a copy of postal card mailed from a large city in Western New York to a country slaughter-house:—"Sir,—If you will save your slaughter and kidney bullocks' fat, clean and sweet, and pack same day as you ship it, and drop card, I will pay five cents per lb for it and pay freight. Salt barrels will answer, and as it is for tallow butter making, must be free from sweetbread. It should be hung up to cool quick in the air before being put in barrels, and not cool off in the barrel. This is a new outlet for fat at an advanced rate, while the usual outlet is declining." Upon this an American Exchange remarks:—"The significance of the card is that the large manufactories of tallow butter adjacent to the slaughter houses of New York and Brooklyn have found that the metropolitan supply of tallow is not enough to meet their needs, and so they are reaching out after the refuse from the country butchers. This is only what might have been expected, when the enormous mass of tallow butter produced is in mind, but it is nevertheless startling to be brought face to face with the fact. The thought that the fat from the thousands of country slaughter-houses, most of them reeking in filth and filled with an atmosphere of intolerable stench, should

be cast in old barrels and shipped by rail to the dens of the tallow buttermakers, and then mangled and tortured into a wretched counterfeit, to be offered to consumers as a substitute for the fragrant product of the farm, is not a pleasant one to a person who takes pride in the history and progress of our grand dairy industry. And yet just such is the course of affairs." Referring to the above, the *New York Journal of Commerce* says:—"Notwithstanding the vigorous language here employed, the worst possibilities of the case are quite passed over. It is a fact, we believe, that oleomargarine is manufactured at a temperature below 120 degrees, that the stomachs of hogs form a part of the material used, and that the germs of septic organisms generally, and especially trichinae, require a much greater heat for their destruction. Consequently, if, in the indiscriminate collection of slaughter-house refuse the remains of diseased animals should chance to be included—and this is stating the contingency very mildly—the living germs of the disease must inevitably pass into the product, go 'alive and kicking' upon the breakfast table and into the stomachs of the unlucky consumers. Eminent chemists have certified strongly to the wholesomeness of oleomargarine, and doubtless the specimens tested by them contained no obnoxious germs; but the value of such certificates seems to be limited to the individual specimen under examination. The chemist might find one article submitted to him to be clean raw fat or tallow, which, of course, is not unwholesome, however repugnant to civilized tastes, but another tub might yield living trichinae, or other germs of disease, and the consumer of the second specimen would find the certificate of the most eminent chemist woefully insufficient to protect him from the insidious attack of the enemy taken into his system." The startling assertion is also made that "simple-minded dairymen appear themselves to be succumbing to the temptations which the 'new industry' holds out to those who are making haste to be rich without regard to means, and that many thousand pounds of tallow oil are now weekly shipped from New York city to farmers for use in adulterating the products of the churn and cheese factory.

The sooner the butter makers of Canada wake up to the fact that the great bulk of their butter has to compete with what is produced from such sources and sold as butter, the better; and what is more, much of this artificial butter is by far preferable to much of the genuine article, and the butter-makers themselves, not knowing whence it came, would pronounce in favor of the "tallow butter."

A Board of Agriculture

Has been established in the Province of New Brunswick. Hon. M. Wedderburn is appointed president, J. C. Fairweather, vice-president, and a secretary and full board of directors.

In accordance with the desire of a large number of the agricultural class of the province, the government has asked and received from the legislature permission to establish this board.

Their first meeting was in Fredericton, Nov. 14th. The president delivered an able and lengthy address, from which we abridge some of the principal facts. In speaking of the future of agriculture, he said: the farmers, as a class, must lay more stress on education, and the exercise of their mental abilities in the cultivation of the farm; this he made a very urgent point, and showed most clearly that those farmers who exercised their mind by studying their business, keeping if possible ahead of the times in all agricultural improvement were the men who were always the most successful farmers.

He then took up the subject of agricultural education, and said there was a great necessity of a better system than now exists in the Dominion.

True agriculture is essentially a science. But in a young country, beginning to a great degree at the initial lessons of scientific knowledge as to this industry, we must start out carefully and economically. While the establishment of a model farm and an agricultural college has already received much attention at the hands of the govern-

ment, as it will doubtless also receive from you, we can only move by the process of gradual and regulated progress, and must at once meet the perplexing problems suggested by the financial requirements and resources of the Province. But pending, and even after, the solution of these and cognate difficulties, I think the study of elementary agriculture, or rather the elements and principles of agriculture, may very properly and more generally be introduced into all the schools and colleges of the country, where and whenever the need of a distinctive course of study in that direction shall be deemed desirable or necessary—then the more advanced stages; nor can I see why a judicious and systematic course may not be prescribed, under certain limitations and regulations, in the Normal School, for perfecting the information of those student teachers who may reasonably expect to spend the years of their professional life in agricultural districts, and in supplement of the addition of "The Principles of Agriculture" to the syllabus examination for school licenses recently prescribed by the Board of Education. Until we reach the achievement of agricultural colleges and model farms, we may, I think, wherever necessary, take advantage of the educational machinery we have, and that without at all increasing the cost of our Provincial educational establishment. Why should, and how can, the agriculturist, be he ever so clever and intelligent generally, hope to attain success—success in its true sense—if we have not as much knowledge of his craft as hath the true botanist, chemist, geologist, architect or machinist of his? I do not say, however, that to be a successful farmer and to understand the instincts of stock and treatment of soils, he must be able to write learned disquisitions on veterinarian pathology, anatomy and physiology or agricultural chemistry and meteorology, but I do say he must know much more than a large number of his class know, or seem to care to study, of the true varieties, ingredients and possibilities of soils, of the proper principles of drainage, dyking and tillage, of deep and light ploughing and subsoiling, of cropping and the rotation of crops, of the uses and adaptability of phosphates and manures, of the pure breeding and proper grading and better housing and more regulated feeding of stock, and generally of labors vitalized and systematized by sound principles of agricultural economy; and while he may not become a profound professor he will, doubtless, attain the position of a prosperous and progressive practitioner—have his work pervaded and impelled by a stalwart common sense rendered more comprehensive and valuable by healthful mental discipline, and become a living benefit.

In speaking of the Expert Cattle Trade, he urged the necessity of a speedy infusion of new and pure blood, and of careful selection, in view of producing the best.

One great necessity to the success is cheaper and more accessible and expeditious means of transportation to the English market. Were it not lamentable, the present principle route would be simply laughable. It is high time we had a line of steamers adapted to this and other branches of trade, from New Brunswick to Great Britain, and, I think, it will be the duty of this Board, in unison with other well directed methods, to press, by all legitimate means, upon the Federal Government the immediate necessity and absolute justice of a sufficient subsidy in aid of so important a work.

After the address, the board proceeded to regular business. After much discussion, among other things, they resolved,

That this Board do at this session take such steps as they may deem advisable to secure an importation of breeding stock for 1881 by strongly recommending the importance of the same to the favorable consideration of the Government.

They then selected several breeds of cattle, sheep and swine, and recommended same to the government; total cost of same to be \$12,750.

They also recommended to the government the introduction into the schools and colleges of such a system of agricultural education as will be beneficial, without greatly increasing the expenses.

LEPROSY IN CALIFORNIA.—Notwithstanding the efforts of the authorities of San Francisco to prevent leprosy among the population by sending back all Chinese lepers that could be found, it appears that the terrible disease has secured a foothold there. One physician reports that sixteen white lepers, of both sexes, have applied to him for treatment within a short time, and all of them incurable.

Desirable Points of Cattle.

The late Mr. McCombie (the great Scotch cattle breeder and dealer), in speaking of Galloways, says:—On poor land they are unrivalled, paying a better profit than any others except the small Highlanders. Although they are a good cattle to graze, they are not so easily finished as the Aberdeen or Angus. They have too much thickness of skin and hair, too much timber in their legs, too thick in the tails and deep in the neck, and sunken in the eyes, for being fast feeders. It is difficult to make them ripe. You can bring them to three-quarters fat, and there they will stick. It is difficult to give them the last dip. If, however, you succeed in doing so their beef commands a high price. He says, a perfect breeding or feeding animal, no matter to what breed it belongs, should have a fine expression of countenance, which should be mild and gentle. The animal should be fine in the horn, with clear muzzle, a fine tail and not ewe-necked. Short in the legs. It should have a small, well-put-on head, prominent eye, a skin of medium thickness, which should be covered with silky hair, should have a straight back, be well ribbed up its hook bones, should not be too wide apart. A wide hooked animal, especially a cow after calving, always has a vacancy between the hook-bone and tail, a want of the most valuable part of the carcass. No animal should put on its flesh in patches, but should distribute it evenly over the carcass, should have deep thighs, prominent brisket, deep in fore-ribs. Its outline ought to be such when in good flesh, that if a tape line is stretched from the foreshoulder to the thigh, and from the shoulder along the back to the extremity, the line should touch all parts, showing no vacancies, and from the shoulder-blade to head should be well filled up. Thick legs and tail, sunken eyes and deep neck, with thick skin and bristly hair, always point to a sluggish feeder.

Highland Cattle

Are a breed which has been bred among the highlands of Scotland for a very long time. They are small and hardy, producing the best quality of beef, which commands the highest price in the markets where it is sold. They are essentially a beef producing breed, not being suitable for dairy purposes; they are generally allowed to suckle their own calves. The late Mr. McCombie pronounces them very good as grazers, but totally unfit for stall-feeding, on account of their wild and restless disposition. We do not think they would be suitable for any portion of our Province, as it is necessary to stable during winter. In the mountainous regions of the West they would, no doubt, be found very profitable, provided the climate did not necessitate their being closely housed.

Mr. G. Mander Allender, Managing Director of the Aylesbury Dairy Company (limited) of London, has been elected by the Royal Agricultural Society of England, Steward of Dairying, for the next show to be held at Derby, in 1881. It will be Mr. Allender's desire to exhibit all processes of cream raising, cheese making, and every new improvement in dairy utensils, also the best plans of cooling dairies with or without the use of ice. All systems and machines will be practically tested during the show.

CATTLE FOR THE ENGLISH MARKET.—The *Drovers' Journal*, Chicago, says: The daily presence of buyers here who are constantly making purchases of cattle for the English markets is now a marked feature in our trade—it is well known that only cattle of the best quality that can be produced will meet the demand for the English trade, which has now grown to formidable proportions. Well matured Short-horn graded cattle are the kind that have been mostly purchased for the English trade, though Hereford grades are readily taken when they appear in the market good heavy old fashioned cattle are in good demand.

Stock.

Scotch Cattle.

The frequent successes of cattle sent from the North of Scotland to the fat stock shows in England, may make a few remarks on the subject interesting to some of your readers. Probably the great taste and natural love for knowledge of cattle is the real secret of the goodness of the animals sent from the district. Every farmer and cattle-man in it is a sound, shrewd judge of the merits of an animal and is constantly comparing notes with others, and trying to keep up with the times in any improvement in feeding, &c.

In England an animal is called a "Shorthorn," although it may have only a single known cross of the breed. In Scotland it is very different; a "cross" is understood to mean any animal belonging to a family which has not been registered in the *Herd Book* as a Shorthorn; consequently some crosses are black or gray polled animals; and some, such as Mr. Morson's young cross ox, exhibited at Birmingham and London, have the general appearance of a Shorthorn; the latter are much the most frequently met with. Many ordinary stocks of cattle kept for producing feeding oxen to consume the produce of the farm may have six, eight or ten successive crosses of pure-bred Shorthorn bulls; but as no pedigrees have been kept, the owners still call them "crosses." Many of the most remarkable show cattle are got by pure Shorthorn bulls and from black polled cows without any recorded pedigree, and of doubtful purity of blood but of compact frame, good quality and plenty of lean flesh. The pure Shorthorns, also in general use, are shorter in the leg, better covered with flesh and mellower to handle than those more usually seen in England.

The ordinary cows of the district are not very good milkers, as a rule, and their dairy properties do not receive the attention which is the case in some districts; but the quality of the milk is rich, and particularly suited to the rearing of the calf, which is often done by allowing it to run with the cow until it is from five to seven months old; almost all the animals intended for competition at fat stock shows are reared in this way. The land is not naturally very fertile, nor is it highly manured, but the grass, turnips and straw produced on it are of excellent quality, and of a feeding nature. On most farms there is no permanent pasture, the seeds are allowed to lie two or three years, and are grazed each season by cattle. The seeds are followed by oats, which will average from 4 to 6 qrs. of grain per imperial acre, worth about 23s. per qr.; turnips come after the oats, and are drilled from 25 to 27 inches wide, and are generally manured with from 12 to 16 tons of farm-yard manure, with the addition of ground bones, superphosphate, or similar manures to the value of from 20s. to 40s. per acre. In a fair season, and on an average farm, 18 to 22 tons of turnips will be produced, and these are all carted to the steading and consumed by cattle—few, if any sheep are kept.

The cows usually calve from December to April, the cow and calf are turned out to pasture early in May, and they receive no further attention until the beginning of October, when the grass season is over; the calves are then weaned. Those intended for ordinary feeding receive a moderate supply of turnips three times a day, and oat straw. Some farmers allow $\frac{1}{2}$ lb. to 1 lb of linseed cake in addition, but this is not usual. The next May they are turned out to grass, and are again housed early in October, and fed on turnips and straw. Many farmers sell these animals fat in May or June following, and when this system is adopted an allowance of cake or meal is given for eight or twelve weeks at the finish, and in this way an average price of £23 for heifers and oxen will be readily obtained. If the farmer prefers to keep on the cattle longer, they receive kindly so many turnips and no cake, and are placed on the best of the first year's seeds, until the middle or end of August, when most feeders house and feed on tares and early turnips, followed by turnips, only giving a little cake or meal for a few weeks. These cattle are usually sent up alive to the Christmas market at London, and bring from £28 to £40, according to the amount of care and expense for artificial food which may have been bestowed upon them. The cattle are kept during the winter in byres. Straw being valuable as fodder, no boxes or yards are used. A cattleman can attend to thirty feeding animals in this way, or, if he has a mixed stock

of cows, young cattle and a few feeders, frequently upwards of fifty are allotted to one man. Almost all the Shorthorn bulls used by farmers are bred in the district, and these are of a thoroughly useful character. Sometimes a black Polled bull is used for one cross, so as to enable the farmer to have a little of the native Aberdeen or Angus blood introduced into his cattle, but this is not very common; the more general plan being to bring in a few black Polled heifers and serve them with a Shorthorn bull.

The animals prepared for the fat show are usually selected when the calves are weaned, as being more promising than usual, but they do not as a rule get any greater amount of feeding during the first winter than a small allowance of cake. As the spring advances the allowance may be increased a little. The future mode of feeding is carried out by different feeders in different ways, as their experience may lead them. There is more in the attention than in any particular mode of feeding. There is considerably less "black Polled" blood in many of the winners of this season than may be supposed. Mr. Colman's champion is out of a pure bred Aberdeenshire cow, and the son of a Shorthorn bull, whilst Mr. Dann's Birmingham champion is out of a colored Polled cow having a considerable dash of Shorthorn blood, and Mr. Reid's Hull champion is descended from an old line of cows descended originally from a black cow marked very much like a Hereford, and whose daughters were got by Shorthorn bulls. Both these oxen are sons of Shorthorn sires.—[Banffshire.

Thumps in Pigs—Paralysis.

I have been experimenting for years in trying to cure the disease known as thumps in pigs. The symptoms are palpitation or heaving of the sides, which increases to such an extent that pigs thus affected will not eat, and rapidly become emaciated and soon die from weakness. I have examined a number after death, but never could find any of the internal organs that showed evidence of disease. I am of the opinion that it is caused by the accumulation of fat about the heart. Several pigs affected with this disorder this fall, when about four months old, recovered by being given a teaspoonful of spirits of turpentine for several days in succession. The spirits of turpentine were diluted with milk, and turned down their throats from a bottle. Usually this disorder affects pigs when confined in a close pen, and rarely when as old as mine were, although I had one die with it when a year old. I have lost nearly a whole litter, and had the disease arrested when the others were turned out where they had plenty of exercise. It generally originates in close confinement, which would naturally cause an accumulation of fat.

Turpentine seems to be a natural medicine for pigs, in relieving this spasmodic action of the heart, and also in destroying parasites, which sometimes affect the kidneys and cause lameness or partial paralysis of the hinder parts;—another form of disease which is quite common with pigs. An application of spirits of turpentine across the loins will sometimes effect the cure of the latter. It is such a powerful penetrative that it extends to every part of the system, reaching those internal organs which no other medicine I have ever tried does so effectually. I have never known any injury to result from administering it. The cases cured by spirits of turpentine were the only ones I ever knew in which there was a recovery after the thumps had begun. It is not a contagious disease, as I have lost only one pig in a litter, and then again have lost all but one.

Early pigs, and especially those born in the winter, while the sows are confined in pens, are more liable to be affected with it than when the sows are running out and have access to the ground. Paralysis from worms in the kidneys, or, as it might perhaps be better described, soreness across the loins, which makes the pig unable or unwilling to move its hinder parts, is the next most fatal disease. I have always succeeded in curing this by external or internal use of spirits of turpentine as spoken of above.—*Cor. Country Gentleman.*

Several facts and experiments reported go to prove that the milk of a cow in high flesh will yield more butter in proportion to the yield of milk than one in low flesh,

Stabling Stock and Stables.

In a recent article J. S. Woodward says:

In stabling cattle have them as compact as possible; instead of stringing them in a single row in a long stable I prefer the stable as near square as may be, and to put the cattle in two or four rows; the more in a body the less labor to care for them, and the warmer they will keep. There is no material so good for a stable as brick or stone, but where we must use wood the sills should be well bedded in mortar upon a good wall. The boarding should be sound, put on close, battened outside and well nailed, battened inside with laths, and on these put tarred sheeting paper (not felt), and again put on strips of lath and another thickness of paper, and over this sheet with matched lumber. This is much better than double boarding and stuffing with straw, chaff or sawdust; it is entirely wind-proof, and much warmer, and there is no harbor for rats or mice, and it is much more cleanly. Over head the floor should be matched; I much prefer having the cattle stand on the ground, providing there is plenty of straw for bedding.

The subject of ventilation is as little understood for stables as for dwellings; it is next to impossible to open windows or ventilators at the sides of the stable without some animal's taking cold or suffering from a draft; a much better way—the best of all ways—is to place upright trunks or tubes, say eighteen inches square inside, reaching from the roof down a foot below the ceiling of the stables. These should be protected on the roof by a slatted hood or cowl, and should have a slide at the bottom that can be opened and closed at pleasure. In a stable thirty by forty feet, there should not be less than three of these. In secure positions in different parts of the stable place thermometers; by means of the trunks mentioned above (by opening and closing the slides) we should maintain a temperature as near 50° as possible. In very mild days it might be necessary to open some windows, but they should be always on the side away from the wind. This mode of ventilation will always keep the air pure and wholesome and will create no drafts or currents of air.

If there is no convenience for watering in the stables (which I would prefer), I would only let the animals out just long enough to drink. If at any time I thought they needed exercise, I would let them out, and have them driven about so as to get the needed exercise as soon as possible and immediately return them to the stables. Remember that all exercise takes food, and if the stables are kept clean, well littered and dusted every day with a little plaster, the cattle can be kept all winter perfectly healthy without an hour's exercise. Another fact we should remember; every day we keep a young animal with no growth, and every day a mature animal is allowed to get poorer, we are keeping them at a loss and can't afford it; we should see to it that they are constantly thriving, and to this end we should feed plenty of good, nutritious feed, and plenty of some sort of roots or other green food. But above all, keep them warm.

CORNS IN HORSES' FEET.—Corns are almost invariably caused by bad shoeing or from wearing the shoe too long. As a rule they cause lameness, though occasionally, where they assume something the form of tumors of a hard, horny nature, the horse does not appear to mind them to any extent. Remove the shoe, and if there is indication of inflammation, poultice the foot until the parts are soft, and then by an opening let the accumulated matter out. Pare the seat of the corn, being careful not to cut out portions of the bar or frog of the foot. For a corn plaster, mix together one ounce verdigris, two ounces oil of turpentine and half a pound of yellow wax. Apply on a piece of leather.

POISONED WITH EPIZOOTIC.—A singular case of poisoning, arising out of the disease called epizootic, is attracting the attention of the medical fraternity at Virgil, Ont., where it is under treatment. George Wilson, resident of that place, was suffering from a small sore on his hand. The discharge from his diseased horse's nose was by some chance rubbed into the sore; the poison infected his system and his body swelled to an alarming size. An immense abscess formed in his side, which when opened discharged large quantities of fetid matter. Up to within a few days, although suffering very severely, he seemed to be recovering, but since he has had a relapse and his recovery is now extremely doubtful. His chief symptom, as he describes it, is a burning sensation all over the body, as if he had been close to a red hot stove.

Dairy.

American Dairymen's Association

Held their sixteenth annual meeting at Watertown, N. Y., President Professor Arnold in the chair. The meeting was largely attended and was very successful. It is said to be the best held for several years. Several able papers were read, and the discussions were animated and instructive. From these discussions we take the following:— It was claimed that genuine economy in the dairy demanded that dairymen should raise their own cows, and that special selection of the breeds should be made according to the purpose for which they are wanted. Hon. Harris Lewis recommended Shorthorns, Alderneys and Jerseys. For cheese-making, Ayrshires and Holsteins. He also said, for the best results, cows must be fed and milked regularly. Pure air and pure water and suitable food in sufficient quantity must be given. Handle kindly or the best results will not follow:—

HOLLAND CATTLE.

Solomon Hoxie, who has visited Holland and Friesland for the purpose of selecting cattle, read a paper on Holland cattle. The history of Holland cattle goes back to 300 B. C. In Europe they are called the low-land race. During the last twenty years large numbers have been imported to the United States. These low-land cattle, though showing the same characteristics, are of different breeds. The best low-land cattle are found in North Holland and West Friesland. The cattle of West Friesland must be placed first in point of superiority. In 1879 the markets of Friesland exported 46,168 cows and 19,020 calves. Mr. H. thinks these will, from the same amount of food, give more milk, butter, cheese and beef, than any other breed, and they are hardier.

Professor Roberts, of Cornell University, said that with the cheese dairy came malignant forms of abortion. The flow of milk has been alone considered and developed, and the udder has been so expanded that the walls of the artery could not contract, so that the embryo starved to death.

Pure air will not totally banish disease from our herds, but by it disease among our herds will be partly lessened.

Dr. Cole asked if when tuberculosis was partially developed, would it be advisable to use the milk.

The Professor replied it would not. The symptoms of tuberculosis are different. The most common symptom is swelling about the jaw and throat. It also appears in the lungs and bowels. The calves of animals thus affected are affected with chronic diarrhea. The lungs of the animal become enlarged and there is a discharge of mucous matter from the nostrils. The bad odor emanating from illy-ventilated stables will affect the milk.

Mr. Scoville's paper on "Frauds in Butter Making" described the process of making imitation butter, and claimed that they are only just beginning to feel the effects of adulteration of dairy products. Suetine, made principally of lard, is sold in large quantities, and is a dangerous counterfeit. The speaker said that the English Government was taking steps to ascertain what stuff was being sent there as butter and also as cheese. A letter was read from a Liverpool merchant, claiming that unless the adulteration of dairy produce is discontinued the importation will be stopped unless goods are accompanied by a guarantee of genuineness. The Crapser lard-cheese method of adulteration was taken up, and facts and figures were given to show clearly that the dairymen of St. Lawrence County would certainly lose by it.

Much discussion took place, but nothing definite was resolved upon.

Letters were read from different parties in regard to these adulterations, from Chicago, Philadelphia and New York, one party expressing the belief that the dairy community had lost no less than \$1,000,000 during the past season from the sale of adulterated butter.

Hon. E. S. Crapser was present, and explained his process of making "lard"-cheese from skim milk to an audience not very much inclined to be in sympathy with such a departure, but Mr. Crapser was quite good-natured, and answered a shower of questions. He did not claim that the lard-cheese would equal in quality a full cream cheese, but would add to the value of poor skims. The machine made for the purpose of mixing the lard into the milk costs \$500. This machine is patented, and the process of mixing is patented.

It takes considerable steam-power to operate it; in fact, it would seem that too much patent and expense attends this new method to make it profitable for the dairymen. One of these cheese was on exhibition at the Convention, and various opinions were expressed as to quality, etc. Only a few have been made this past season and it may be said to be yet an experiment. The question with dairymen is whether it will not be cheaper to keep a better class of cows, as Mr. Lewis recommends, take good care of them and feed them rich concentrated food, thus getting more and a richer quality of milk, which may be skimmed, three or four pounds of cream to the 100 lbs. milk, and still have the milk left good enough to make a cheese that will sell for not over two or three cents per pound less than full creams, or equal to lard-cheese at less cost. Professor Caldwell presented a scientific paper on the chemical and physical changes of milk. To get better butter and cheese, we must increase the fatty material in our milk. In England the standard of milk is 2½ per cent of fat. In Paris 3 per cent. is adopted. The specific gravity of pure milk should be 1.291000 at 60° Fahrenheit; if below this it is impure.

The subject of ensilage was discussed. There seemed to be some difference of opinion as to whether this article is just the right thing to feed cows for butter; it makes an excellent fodder for winter feeding.

The following resolution was adopted by the Convention:—

Resolved, That we are in favor of making whole milk cheese and butter from pure milk only.

Producing Milk in Winter.

First, then, the winter dairyman must provide a stable which seldom freezes, and with such non-conducting walls as will keep the temperature as uniform as possible. The udder of the cow is disagreeably affected by cold, and milking in a cold stable is very painful to the cow. It is unprofitable to allow a cow in full milk to drink ice-cold water, as its chilling effect will reduce the milk yield. When a stable is provided that maintains a pretty uniform temperature of about 50 degrees, with water at a temperature no lower, then good food will produce as good a flow of milk in winter as in summer. Such a stable, and water of a summer spring temperature, will pay all its costs for wintering cows not in milk, or for feeding other cattle, but for winter dairying it is indispensable.

With such a non-freezing stable, the dairyman may produce an excellent quality of milk with early cut and nicely cured hay, whether of clover, blue grass, timothy, or a dozen other grasses—and the greater the number the better—supplemented with six to eight pounds of grain, or the by-products of grain. The best hay will produce a fair quality of milk, but not a maximum quantity. It is so seldom that hay can be provided as perfect as the grass from which it is made, that the only way to give a complete ration in winter, with hay, is to feed grain in some form in connection with it. The hay furnishes an excellent ration of support, and the grain may be added as the ration of production, but in all cases the farmer should know the cost of the feed which each of his animals consumes, also the cost of labor involved as nearly as possible. An observant feeder can easily ascertain the amounts, without adding any additional cost and with very little trouble. When this is known, then find out the cash value of the products of your animal; by this means you can easily tell what plan of feeding pays you best, and just how much profit you receive or what you lose. This close calculating is something farmers as a rule do not follow, but which they would find very profitable in more ways than one.

SORE TOES IN CATTLE.—Remove the animal to a dry, well-bedded stall; cleanse the feet thoroughly; apply ample poultice of equal parts of bran, flaxseed meal and charcoal, during a day or two. Then apply, twice or thrice daily, for a few days, by means of a feather, a portion of a mixture of two ounces of oil of turpentine, half an ounce of sulphuric acid, and one ounce of olive oil. Carefully remove decayed portions of horn, so as to avoid wounding vital parts. Subsequently fill the clefts with pledgets of oakum or tow, saturated with equal parts of tar and tallow, melted together.

The Butter Product.

In no single department of agriculture have more experiments been made than in setting milk, resulting in great progress, not only in the extraction of butter of superior quality, but also in increased quantities. However, it is still an open question whether this noticeable progress in dairy husbandry is owing to superiority in the implement employed or to the superior skill of the operator. It seems to be a settled point that the butter produced at the creameries is superior in quality to the great mass of that made in private dairies, and in this case both improved implements and superior skill on the part of the operators combine to give the desired result. It needs no argument to convince intelligent persons that a dairyman in a well appointed creamery, whose whole energies are devoted to one object, can excel in butter making the individual who is employed in that occupation but a few hours in the week. Creameries get a product that is stamped with uniformity in quality and appearance, and that is the result of the highest skill in the art, aided by the latest improvements of scientist, inventor and mechanic.

Notwithstanding the superior advantage possessed by creameries in the production of butter, it is yet a notable fact that the gilt-edge butter which is seldom forced to seek a customer, but which passes almost directly from producer to consumer at fancy prices, is the product of small dairies, where the milk is set in shallow pans and where the numerous patented implements are unknown. Here then it is evident that individual care and skill is the principal factor in the production. Only a short time ago it was thought the creameries would drive the small dairies out of existence, but opinions are changing; the tastes and requirements of consumers, especially of those who demand the best grades of butter, are again in the direction of the products of the small dairies.

Wintering Dry Cows.

Every intelligent dairyman knows that a cow in good condition when she comes in, will be much more profitable during the milking season than if poor. The tendency of a good cow is to turn all the food she can spare into milk, and will often draw on her own body to increase the flow of milk. If she be in fine condition on coming in, this extra weight of flesh will be all drawn off in milk during the season. When he is putting weight upon his cows during the winter, he is as certainly producing milk as when he feeds during lactation. This extra flesh represents so much milk, and may be safely calculated at 6 lbs. of milk for every pound of extra flesh she puts on; and, besides this deposit of milk in the body, subject to future draft, she will be able to apply more of the food she eats during the season to the production of milk. If she is poor when she comes in, then she must apply to her own wants some of the food that might otherwise go to the production of milk. But care must be taken not to give too much corn meal or other heating food while she is dry, for this may put her system into such feverish condition as to cause milk fever after coming in. The best of care should be taken of cows while dry.—N. L. S. Journal.

Nineteen mammoth cheeses were made at J. S. Henderson's factory, near Ingersoll, Canada, for an English Christmas market. They were of fine quality and weigh about 600 lbs each.

Water made slightly salt, and to which bran in the proportion of one quart to every gallon has been added, is said to increase the yield of milk by 25 per cent., if it is given to cows as their ordinary drink. After a short time the cows will refuse pure water, unless they are very thirsty.

Linseed meal is often found of more feeding value than the seed itself, because in making it into cake 25 per cent. of oil is pressed out, leaving only 11 to 12 per cent. in the cake. This increases the percentage of albumen about 5 per cent., making linseed meal contain 28 per cent.

Agriculture.

What have We to Learn from the Agricultural Exhibitions of 1880 and Previous Years?

Any one who visited the Agricultural Exhibitions of our own Dominion last fall cannot fail to be impressed with the wonderful advancement we are making. Looking around on one piece of machinery or another we are lost in wonder as we view the various fitting pieces, their connections, and the stupendous whole. Here a machine is exposed for the performance of something in the agricultural line, which it was unable to perform a year ago, on account of some deficiency in its mechanism. There science brings to light some new invention which was only thought of yesterday, which many eager, anxious eyes are gazing at, and minds deeply lost in thought as to how some improvement can be made or some new theory can be developed. Here again is a machine with some appliance adjusted, bearing the mark of first prize, with scores of others standing around it with no mark at all, but in the breasts of these unsuccessful owners there is brewing that ambitious rivalry that says within itself, "we will exhibit something even superior to that in the year to come."

It is the above that we learn from the exhibitions of 1880 and previous years. If my neighbor excels me this year in carrying off the prize, I am bound to put forth greater efforts to beat him next year. If in machinery, by the introduction or adjustment of a cog-wheel, the machine is rendered serviceable to a greater degree than mine, I will endeavor to even introduce some new improvement into the same machine next year. If in the manufacture of cheese by some new method he has attained to some perfection in the pressing or discovered something by which the milk can be used to better advantage at a certain temperature, that makes the cheese better than mine, I will endeavor to discover some other new method whereby I can even excel him next year.

If in the ladies' department of some particular line of exhibit one lady, by some delicate ingenious pattern of antimacassar work, carries off the palm, the lady along side of her, by a careful scrutiny, may conceive in her mind's eye that by the blending of the same color differently a pattern far more delicate and beautiful than that on which she is now looking can be produced, and determines there and then that she shall have the prize next year.

What do we learn by these exhibitions? We learn everything. To what can we attribute the great improvement in the live stock of Canada other than to the shows? We learn that if we have a good article some one else has better, and to be successful we must try and obtain better. The great cause of our splendid herds of Herefords, Durhams and Ayrshires is mainly due to these shows, as also our improved class of horses and hogs.

Not only is the great gain to the farmer seen clearly at the Provincial and County Shows, but we would say that by far the greater gain is in his own, the Township Show, at his own door. Even here is exhibited keen competition on the part of the exhibitors, keen determination not to be excelled, fixed resolutions made and nursed within the heart not to be outdone next year if unsuccessful this year. Some new kind of seed must be obtained, some different method of applying manure must be adopted, some field must be drained, some new book must be read on the subject. Then all these cross his mind and must and will, if he is ambitious at all and wants to become successful. What, we ask again, creates and carries into effect these things but these exhibitions, and

do we not see these transpiring every year in our own neighborhood? To dispense with our exhibitions would be like laying the axe to the root of the fruiting tree, and the sword of death to both arts and science. What could more stimulate the farmer to improve in agricultural products than driving home his team ticketed first prize, and with him in the same waggon it may be a firkin of butter with a similar mark on the lid, and what determination is in his eye even to do better when another year rolls round. If he has anticipated a prize when he has failed, he learns how he did it, sees how he committed the error and determines to correct it. Canada, or more particularly the Province of Ontario, has made of late years very rapid strides in science, art and agriculture, particularly the latter, and we must say that the great impetus given her has been mainly by her exhibitions, in which all have taken a deep interest, not only Provincial and County, but also in Township Shows, and may the day be far distant when the government, corporations, or even individuals, will endeavor to discontinue the township exhibitions, which have been such a boon to the nation's advancement and to the farming community in particular. W. M., Owen Sound.

[This essay was received too late to compete for the prize offered on the above subject, but on account of its merit we give it a place in this issue.]

"Practical Farmer" says, in reply to the question: "What is the best method of saving manure from the cattle?"—"I permit it to lie in the stable for a few days, the more objectionable part thrown back, so the cattle have a clean bed, permitting the litter to gather to considerable depth. By this method, the floors being cemented, the liquid is absorbed. My ideal method, however, is to let the stock run loose in moderate-sized inclosures, keep them well bedded with straw, and permit the manure to remain for several weeks. The treading of the stock is advantageous. More liquid is saved by this method than by any other." As soon as it is taken from the stable, it is covered with plaster (gypsum); after heating moderately it is turned and mixed at intervals until thoroughly rotted. He says he objects to water standing in troughs in the winter after being drawn, as it gets colder. It is not economical to let cattle drink very cold water, as food is consumed heating it, that otherwise would produce flesh.

The annual meeting of the Ameliasburgh Agricultural Society was held at the Town Hall, Township of Ameliasburgh, Prince Edward County, on Thursday, January 13th, 1881, at which the annual report was read, showing—Receipts, \$604; disbursements, \$645.64; showing a membership of 192, which is considered by the officers of the Society to have been largely increased by the FARMER'S ADVOCATE being sent to its members for the last few years free. The following officers were elected for the present year:—Elijah Sprague, President; Dr. A. J. Fill, Vice-President; Edward Roblin, Secretary-Treasurer; also a full Board of Directors, Auditors, &c. N. A. Peterson was recommended as a Director to County Society in the place of the retiring President, John G. Peck. Has been the custom of the Society for several years to recommend the retiring President to the County Society as a Director; but the retiring President requested some one else to be recommended, as it was his intention to move to the Far West in the spring. The FARMER'S ADVOCATE was again unanimously recommended to be forwarded to its members for the year 1881.

THE TEMPERATURE IN THE SOUTH-WEST.—McReady, from Corpus Christi, passed up the middle of December with a large drove of cattle, driven from Southern Texas. The cold weather caught them on the trail, and in a few days 400 froze to death. Twenty-six horses also froze to death.

According to Dr. Wiedehold, fungus growths in cellars may be combated either by burning sulphur or by pouring two parts of concentrated sulphuric acid over one part of common salt, and so closing all openings as to prevent any escape of the vapors.

A Barnyard Advocate.

"What a lean-looking barnyard: nothing in it but two big manure heaps. You don't feed your stock anything, do you?" This was the running salutation of a seedy stranger one day last winter, who said he was a farmer, and had come to look at the pigs. "Anyhow," he continued, "I never saw such a barnyard before, and if it was not for so much manure, I would imagine you did not keep any stock, but I suppose you do. Why there ain't any tracks only to the well. My barnyard is all trodden down, and you can see fodder all around. It looks alive, and is alive, for I keep my stock in it. What is a barnyard made for if not for stock to run in? They want the air and exercise, and the barnyard is the place to get both." "So it is," I broke in, "and the place to get lean, too. Can you tell healthy-looking cattle?" I modestly enquired. "I should say I can," was the somewhat boastful reply. "My cattle are healthy. They eat a pile of fodder every day. I only lost two last spring," continued the stranger; "one of them had the hollow-horn, and the other died having her calf." "Do you fodder in the middle of the day?" I asked. "Of course I do; I throw out feed all around the yard, and they help themselves." "Don't your cattle destroy as much as they eat?" I inquired. "Well, suppose they do, it is not lost, it goes into the manure." "Are you sure," I asked, "they eat all they want before it gets under their feet and is trodden into the manure, when they will not eat it? In my opinion at least half of it is thus wasted, and the other half which they may eat is used up in keeping your cattle from freezing, so that really your cattle are no better off, so far as any gain is concerned, and your barnyard feeding is almost a complete waste. If this amount of fodder was given to them in a warm stable, it would all be eaten and changed to a better quality of manure, besides making growth. A barnyard in winter is a proper place for manure, and that is all; certainly not to feed stock in."

It was after dinner, and the cattle had been turned out and had had their drink and noon feeding, and now they were lying down chewing the cud—each one a picture of comfort. "I declare," said the advocate of barnyards, "they do look good. Now I see how it is. You feed your stock in the stables." "Yes, and keep them there all of the time, except while they are out to water. While they are drinking the stables are cleaned and the feed put in, when they are immediately put back." "Why, how fat they are," said the stranger. "A number of these cows would make good beeves, and the young cattle are fat too. Oh, you feed grain." "No," I told him, "they have had nothing but cornstalks and a few roots. They have probably not been fed so much as yours, but the difference is, these cattle are kept warm, and all they eat goes to make growth, while more than half of the feed given to yours is used up to keep yours from freezing, besides what they waste. It takes food to keep stock warm, just as it does to keep them alive. I make the stable furnish the heat by keeping the cold out; you put yours into the cold and then try to keep it out by throwing out the fodder to them; you work all summer to keep your stock alive through the winter."

"Horn-ail is chiefly caused by poor blood and poor circulation, and exposure does more to produce this condition than anything else. Your cow lost her calf and died from weakness caused by your barnyard wintering. No doubt of it. A cow in good condition rarely loses her calf, and if she does she generally gets over it, while weak ones are always liable to abort, and to die afterward. It is a wrong notion that cattle must be kept in a barnyard all day, or a part of a day, to get exercise. How much exercise will they take during the day? Just enough to get from one pile of fodder to another, or to find, if they can, a warm spot to stand on. If you do not believe this, watch a cow and see. Fasten cattle in the stable so they can get up and down easily, and this is all the exercise they require. You see these cattle are fastened with a chain, and they can move around freely and lick themselves and get up and down without straining. This is one reason why they are so healthy. Stanchions are more confining and straining for them. I will not have them in my stable; I think they are cruel."—F. D. Curtis, in Tribune.

The Ice House.

Many of our subscribers have asked us to give them a plan of an ice house—some recently and others some time ago; in fact, there are many enquiries for information about buildings, etc., that we have not yet answered. It is not from disrespect that they have not been replied to; but many questions involve considerable more expense to properly reply to them than the querists may imagine. Special articles on special subjects have to be paid for, or require a long time to examine into. Perhaps they require the aid of the artist. When we feel sure that any subject is of sufficient importance to justify the expenditure, we go to the expense and trouble of taking long journies and engage an artist to draw and have engraved such representations.

As ice is of much more value to farmers than most of them are aware of, and must come into more general use than it is at present, we have made enquiries and find that a person in Canada has succeeded in constructing an ice house that is far superior to any that we have ever seen or heard of. To give the best idea we took an artist to draw the interior of one and have had it engraved. This will enable you to see the plans and principles, and give you a much better idea than we could impart in any other way.

We never have seen or heard of any plan at all to be compared to it. This method has been well tested for three years. A much less quantity of ice is used than in the old way, and much more good done by it. Instead of the old mode of digging a hole in the ground, or even placing the ice on the ground and packing it around with a wall of saw dust or tan-bark, the new plan of using paper, wood and zinc is found to be superior. Paper is a non-conductor and a vacuum is non-conducting. The paper may be scoffed at by some, but you may depend that this is the best plan yet, and we hope you will call it the "ADVOCATE Ice House," as we have taken the pains and been at the expense of introducing it to you.

In this ice house meat and milk may be kept good for weeks in the hottest weather. We were informed that cherries, which are the most perishable fruit, have been kept in this kind of an ice house for six weeks. What a wonderful advantage such a building must be to all who raise or deal in fruit! What a benefit must this be to every farmer who tries to make good butter or keep it in summer! The superiority of this ice house over all others is that there is no dampness in it. Even matches keep and light as well if put in it as in any dry place. This is caused by a current of air constantly passing through it. The principle of this is that heat ascends and cold descends. The cold passes from the zinc bottom, from the air chamber and from the ice to the cooling room, and the warm air is conducted from the cooling room to the top of the building. The flow of air can be regulated at will.

The drawing we give is of an old building turned into an ice house. The ice is placed in the upper chamber. This building is about 59 x 17.

The walls are constructed of scantling, boarded inside and out, having two separate vacuum chambers made of extra pieces of scantling and covered with three courses of brown paper, leaving the two vacuums of four inches each.

inches wide, leaving a space between each. No water stops in the zinc channels, as there is a slight slope given to them, so that all the water is carried into the discharge trough.

The plans shown may give you some idea, but the size and form may be altered to suit your requirements.

As you see, the building is composed of two stories—the upper story is the ice room, the lower is used to keep perishable articles, as meat, fruits, &c. The cut represents a good space between the outer roof and the ceiling of the ice room; the holes in the ceiling show where the air is admitted to the ice room, while the low spaces at the sides allow the cold air to descend to the cooling room. The upright lines represent the air chambers, which carry the warm air from the cooling room to the roof.

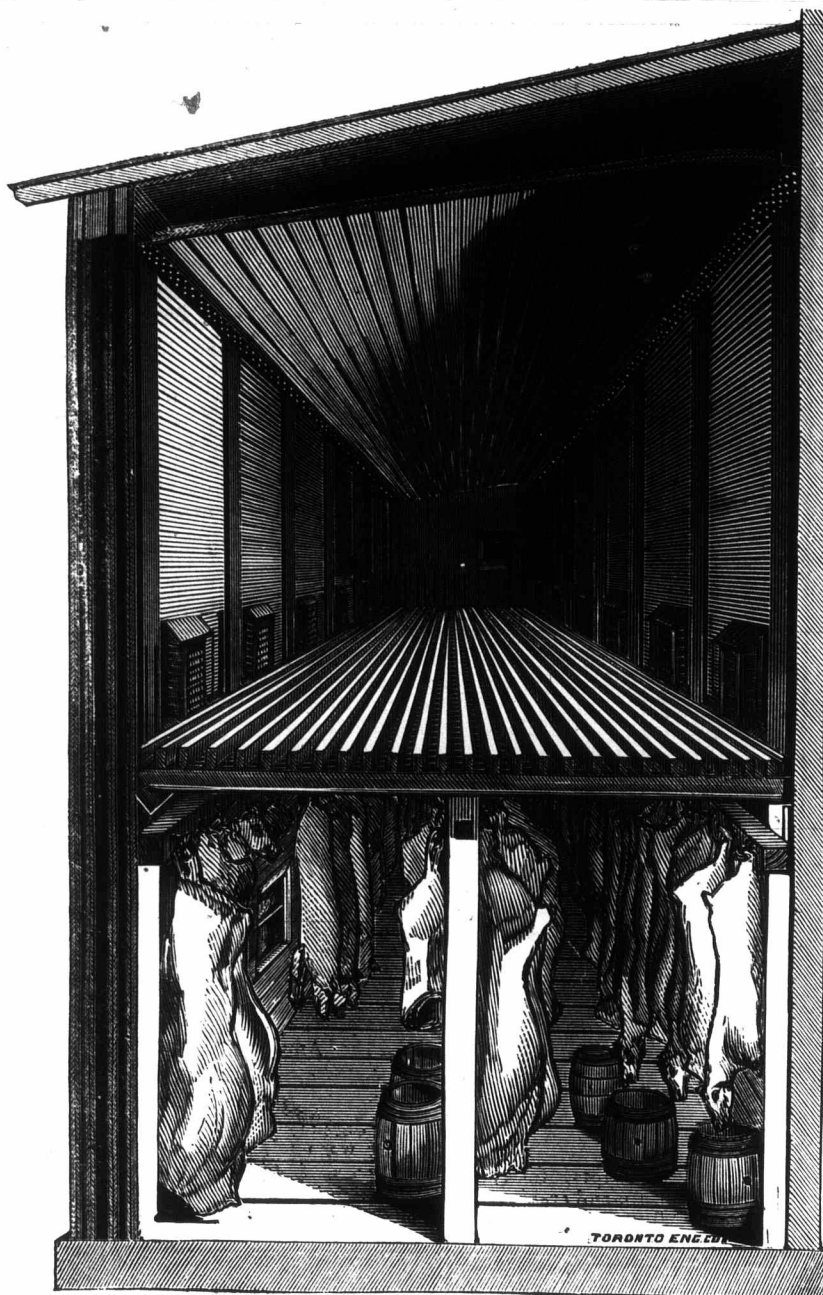
Silos and Ensilage.

Professor Gossman lectured on silos and ensilage before a large meeting of the Massachusetts Farmers' Club:

He gave a great many facts bearing on the preservation, use and value of ensilage. In the old country the silo had been adopted for preserving refuse material, as beet tops, beet pulp, damaged potatoes, the refuse from starch and other factories, and for preserving fodder crops when the weather was unfavorable to curing by drying. But ensilage is never unattended by loss. Sugar and starch, two valuable substances, are converted into acids and alcohol, and more or less of the soluble food is soaked out, and where the silos are not air and water tight, are lost by leaching. Other changes take place which in part pay for this loss. Woody fibre is rendered more digestible, and in some cases the nitrogenous substance is increased, but the heat-forming material is frequently diminished from 20 to 50 per cent. Corn fodder loses more by pitting than do fodders containing less sugar, as the sugar is very largely converted into vinegar and alcohol, and the sweeter the corn the greater the loss.

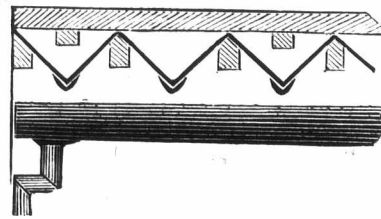
Clover and other hay loses nothing by drying, nor is it any less digestible than grass, but every form of fodder wastes by pitting. Canning fruit is not a parallel case, because in filling silos we neither heat to the boiling point to destroy germs, nor do we exclude all the air. Fermentation and destruction through germ agency is always present in ensilage. The system cannot be looked upon as a substitute for prevailing methods for preserving fodder, but it will increase our facilities for feeding, and in this age, when a more intense system of agriculture is demanded, the new system should receive all the attention its several merits deserve. Much indirect good will accrue from the introduction of the silo system, as it will draw public attention to feeding and to food rations, a subject that needs ventilation. All the discussions, all the debates in farmers' clubs, and through the agricultural papers, show that there is no standard feeding ration for the different classes of animals. Roots, fodder crops, all kinds of grain, are called good or poor materials for feeding, as their use accords with each man's experience, but that experience is seldom based on any clear understanding of the demands of the animal system. Next month we will give illustrations and the principles of this method of preserving fodder.

Wooden posts have been brought to premature decay by painting them before their moisture had evaporated.



1.—OLD BUILDING TURNED INTO AN ICE HOUSE.

Cut 2 shows a portion of the corrugated zinc floor, through which the cold descends. There is



2.—CORRUGATED ZINC FLOOR.

a constant accumulation of dampness, which collects on the zinc. This is carried off by means of small wooden ducts placed below the zinc, and is then conducted into the discharge pipe. There is some patent about it, but as we have no information about it direct we cannot explain what it may cover. The main principle of erecting the ice house and the buildings is not patentable. The floor is made of 1½ inch plank, cut into slips 4

Garden and Orchard.

The Berberry as a Hedge Plant.

BY HORTUS.

Among the many hedge plants claiming attention from the farmer there is not another as desirable as the Berberry; it is both ornamental and defensive. What we want in a hedge plant is that it will grow rapidly, be perfectly hardy, thrive in all situations and soils, easy to transplant, be free from insects and may be propagated with little cost of time and money. All those advantages are to be found in the Berberry. But these are not all its good qualities; it is exceedingly ornamental, either planted singly as a shrub or in a hedgerow, producing in early summer an abundance of clustering, bright, yellow flowers, followed in the fall by bunches of scarlet berries, which hang on the bushes till late in winter. These berries are used for preserving, and in this respect are almost as valuable as the Cranberry, which it resembles in flavor and acidity. It is this acidity, which is not unpleasant to the human taste, that gives the berries exemption from the birds and leaves them to brighten up and lend a charm by their color to our in general too cheerless winter landscapes. When the bushes are covered with snow, we know of few more pleasing contrasts than that afforded by the bright scarlet berries gleaming from amidst their snowy surroundings.

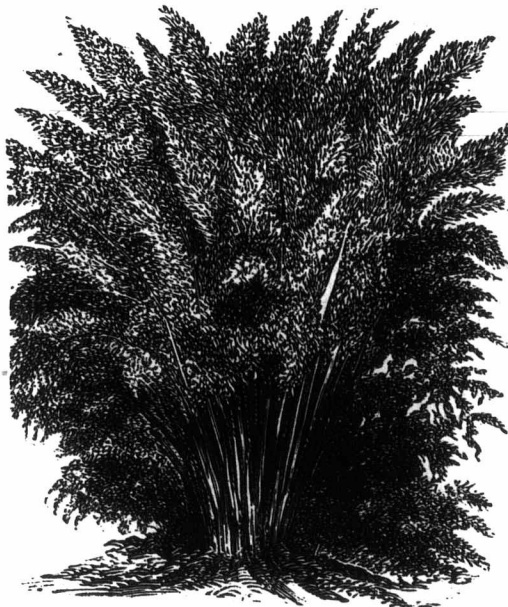
But it is to its great usefulness as a hedge plant that we wish to draw particular attention. The Osage Orange, Honey Locust, White Willow and others that have been introduced from time to time, have had their day. The Osage Orange is not hardy. The Honey Locust, which succeeds only in some localities where the peach thrives, soon becomes scrubby and miserable rubbish in the colder sections; and the White Willow lives only in the memory of many as a fraud and a delusion. The English Hawthorn also is not hardy enough to succeed. The Buckthorn is greatly recommended and comes nearest of any, with the exception of the Berberry, to which we must give the palm, as being the best and the nearest of all "to filling the bill;" and we have not been hasty in forming this judgment. We have watched for many years the different experiences in hedge-growing of many planters, and particularly the experiences of a gentleman who, to use his own words, "has planted miles of hedges and has tried most kinds," and after all, says, "the Berberry is the best hedge-plant for Canada."

Now we know, and every farmer and landowner knows, that next to having good land is to have good fences, and now-a-days fencing is an expensive item, and the great problem is, what will make the cheapest and most durable fence? particularly in the older and more settled portions of our country. Of course, in wooded sections rail timber is still plentiful, but in many parts lumber is very dear and rail timber is getting scarce, and we must find some other practical, easily applied substitute, that will effectually take the place of the zigzag nuisances now strung across our fair country. Rail fences have had their day, and it is high time they wriggled themselves out of sight for several reasons:

1st. Because they stand upon a lot of land which of necessity from their formation cannot be worked.

2nd. Because their corners or recesses are great nurseries for weeds and vermin, which annually sow the land and destroy trees and grain, and which in turn must annually be destroyed, thereby evolving the loss of a great deal of time and labor unnecessarily.

3rd. Because the older portions of the country cannot compete with cheap lands or prairie provinces in grain production, if one-fifth or one-tenth of their cultivatable soil is encumbered with rail fences.



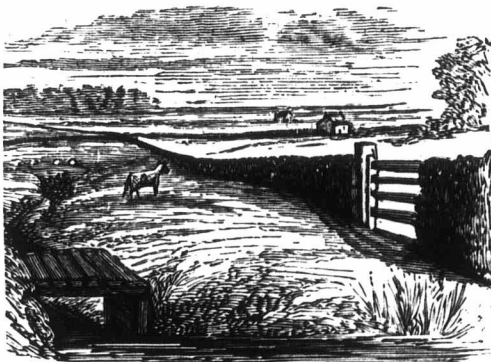
1.—BERBERRY AS AN ORNAMENTAL SHRUB.

And now we come back to our substitute, the Berberry hedge. For ordinary farms, or those farmers who prefer to follow the usual routine of



2.—LEAF, FRUIT AND FLOWER OF THE BERBERRY.

reaping and sowing and keeping but few cattle and sheep, the Berberry may be planted in straight rows, and will, after a few years, prove sufficiently strong to keep stock in or out. But for stock farms



3.—BERBERRY HEDGE.

the following is recommended to make an effectual fence: Make an ordinary straight fence of rails and rail-posts, as shown in cut, and on each side alternately plant a Berberry. These growing up in time on either side completely envelope the fence

and as time rolls on and the posts rot out of the ground, the upright and horizontal rails, though free from the ground, will keep the hedge taut and straight and will last for many years. This arrangement, of course, may be applied to any other kind of hedge plant, but has a particular reference to the Berberry. The Berberry, unlike other hedge plants, has more of a shrub character—the others a tree character—this may be a distinction without a difference, but so it is. The Berberry throws up from near the roots, or at the base of the main branches, straight shoots, which grow on right through the other stems till they tower right over the other growth. These again the succeeding year throw out lateral branches, which devote themselves thereafter to developing thorns, flowers and fruit. Thus we have briefly attempted to show the general characteristics of the plant, showing how admirably adapted it is to be a hedge plant or living fence, for all its branches and branchlets, new or old, retain their vitality whether growing fast or slow, the great requisite; and keep gradually thickening up till it is almost impregnable.

We have now shown that the Berberry allowed to grow naturally, after once being planted, will in itself make a strong fence, without any labor being bestowed upon it by clipping or cutting. This is an important point in its favor, for if a hedge plant is going to require a certain skill in planting—great care in handling and a lot of attention afterwards in trimming, mulching, etc., the plant loses much of its value, by reason of so much labor having to be bestowed upon it. We will treat hereafter, in detail, the subjects of planting, trimming and after care, showing that when care is paid to it, the plant will more than give grateful and corresponding results for what attention, if any, is given.

We now come to the question of its cost, almost the least of all, but still another point in favor of the plant. If wanted at once to plant, it can be procured from nurserymen, good plants, sufficiently strong for planting, at a cent apiece, or \$10 per thousand, and we have no doubt that if many thousands were wanted, they could be purchased for much less. The plant will stand a great deal of exposure to sun and air, having great vitality. No fears need be entertained of any dying or replanting after once being planted, if anything like reasonable care is given to it in digging, packing, and shipping.

We give our readers, this month, a series of original illustrations, which will no doubt prove valuable.

The journeys necessary to procure the information presented in each number of the ADVOCATE; the great expense of our artistic illustrations, and the accompanying letterpress, is paid by the money we receive from our subscribers; and we mean to expend the amount you send us for new subscriptions this year in still further improving your paper.

In addition to this inducement, we will send to any one who sends us one new cash subscriber, either a package of Berberry seeds, or a package of Berberry Plants. They will be mailed, postage paid, to any post office in the Dominion, and we believe the plant will thrive in any part of the Dominion. Grown as a hedge we believe it will be of great value. Try it, and give the FARMER'S ADVOCATE the credit of introducing it, and you will soon have a handsome shrub.

To be Continued.

The new strain of perennial Larkspurs are an excellent acquisition to our gardens. The blossoms are so large, so bright, and when double so very double, and they are arranged as densely as those as those of a hyacinth upon the spikes. They are as hardy and as thrifty as the old-fashioned ones.

The Gardener's Monthly says of the Lily: It is now believed that the disease of the Lily and Gladiolus, by which they lose their leaves before they are mature, arises from the hot soil in which they are grown. There is but little doubt that if the soil be well mulched, lily growing would be more of a success. * * * As an August flowering plant, no garden should be without a clump of the white-day lily. It is hardy, thrifty and copious, and will grow in shady places; its flowers are fragrant.

Mulching Orchards with Pomace.

Plowing orchards, unless with more care than it is ordinarily done, is not to be recommended. If done by careless hands, much more harm than good is likely to be the result. The roots are broken and cut by the plow, and the trunks and branches of the trees are often injured by the team.

There are those who advocate the keeping of the surface of the orchard in permanent grass, urging in its favor, that by this course too great a tendency to wood growth is checked, and the formation of fruit buds is encouraged. This course, so far as my observation goes, has not proved a success. A close mat of grass and roots around the trunks and under the trees is an injury. In some parts of the country blue grass is sufficiently vigorous to kill the timber by suffocation. The more delicate organization of fruit trees would suffer from the same process. Anything which will keep down the grass and make the earth mellow under the trees is an advantage, and for this purpose nothing is better than mulching. It will keep down the grass, will greatly aid in retaining the moisture of rains, and will prove a great benefit to the trees, rendering expensive cultivation unnecessary. For this purpose I have used old hay which was of little value for feeding purposes. Those living in the vicinity of salt marshes can easily collect a great deal of material at small expense, which will answer a good purpose. In fact, much of the salt grass which is cut would be worth fully as much to feed directly to the trees in the form of mulch, as it is when fed to animals.

Mulch should be applied in spring, as it will then become so much decomposed before winter as not to afford a living place for mice. The grass will be effectually killed, as far as the mulch extends, which should be as far as the branches reach, although half the distance will prove of great value. The moisture from rains is retained for a long time, which will do much to carry both tree and fruit through seasons of drouth, with no damage to either. The earth worms are induced to work, and reduce a few inches of the top soil to a very fine tilth, which puts it into the most favorable condition possible for the trees. The decaying mulch affords plant-food to sustain the tree, which is as much needed on most soils as it is for any other crop. Where material for mulching can be easily and cheaply obtained, an orchard may be kept in good condition by this treatment, as easy and cheaper than by any other method.

The pomace from cider mills, which is generally considered as a waste product, and which is often thrown upon the road-side and in waste places to decay, makes a good mulch, and is of value to spread over the surface of the orchard. The acid which it contains will kill the grass, and will, with leaves, return nearly all to the soil which has been taken out by the trees, which principle found to work well in all other crops. It is often said that pomace spread about trees will have an injurious effect, and cause them to die. Two years ago I spread the pomace from 5,000 bushels of apples upon a little more than an acre of orchard, the result of which has been far from injurious. It has made the trees exceedingly vigorous and healthy, and the past season a good crop of large fruit was produced. The improved appearance of the orchard has led many to inquire what brought it about. Since then not less than half a dozen men in whom I have confidence have told me of the benefit they had derived from applying pomace in the same way.

A cart load applied to a tree has been found very satisfactory.

The parasitic growth of moss on the trunks and branches should be removed by scraping, and with good care will not again reappear. An old orchardist once said to me that the best way to get rid of moss on the trees was to first get it out of the ground by good cultivation, and it would not trouble the trees. At any rate, the orchard will be found as grateful for good treatment as any part of the farm.—[The Cultivator.

Mr. J. S. Woodward, in the New York Tribune, objects to all potash washes for apple trees, because, while they will undoubtedly kill the moss and remove the loose bark, they are also liable to burn and discolor the tender bark beneath, or cause it to crack or scale. He recommends instead a wash made of caustic soda which is just as efficient and much less dangerous. If caustic soda can not be obtained, common sal soda (washing soda) heated to redness in an iron kettle, will answer.

Poultry.

Feeding Meat to Fowls.

Animal food may not be a necessity, but it is greatly craved by fowls. In a natural state all fowls are eager for every description of insect diet, and will leave grain for it. Turkeys are great foragers, ranging the fields for insect food until the appetite is sated. Fowls are more quiet in their habits, and do not wander off in search of the coveted diet, which, nevertheless, is quite as much relished. Where chickens are valuable, it is desirable that every one should be raised after being hatched, if possible. The extra care bestowed appears to make them weakly and slow of growth, where a common chick, not of so much value, goes ahead with little or no care, and thrives on indifferent keep. The cause of this is obvious. The choice fowls were far fetched and costly, which were the parents of these chicks. They have been in confinement under close surveillance while the eggs were gathered, and fowls dearly love liberty. They are obliged to do with the food given them. They are weary of their quarters, and pine for change. They become weak and feverish, still they will lay to a certain extent. Soon the egg shells become thin, and many times the eggs are dropped from the roost without shells. More freedom produces better results.

Feeding animal food is a good practice, but it is also bad if not given in a healthy state. Many are in the habit of throwing dead carcasses of animals, and flesh in a decaying or decomposed state, into the yards for the fowls to pick. It is true they will eagerly devour it at first, before its presence becomes loathsome to them, but it is bad practice. When running at large they seek and find antidotes for this putridity, but we know not exactly what. Careful feeding must be observed where fowls are kept in confinement. When free, the busy feet dig out many insects and other food from the earth. The exercise is beneficial, and the food thus gained is greatly relished, and acts as an appetizer for the grain that follows later on in the day. Healthy, well-fed fowls, which have access to grain at pleasure, seldom fill their crops in the morning, if they are thus trained. Meat that has begun to decay should never be fed to fowls in confinement. As a general thing, meat should be cooked and minced.

The great difficulty in feeding meat to fowls in confinement, is the danger of giving too much at a time. They fill their crops with more than can be digested well. A piece of salt fat pork is greatly relished by fowls at times and is beneficial. Take a square piece that has the rind on it, and nail it to a firm block in their yards or building where they can have access to it at pleasure, but so that they cannot tread over it. A daily feed of "scraps," either tallow or lard, may be given with good effect, but do not feed superfluously on one day and neglect it the next.

Animal food is forcing, and for hens that are laying eggs for hatching it should be fed sparingly, as these fowls should not lay too rapidly, for the good of the coming chicks. Exercise is highly beneficial to health.—[Ex.

Poultry Farming.

It is by no means so difficult a matter as many suppose to obtain a plentiful supply of eggs all through the year. All that is necessary is to hatch your chickens some eight or nine months before such times as they are required to start laying. If eggs are wanted during the autumn and winter months, then the chickens must be hatched early in the year, during the months of February, March and April. Pullets hatched in these months ought to be laying well in November, December and January. This is the time when new laid eggs are costly, and people are only too glad to get them even at high prices. A hen or pullet is, after all, something like a machine; get the steam up to a certain pressure, and, all being free, away goes the engine. When your pullet arrives at the age of eight or nine months, if she has been properly fed, housed, and is in a healthy condition, she must lay, she cannot help herself. The operation may be delayed for a time by frequently removing the pullet from place to place, but the time arrives when even these means fail, and she is compelled to produce her eggs.

Of course some pullets are more precocious than others, exactly the same as some are far better egg producers than others. Thus, by only breeding

from the early or best layers, in the course of two or three years a marvellous improvement may be made in the egg-producing capabilities of a breed. Brahmans, as is well known, soon become broody; and yet some people have, by carefully breeding from the best laying hens, produced birds which seldom want to sit. At the present time, we know of some hens which commenced laying before Christmas, and they have not shown any desire to sit, although they have been laying their three and four eggs weekly, ever since, and the father of some of these birds was so good in all Brahma points that he took a third prize in a class of eighty at the last Crystal Palace show. In the non-sitting varieties, such as the Spanish, the Polish, the Hamburgs and others, the natural desire to sit has been eradicated by careful selection, and there are birds of these breeds which rarely, if ever, become broody. In a few years any breeder could obtain the same results by only retaining for stock purposes the most productive hens, and those showing the least desire to sit. But on the farm, where poultry should be kept not only for their eggs, but for supplying the table, it is necessary to produce large-framed specimens. And this end can only be obtained with a little care and attention. It is a common practice at most farm houses to kill off, as soon as they are big enough, all the largest and most forward cockerels while the smaller and more weakly birds are retained for breeding. This goes on year after year, and the result is that size and stamina and early maturity are in a great degree lost. What is needed is that one or two of the largest and best cockerels should be retained for breeding, and the slow-growing and smaller birds be killed or sold. The breeder of exhibition poultry kills his inferior specimens directly he notices any blemishes in them, so as to make room for the more promising and better specimens. He never dreams of retaining for stock purposes the small, weedy things. It is by this selection that the laying properties may be increased, and a superior strain of table fowls produced at a very little expense or trouble. At the present time several gentlemen interested in table poultry are engaged in producing birds which shall, if possible, be heavier and finer specimens than those hitherto seen, and there can be little doubt that they will succeed in their efforts.—Mark Lane Express (Eng.)

In cold weather, drink given to fowls should be above the temperature of the atmosphere.

The Rearing of Calves.

It may be laid down as a first proposition that a dairy farmer should raise at least as many heifer calves as are required to fill up the vacancies that occur year by year in his herd of dairy cows; and it is all the better if he has a few more than he wants for that purpose. Some people contend that three-year-old-in-calf heifers can be bought for less money than they can be raised for, counting in the risk. This, however, depends entirely on the facilities a man has for keeping young cattle so as not to interfere with the milk pastures.

On all mixed farms it is commonly a simple matter enough to summer and winter young cattle so cheaply that it is better to raise them than to buy others for the dairy herd, and many farmers find it to their advantage to raise them for sale when "on note," off to fatten for the butcher. Judiciously carried out, rearing pays very well, and heifers raised on the farm are commonly found more profitable to it in after life as early milkers, than others that are raised elsewhere and purchased. Besides which it is more than probable rearing will always pay well, providing only that the stock is of good quality; for the demand for milk in our towns and cities is sure to go on increasing, and there will always be a brisk demand for store stock of good quality.

A careful breeder can but seldom buy dairy stock that will suit him as well as those of his own rearing. Those he buys may, perhaps, be as well bred as his own are in every respect, but if they are only as well and no better bred, they will scarcely ever do as well in the milk-pail as those that have been reared on the farm.



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

Salt for Wheat.

DEAR SIR,—I am very much interested in an item in your January number, "Salt for Wheat." It is by such sensible articles that our farming is to be really and permanently improved. I have used salt in a small way on various crops, and have seen the benefits to be derived from its use, but experiments on small plots are not so trustworthy as those on a large scale. Now, what I would like and what I am sure many of your thousands of readers would like, is to know something about the nature of the soil on which these remarkable results followed the use of salt.

I trust your Goderich subscriber will be kind enough to supplement the information already given in another letter, letting us know whether the land was upland or lowland, strong or light, clay or sand, together with something about the subsoil, state of drainage, &c., how it had been manured previously, if he had been long enough in possession to be able to say. Such statements of the practical experience of reliable men are more valuable than all the theories in the world, but to make them of general interest some details are wanting; these would render the experience of your subscribers available to a great many of your readers, and as your correspondent's apparent desire is to benefit his fellows, it is to be hoped that he may be induced to enhance the value of the information already given by extending it in the way indicated.

I desire to add my testimony to the value of your widely read paper.

R. H., Grenville, Ont.

[Will C. C., Goderich, Ont., reply to these enquiries, or any other subscriber who has had experience.]

SIR,—I have been drawing manure from the cow barns and horse stables on to the wheat field, and spreading it thinly on the snow, in the hope that it will afford protection from the heat of the sun in the month of March, and to keep the ground from freezing and thawing, as I think our wheat suffers more from the above in March than in winter. Last year my wheat looked well until the cold snap which followed a warm spell that we had at that time, and I thought if I had mulched my wheat with coarse manure, that I should have saved much of it from killing out; so I have commenced this winter to try it. I want also to seed down the same, and I drew out the clover chaff on the same land. Do you think I am likely to reap any benefit from the same, or will it impede the growth of the wheat? Do you or any of your readers know from experience as to the results from such a procedure, and if it would do to put on the harrow in the spring or leave it to itself? I hope you will give us the information asked for in your journal, and confer a favor on one who has read it for the last ten years, and if this method prove a success with me, I shall be glad to give you the result at a future time.

W. T.

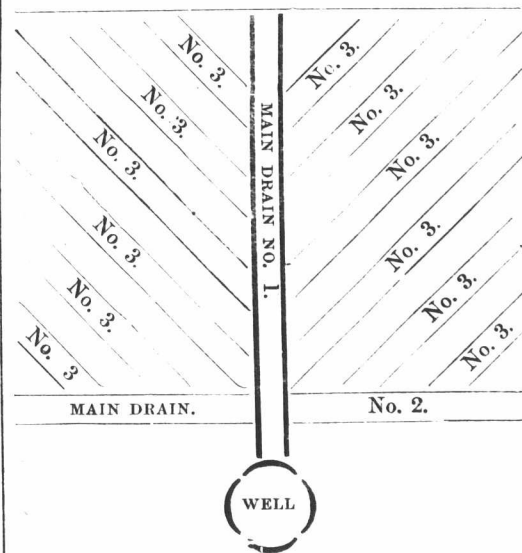
[We believe you will find a great benefit from the plan you have adopted, particularly so if we have bare ground with frequent frosts and thaws in the spring. As soon as the ground will bear a team in the spring, harrowing the wheat would be a great advantage. We tried it and found it highly beneficial, particularly on hard-packed, clay ground. Let us have the experience of others on this matter.]

Land Drainage.

SIR,—I have a field of 6½ acres almost flat, and to drain it I would have to carry the drains about 35 to 40 rods through another's property. Would the enclosed printed instructions do for me?

J. D., Cobourg, Ont.

[By comparing the estimate expense of making a main drain through another's property, and that of the well with the probability of success, J. D. can form a reasonable opinion which of the two methods would be most economical. Of the printed instructions enclosed to us with the query we re-print the following extract:—



"I have numbered all the drains so that you will have a perfect understanding of the plan for laying out a field. No. 1 and No. 2 are main drains into which all the No. 3, or small drains, run; No. 1 receiving all the water from all the other drains previous to be running into the well. You will see by the above plan that there is not even one tile exposed to the weather. One out-fall tile would be sufficient to drain a field of ten to fifteen acres. The great number of small pipes running into the out-fall always keep it clean, and there are not so many ends exposed to perish. By my plan you would have no tile ends exposed to the weather. The plan is to sink a well at the end of the out-fall. If the land were drained three feet deep, the well would require to be about five feet deep; allowing two feet for any sediment to settle in. Bore a hole about five inches wide in the centre of the well, that would admit of a pipe as large as the out-fall. This pipe might be made of iron or wood or copper, or anything that would be likely to last; but the best and cheapest piping would be made of the same material as the pipe tiles, 3¼ inch bore. It should be the same length as other tiles. Great care would have to be taken to make these tiles straight. This might be done by putting a mandril into them, and rolling them once or twice when the clay was of proper dryness. The ends would require to be made perfectly even. The way to put them down the bore would be this: the first tile would require to be bevelled off, on the outside, at the end that went downward, to prevent it from catching any small stones that might be in the bore. The bore would want to be made so that the tile would get moderately tight and require a little forcing down.

The plan of side ditches and main drains may be dispensed with in instances such as that of J. D., by having a well for an outfall. Though almost unknown in this country, it has been found to work very satisfactorily in Great Britain, wherever the subsoil, into which the well is sunk, is porous, or a natural underground outlet for the water is met with. Even in soils where this subsoil is a hard par, and where, owing to a flat level surface, there is not sufficient outfall, the water drained into a well so formed has been pumped from it by wind-mill power into a reservoir prepared for the purpose, and from it carried by a pipe to an outlet. Draining by sinking a well, as referred to in the extract, is in operation on the farm of Mr. Thos. Palmer, Burford, Ont.]

SIR,—Honor to whom honor is due. We must give you credit for the great interest shown in your valuable paper, in the progress of all sections of the country. A line from the vicinity of the Pacific ocean will, no doubt, be acceptable to you.

Our province is not, as it has been said by some, little adapted to agriculture. A large proportion of it is mountainous; but large tracts are well adapted to tillage and stock feeding.

We have now planted our early crop of potatoes. The seed will be safe in the ground till spring, when we will be digging them at the time that you are planting.

The question of beet sugar manufacture is again being earnestly discussed here. The friends of home industry argue that if the manufacture of beets will pay in the Eastern Provinces, it surely ought to do so here, where the conditions of growing the root are more favorable. There are here thousands of acres of land that would grow beets equal to any that could be grown in any country. The delta of the Frazer would be an excellent locality. There might be at least one factory established in this province, and our home market would furnish an ample demand for its products. We predict a great future for this Province, from its abundant mineral, timber and agricultural resources.

Nov. 1st, 1880.

KAMLOOPS, Yale, B. C.

SIR,—As I intend raising a large stock of poultry, would you please tell me if the hen-coop was placed in a vast cow stable would the heat emanating from the cattle be obnoxious to the fowl; if so, what would be the best heating apparatus for a self-contained hen-house? Would a room 10 x 12 be large enough for 25 hens, and would that number of hens be too great with but one male?

H. J. C., St. Therese de Blainville, Que.

[We would not advise keeping fowls in a cow shed, unless it was very large, and then we would partition off as much as we could spare for the fowls. The heat emanating from the cattle would not be injurious, but the odors would, unless great care was taken. All fowl houses should be warm, yet well ventilated. Artificial heating is not thought advisable. It is much better to build a warm house in some sheltered situation having a southern aspect; as much sunlight should be admitted as possible, but do not allow any drafts to come in around the sashes. A room 10 x 12 would be large enough if kept scrupulously clean. We have kept 25 hens with one cock, but prefer two.]

SIR,—I have a valuable horse about nine years old, which has always had what they call "Side-bones," and has caused lameness of late.

L. H., Fullarton.

[Side-bones are the ossification or turning into bone of the lateral cartilages of the osseopis, or bone of the foot. It is most common in the fore feet, especially when the pasterns are short and straight the lateral cartilages (in health are soft and flexible) become enlarged, project above the hoof and are quite hard and bony. There is generally heat and pain in the part and consequently lameness, which, in some cases, ceases when ossification is completed; but there is always a degree of stiffness noticeable, and lameness is apt to return if the animal is used much on the hard road. Side-bone is often caused by bruises, such as a horse treading on himself. It is common in heavy draught horses used for teaming on the road. Treatment.—Clip the hair on the infected part off, then soak the foot in hot water; when dry apply a blister once every two weeks, made of cantharides two drachms, biniodide of mercury one-half drachm, lard two ounces; rub the blister well in with the finger.]

How a farmer disposes of coal ashes: Almost everywhere you go in the country you see piles of coal ashes thrown out in heaps and some people put them in the road. I would almost as soon throw away my wood ashes, for I consider the coal ashes well worth saving for an absorbent. I have a tight bin under my shed, where I put all the coal ashes I have as I carry them out every morning, and also every morning I carry out the chamber slops and throw on the heap. In the spring the heap is shoveled over and mixed with an equal bulk of earth, then used for corn. It is the strongest manure I make.

Sheep vs. Cattle.

SIR,—Had I doubted the correctness of your statement, when you assured me that an article presented through your columns would reach a much greater portion of the reading public than when given through a local paper, I could no longer doubt, because numerous private letters from various Provinces and different points of the compass in the same Province, have since reached me, relative to the prize essay, "Sheep vs. Cattle." Further, I find in the January number of the *ADVOCATE* a letter from "An Enquirer" at Niagara relating to the same. And while all touch upon very nearly the same points, not one expresses any doubt as to the correctness of my statements of profits upon sheep handling. The statements appear only incomprehensible to them. This is Abrahamic faith and argues well for the wholesome influence your publication exerts over the reader's minds, teaching them to enquire rather than denounce a statement. Now, since these enquiries have all evidently been submitted in good faith, and, to answer them individually, would require much more time than I have at my disposal, I shall, with your permission, use the columns of the *ADVOCATE* to answer. And this means of reaching the enquiries is the more useful from the other consideration that no doubt very many more will be benefited than those who have written. At the time of writing said essay, I felt the importance of a more detailed statement, but was compelled, from want of space, to forego it. One letter questions the propriety of my styling the sheep "successful help-meets of man" as weed extirpators, but adds that if they would consume Canada Thistles and Burdocks, the application would be quite admissible. Now, as regards burdocks, I know of no more expeditious and thoroughly effective remedy for them than by turning in a flock of Southdowns (the writer handles Southdowns exclusively as breeders), except it be the tedious mode of destruction by the use of the spade. The sheep will, without fail, gather almost every bur and brouse the leaves off nicely. Burdocks, as I understand them, only mature seeds once and then die (some dispute this), hence if they are prevented from re-seeding there will be but little difficulty experienced in getting rid of them. Again, with us, milkweed is a very troublesome pest, but the sheep will tear off the leaves and bleed them to a very low vitality, if not to death. Now, with respect to the Canada Thistle, I did not intend to include it in the term "weeds," though the writer referred to makes the point fairly. But this I do know, that when cut in the early flower or before and cured like (or with) hay, the sheep will devour them ravenously. On one occasion I was compelled to remove the provender from my sheep before they had made a meal, simply because they eat so freely of the thistles it contained as to give them a sore mouth; the lips were swollen and cracked so as to expose the teeth to full view. Let it be observed that in this section we have only the pink, red, or purple-blossomed Canada Thistle. The white-blowned, I have been credibly informed, is a much more troublesome pest. From '73 to '79 I occupied a thistly farm, and according to my observation they only matured seeds two years out of the six. I observed, however, that they spread very rapidly from the roots when the land was tilled in the ordinary way. There are various methods pursued in destroying thistles, such as cutting in a certain month when the stalk is hollow, planting with potatoes and hoeing after, &c., but all seem precarious. There is one course that I know has not failed, and that is to plant corn, drilled about thirty inches between the rows, and cultivate thoroughly as long as the corn will allow, then keep them down with the hand-hoe during the remainder of the season. I will guarantee that if prevented in the above manner from feeding upon the atmosphere they will perish in one season, especially if the season is a wet one. Most persons prefer a dry season, but this is an error, because in extremely dry weather the roots may lay in the soil dormant and retain their vitality as other plants will, but during a moist season they will go on sprouting, and so aid the agriculturist in their extermination by self-exhaustion, and if prevented as above, from breathing carbonic acid from the air, they must perish as surely as a man who is deprived of oxygen. The philosophy of the above will appear clear by remembering that this element of atmospheric air, viz., carbonic acid gas, is supplied by the animal kingdom, while the oxygen is given off by the vegetable. Here seems to be the reciprocal relation divinely established between the two. The

order of treatment then would be as follows:—Plough your worst patches as late in the autumn as the soil will admit of, so as to bring up the seine-like or network of roots to the frost, then till thoroughly until June or July, and then drill in your corn and proceed as above. The corn, it is well known, is a very ravenous feeder upon the air; it, so to speak, takes up the plantfood before it reaches the thistle, and at the same time effectually shuts out the sun light, which is indispensable to plant growth, and as soon as a thistle shows itself cut it off with the hoe. It will then very soon become apparent that the thistles are afraid to show themselves, as they become so puny and spindling. This mode requires time, attention and faithfulness. So will anything worth accomplishing. Allot a patch to each of your sons and give them a lamb each or a few dollars, to be paid at the end of the season, on condition that they succeed in killing thistles. Thus you will be able to kill two birds with one stone—keep the boys out of mischief, enable them to earn a little pocket money, train them up in the way they should go, viz., as "subduers of the earth," and at the same time improve your farm, save yourself much annoyance, &c. There is also another pest which I believe the sheep fail to destroy, viz., the sour dock. There may be many others in other parts and provinces, but, referring to the essay, the reader will see that I confined my remarks to Ontario, and the foregoing suggestions may require modifying or extending to adjust them to the soil and locality of the operator. Another question submitted is this, "How much land will be required to keep 100 ewes and their offspring? How much pasturage and how many acres of hay, together with the number of rams for the above-mentioned flock? These I can answer approximately only, because very much will depend upon the soil, climate, class and breed of sheep kept, together with the skill of the flock-master. The writer has always followed a mixed system of husbandry, believing it not altogether the best policy to carry your eggs all in one basket. Though, were he to attempt it, he could not secure a safer basket than a sheepskin. I consider it a very bad system to attempt to give a sufficiently large acreage of pasture to any stock. It will be found much preferable to give them what can be conveniently spared, providing it is productive, and supply the deficiency by soiling the stock. Some seasons a field produces, three times the amount it will during another. Again, a field may do well until June and then practically fail for the remainder of the season. In such a case it would be much better to break it and roll thoroughly before harrowing; roll again and drill in your corn, as for the thistles, and you will get first-class feed, and can cure the remainder before frost for winter food. For a very early soiling crop, winter rye will be good. Oats and peas mixed and early drilled corn are all reliable, and what remains of each may be either ploughed down or cured for hay. All foraging animals delight in a variety of food. Hence, no flock-master should depend exclusively, as a rule, upon any one variety. Roots, cabbage and potatoes may all be grown profitably, as well as the cereals for stock. For fattening sheep, peas, beans and corn are good, but are rather too heating for breeding and nursing ewes. Lambs, for growth, should be fed more upon muscle, flesh and bone-forming feed than the fat-producing varieties. Here is just where the Canadian stock surpasses the American in the English market. The American delights in pleasing the eye rather than the pallet, hence he blows up his animal with fat at the expense of the streak of lean so indispensable to wholesome food. In this section it is generally estimated that a cow will require two acres of pasturage, while three acres will keep two cows very well. Moreover that the requirements of one cow will be equal to those of five sheep. This would give ten sheep to three acres of pasturage without grain or soiling. For winter provender clover hay, cut in the early blossom, is almost indispensable. This, together with the fodder corn, roots, &c., with a moderate grain ration, such as middlings, bran and oats, or shrunken wheat, ought to keep a flock of ewes in first-class health and condition, and give the offspring a good start in life, of which they will very soon learn to partake to their advantage and the evident satisfaction of their owner. As regards the number of ewes to be stinted to one ram, very much will depend upon his age, condition, and the mode of coupling. A strong yearling or aged ram might serve successfully from thirty to fifty ewes if turned in loose among them, but this system is

extremely reprehensible from many considerations. A better way would be to have a yard adjoining the ram's enclosure and place the ewes in it, then paint the ram's breast and turn him in. He will, in twenty or thirty minutes, have marked all the ewes in heat without worry to any. Then remove him and separate the marked ewes from the rest of the flock. In this manner go over your flock for a week or so every day, then return the served portion, as in some cases there will be an occasional return. Have each ewe named or numbered; also the ram, and take the date of the service of each ewe, and you know just what you are about and when the lamb may be expected. By this system a ram will go over a much greater number without injury. During the season all ewes should be kept at a sufficient distance from the ram's enclosure to prevent worry and fretting, as he will lose flesh very rapidly under other conditions. The very best method, when a ram is required to do an exceptionally large service, as is sometimes the case when they are scarce, or one is specially good and extensively sought, is to have a tease, i. e., another ram well aproned and painted to turn with the flock and mark those in season. Then select those marked and allow the stock ram to serve them once only while they are held for that purpose. This will avoid all unnecessary worry and exhaustion. The writer prefers an aged ram, say, from 2 to 5 years old, to a younger one. Now, as regards those wonderful profits specified in my essay, I will take your Niagara "Enquirer's" letter as the basis of my remarks. And here permit me to observe that, assuming that he handles the ordinary long-wooled sheep and does not exhibit, "Enquirer" has been satisfactorily successful. But he is evidently behind in the weight of fleece. He should shear from 9 to 12 lbs.; an average of 12 lbs. would be more like it. Then, again, I think he, along with vastly too many more, sells his lambs at too early an age. They are now with us worth \$5 per head for shipping, and if kept for shearing would double the money. The two ewes and five lambs which cost me \$21 I disposed of as follows: the ewes raised a lamb each, and I sold them for \$25; two of the yearlings brought \$10, the other two were very small and went for \$6 to the butcher. The average of wool on the whole flock was a fraction over 4 lbs., which brought 36c. per lb. Then the two lambs were very successful as prize winners, but I did not reckon this in the essay. I now have one yearling ewe and one lamb worth at least \$25, and the ram lamb at this date is worth \$15, which makes \$40, instead of \$35, worth on hand. From one-third to one-half my ewes gave twins. The \$20 per head came from wool, prizes and sales at from \$20 to \$50 per pair for ewes, and from \$8 to \$25 for rams. Trusting this may be satisfactory.

E. J. YORKE, Wardsville, Ont.

Swamp Muck.

SIR,—I congratulate those few who have such a mine of manurial wealth ready to be converted into an active fertilizer.

Compost the swamp muck and lime a summer season, and meanwhile summer-fallow the land deeply and thoroughly. After it has got the fourth and last plowing, put on the compost, and with the gang-plow or cultivator work it thoroughly into the land. Sow fall wheat, and if there are parts of the field too much exposed, cover with manure or loose straw. Seed the field in spring to clover.

Mow the clover crop right early and plow in the aftermath in the fall. Cross-plough in spring, sow barley and seed again to clover.

W. S. F., Ancaster

SIR,—Mr. Gibbins, of the Michigan Farmer, refers me to you, as probably being able to give me the name or names of persons in Canada, who are breeding Shropshire-down sheep, of whom I can buy stock. I find it difficult to get such names. In case you do not know such persons, what course do you think I should take to find them?

W. J. G., Howell, Mich.

Our correspondent, by referring to our breeders' list, will find the names and addresses of H. H. Spencer and Wm. Rolph, both breeders of Shropshires. We can recommend these men to you; there are other breeders of Shropshires in Canada. Breeders should let themselves be heard from, as we frequently have inquiries for pure bred stock and poultry.]

Organic Substances in Meadow Hay.

In a book on cattle feeding, I find the following expressions. My ignorance of chemical terms must be my excuse for asking you to be kind enough to explain them.

The best meadow hay contains in 30 lbs. of organic substance 23.2 lbs., having digestible albuminoids 2.49 lbs; carbo-hydrates 12.75 lbs; and fat .42.

W. T. S., Coburg, Ont.

[An intelligible explanation of the terms would require no little space, as chemistry is an abstruse and not very popular science. Albumen in its primary significations is the white of a fowl's egg, so called because of its becoming white on being cooked. Albumen is found not only in the egg; but in the blood, in the chyle and lymph, in the interstitial fluid of the muscles, and in the moisture of the serous cavities. Albumen is regarded as the representative of a large class of organic substances, as well vegetable as animal, which are known as the albuminoid substances. They enter very largely into the composition of food, and constitute its most valuable and nutritious ingredients.

Carbo-hydrates is, as its name implies, a compound from carbon, one of a group of alimentary materials comprising the fat. These substances, like starch and sugar, consist of carbon, hydrogen and oxygen. They are both of animal and vegetable origin. They form the greater parts of the adipose or fat of animals. Hydrates are compounds containing water or its elements in the proportion to form water; *ergo*, carbo-hydrates are alimentary substances, such as starch and sugar in the proportion to form water, to enter into the nutritive property of animal food.

The organic part of food is that which may be burned away; it is made up of a number of organic substances, as starch, gum, fibre, sugar, albumen, &c.

Fats and oily matters of the food are employed to lay on fat, or to support respiration and animal heat. In the analysis referred to they are especially designated fats.]

SIR,—The correspondence department is the most profitable part of the paper. In comparing notes with each other, what one lacks the other makes up, and their plain English phraseology falls with a more pleasing cadence upon the farmer's ear than volumes of the loud-sounding and ambiguous harrangues of the scientist. Farmers should not be too particular with regard to nicely bounded periods or eloquent and high-flown passages, but converse with each other as neighbor to neighbor. This, in my humble opinion, is the true essence of eloquence. Then let us talk with each other. I wish to give an account of the working of the season in this locality (Lansdowne.) The spring and summer of 1880 was very propitious, and the winter thus far has been in the true old-fashioned style—cold, with the best of sleighing. Fall wheat has been a complete failure, owing to the extreme mildness of last winter, and the rust, that curse of the loaf, has again shortened the spring wheat. But what we lack in that direction is amply made up in barley, oats, peas (a little buggy), potatoes and roots. Hay light, but the surplus of last year abundant. Butter and cheese is all that could be desired. If there is a highly favored country in the world, Canada is the one. Europe is harassed with war, and the rumors thereof. There is here naught but the ploughshare and pruning hook. Our neighbors are suffering from famine and flood, but here we have peace and plenty, with no one to molest or make us afraid. We have the greatest cause to be thankful. Then let us endeavor to appreciate our privileges, and do unto others as ye would wish them to do unto you. And now I would suggest a thought that has just slipped into my mind. I know that poetry is an innate principle born with the individual, and I also realize that it requires cultivation. Then, why not cultivate it? Suppose you request your subscribers to contest in this direction (yourself to be the judge), and that you set apart a short space in each number for the production of the winner. How do you think it would work? Your journal has had a tendency thus far to promote the interests practically and educationally of the farmer. Let its motto be onward, and I trust you will meet with the success you so richly deserve.

R. V. K., Warburton.

A Profitable Syndicate—no Monopoly.

SIR,—As I have failed to get up a satisfactory syndicate, I have come to the conclusion the next best thing to do was to send a few more names to the FARMER'S ADVOCATE, which I think will do more good than investing our money in the Pacific Railroad.

A. C., Campbell's Cross.

SIR,—I send you the Genesee Farmer of '37, that you may see the change in the prices current, etc., in 40 years. Seeing that you take an interest in the progress of this country, and not in any party, I wish to call your attention to the assessment as at present levied. Take for a comparison two farmers, one living close to a school house. His child goes to the school house and kindles the fire, for which he gets \$10 or \$12 per annum. The other poor unfortunate has to travel say two or three miles in snow and rain, and his father is assessed the same as if he were close to the school. Would it not be more just, if it is a free school, to tax in accordance with the distance from school—that they pay in proportion for the benefit that it is possible to receive. Secondly, the non-resident land should be taxed in two different grades. The owner of that which is in the market for sale to furnish the township clerk the price he will take for the ensuing six months or year; the purchaser to deposit the money say in the post office bank, the same to be a bona-fide deed; the other may be assessed as at present, if the owner wished it. Then could be seen at a glance what land was in the market, and no trouble to find the owner or the price.

T., Dealtown, Ont.

[Your ideas are correct and could be enlarged on; but the fact is that the farmers, individually and collectively, are the "beasts of burden," and those who live in the most distant parts often pay the highest proportion of taxation in comparison to the benefits they receive. Those who possess the greatest amount of wealth and enjoy the greatest proportion of business, pay infinitely less proportion to the revenue of the country than the industrious farmer and his family; we fear it will always be so. Your land scheme would suit settlers admirably, but it would injuriously effect the speculator or land grabber. The land grabber can have talkers, pay politicians, editors, and even buy up or shut up an independent, honest farmer that would dare to try to obtain power. Nine times out of ten the farmers have been hoodwinked by the cunning-practiced lawyers or contractors of office hunters. You have been and will be left in the background if you attempt to act honestly, honorably and justly. Those ingredients are extremely rare qualities to be found in Legislative Halls, or in holders of public offices. In the private walks of life they are often found. We know of what we speak, in reviewing the morals of our agricultural officers and the tools employed by them.]

SIR,—I am much pleased to hear you speak in such terms of the tight little Island. We have a great scarcity of water. I have profited by your visit. The fine large Shorthorn cow I spoke of fattening, I have done as you advised, and am breeding from her. I think more of our Island stock now, since our success at the Montreal exhibition, and raising beef and mutton for the English market is now the rage here. Could we not also grow apples for export? Would you be so kind as to advise me what variety to plant? I do not think the Gravenstein will suit here.

B. E. W., Charlottetown, P. E. I.

[We see no reason why you cannot raise apples for the European market; we saw plenty growing there. Perhaps the varieties are not suitable. We commend you to plant only a few varieties, and have good keepers. Try the American Golden Russet. Stick to that variety; if the whole island was planted with them, you would find a better market and maintain a name, that is if that variety does as well with you as it has around here. Do not plant several kinds, as a mixed orchard is not near as valuable as an orchard of one variety for shipping.]

SIR,—In 1878 I sowed ten pounds of lucerne on about 1½ acres of good land, with a thin seeding of oats. I had a good crop of oats; lucerne did well, cutting four times in 1879. No account this year, having left the farm. I intend to try the same plan this spring. T. O., Homer, Ont.

SIR,—I have raised Amber Sugar Cane for two seasons. It makes splendid syrup. I have not tried to make it into sugar yet. It yielded at the rate of 100 gallons to the acre, and did not have half a chance. I planted it in the field among corn, in the same hills. With proper culture, I think 200 gallons per acre could be raised.

I sowed White Russian Spring Wheat last spring and it yielded better than any other variety in this neighborhood. It makes a flour almost if not quite as good as Fyfe—we have tried it.

The farmers in this County (Frontenac) have awakened up to the necessity of improving their stock, and a number of Shorthorn bulls and heifers have been brought in the past season by some of the most enterprising farmers. They are also beginning to pay more attention to raising roots, which means better kept stock, and probably more of it, which is a move in the right direction.

Oppose with all your power any attempts to do away with Township Agricultural Societies, for they do more good to farmers than the large ones. I endorse the sentiments of the ADVOCATE on this point.

Is there any way to find out the *qualities* of the Shorthorn bull Imperial Cæsar [1573], 17365, or any other bull, without going to the place where he belongs?

A. R., Inverary, Ont.

[When wishing to obtain information regarding any animal at a distance, write to his breeder or to some reliable person in the vicinity where he was raised. Just as accurate information can be obtained by this means, and at less expense than by going to enquire yourself. In this case apply to Mr. John Hape, Brantford P. O., Ont.

SIR,—Can you inform me what disease, what was the cause, and how to prevent it? My lambs for two years have come fine strong ones, but I have lost one-quarter of them through having lumps in their throats, pressing on the wind-pipe, choking them so that some never get on their feet; others lived a day or so and died, never sucking. I tried cutting them out, but found an artery connected and so they bled to death. Then I tried iodine. Two that had it not very bad got better, and lived, the lump being absorbed. Several farmers round lost lambs through the same cause. I put the fault to the tup (I have changed this year.) The ewes were fed on good hay, and turnips every other day, fed under cover in a good shed. To show the lambs that lived were good ones, the butcher has always had them away by the middle of July, cleaned me out at \$3 a piece. Ewes all had twins. One of the twins may die through it, and the other be a healthy lamb. By letting me know through your paper you will greatly oblige. Also the cause of nearly one-half of the cows being farrow this year? Was it caused by the dryness of last summer? Cows were tried by two or three different bulls.

H. J. G., Melbourne.

[Will some veterinary surgeon or other person who has had experience with this disease answer.]

SIR,—I have sent you five new subscribers in the last month. The settlers are few and far between in these parts, but any names I get I send along. We labor under a disadvantage, as there is no post-office nearer than Fort Benton, 240 miles distant. It is uncertain to get a letter registered, as we have to depend on private accommodation, and have to undertake the responsibility and risk. The ADVOCATE is a paper every farmer in Canada should patronize; not only read, but study and practice.

S. B., Fort MacLeod, North West Territory.

NORTH HASTINGS AGRICULTURAL SOCIETY.—Mr. Peter Fargey, Secretary, sends us the list of officers of this prosperous Society:—President, J. M. Ashley; First Vice-President, Wm. Kingston; Second Vice-President, George Taylor; Secretary, Peter Fargey, W. Huntingdon; Treasurer, Thomas Emo. The Secretary sends us a list of sixty-seven members' names, subscribers for the FARMER'S ADVOCATE, and expects to send twenty more names. He says:—"Every one is well pleased with the paper. We could hardly exist without it. We only had thirty-seven names when our Society dropped the ADVOCATE from the prize list."

Cultivation of Flax.

SIR,—Will you kindly favor me with any information in regard to the cultivation, handling and threshing of flax; also what can be done to prepare the raw material.

B. A. Co., Winnipeg, Ma.

[We answer the queries of our correspondents as explicitly as is consistent with the limits of space that we can give in a number of our journal to the subject. We hope flax-growing will become more general in Canada, were it only for the value of the seed in stock-feeding. The soil most suitable for flax-growing is a deep, dry, friable loam; that it be dry is especially desirable. A sharp, gravelly soil has been found to produce heavy crops of superior quality. We always preferred growing it on land on which a root crop had grown the previous year. The tillage and fertilizing for the roots left the soil in the fittest condition for the flax—fertile, friable and free from weeds. Preparation of such ground in spring for the flax is best done by a two-wheeled cultivator. A plough would turn under the fertile surface soil; so beneficial a seed bed for the germination of the seed, and the nourishment of the tender plant. If, however, it is intended to grow flax after a grain crop, the land must be brought into suitable condition by autumn and spring ploughings, so that it be thoroughly pulverized, and if it be not sufficiently fertile it should have an application of manure in autumn.

Having sown the seed, harrow with a fine-toothed harrow, so that the seed be covered to the depth of about four inches; roll with a wooden roller. I always sowed Rigor seed in preference to home grown. As to the quantity of seed, there is a great difference of opinion. I would sow 2½ bushels to the acre. Some people sow even much thicker, while some sow as thin as 1½, or even 1 bushel. Thick sown flax grows straighter and of more uniform height—a great object when the fibre is most desired. The weeding of the crop, if the soil had not been well prepared, is a tedious operation. When well prepared, as stated above, the few weeds will be easily pulled out. Hand-weeding is the only method. The seed is ready for pulling when the beautiful blue blossoms have given place to the seed bolls and they are changing from a green to a pale-brown color. Pulling too soon prevents the ripening of the seed; allowing to stand too long unpulled is injurious to the fibre. Pulling is better than mowing. By pulling the fibre is better. The flax is tied in sheaves, having lain on the ground a few days. It is then stacked for a few days.

The flax is then rippled, and the fibre, by this means freed from the seed, is water rotted or dew-rotted in order that the woolly substance may be separated from the pure fibre or lint. It is then spread on a meadow or pasture to become dry and entirely fitted to be taken to the flax mill, or to be hand-dressed if a mill be not convenient. The whole process requires much care and attention, but it is more simple and easily done than a novice in the business might think. A person commencing the culture of flax for the first time would do well to engage some experienced person to advise him in the work as he proceeds. In any part of Ontario he could, I think, have the advice and assistance of some one from the North of Ireland, where this is a leading branch of agriculture.

Flax may be a very profitable crop. I will give one instance. From 9½ acres of flax were obtained 91 bushels of seed; sold at \$2.87½ per bushel, and 4,299 lbs lint, which sold for 25½ cents per lb., making the product of an acre \$141. It cost \$11.13 per acre to dress the flax. I always found it the most profitable crop, and I grew it for many years. When the seed can be so profitably used in feeding beef for the English market, it might pay to give more attention to flax-growing.]

SIR,—Can you inform me what to do to destroy the slugs in my garden. They nearly destroy everything. I have been using a great deal of salt and wood ashes, and I cannot destroy them.

J. H., Centralia, Ont.

[The remedy you have tried—that of applying ashes and salt for destroying slugs, is generally recommended, but still at the best it is never more than partially successful. Gardeners are in the habit of entrapping by laying leaves of lettuce, under which they are found every morning and killed.]

Stock Raising.

SIR,—Durham bull breeding is nearly as risky as attempting to be an orator. Many try but few excel. A Shorthorn bull should not be over large, but neat and compact. Not coarse in the bone, and on short legs, evenly covered with flesh, straight back, strong loins, ribs arched well from the spine and closing well with the pin, large hind quarters, well filled in and fairly let down with flesh in the thighs, thick through the heart, with good width between the fore legs, giving plenty of room for the lungs to play, as that is the most vital part. Shoulders well set in; the neck full at the shoulders and tapering to the head; head broad at the top; strong horn, but not coarse, little flat at the root, fine in texture, white, with waxy appearance; a large prominent eye, which generally denotes mild temper; mouth wide, nostrils large and open; soft skin, but not thin and papery; plenty of soft hair, with a velvet touch and a little curly, masculine appearance, but not coarse. A cow or ox-like appearance should be avoided in a bull. It denotes a want of strength of constitution, and in a side view, when at his ease, his head should be slightly risen above the level of his back, all the legs at ease and standing on plenty of ground, and not have his legs cramped under; should move with freeness and ease; tail small and drop straight, which will, if the hind-quarters are well formed, resemble a plumb drop. As to color, that is a matter of taste. I like roan; some condemn white, alleging that it denotes delicacy of constitution. This is all moonshine. Bull breeding requires very great care, and but few cows are suitable for that purpose. No more fatal mistake can be made than to select a large cow of coarse type. Now, you will find that the best of bulls have come from cows of smallish size, well grown and rich in quality, with purity of blood, sound constitution. Now, we seldom find all these points I have mentioned equally developed, but it should not be forgotten by the breeder that if one side, male or female, be deficient of a point or points, that the other side should have the points very prominent. Now, in calf rearing it is a great gain to treat this class well, as common sense should surely teach people that the stomach of the newly born requires nature's food through nature's mode of obtaining it, and that sucking the dam is the best way to make a good animal, and as natural for the calf as the foal or lamb. In this country, from the price of labor and ever-increasing trouble to get such kind of work done as milking and calftending, it is really the most economical mode. Every close observer and careful breeder well knows that we never should lose what we call the calf flesh, as it can never be fully replaced if once lost. The firm, yet mellow touch and nice skin, is visible through life, but if put on skimmed milk when only a few days old, and then allowed to drink its meal from the bucket as fast as it may choose, sometimes too hot and other times too cold, and again too much at one time, the bright eye and healthy appearing roan fade away, the stomach becomes over large, back sharp, thighs thin, neck small, eyes sunken, spirits lost, and frequently ends with scours and death. Now, we only need look at the cuts in the old herd books and compare with those of the present. They can scarcely be recognized as the same breed, and the difference in their robust constitutional appearance is surprising. The present race is altogether superior, and it has all been accomplished by paying proper attention to the selection of mating them.

R. N., Bryanston P. O., Ont.

SIR,—I have a piece of land, several acres, on which I for two years have grown potatoes and other roots, and which is so rich now that I know no grain that we have will stand up; in fact, I know that it will all rot. As I want to seed, how can I make the grain stand up so the grass seed will take, and what kind of seed is the best, taking all things into consideration? I have heard that lime and salt are good, but I would like to know the quantity. Yours, most respectfully,

G. W. B., Upper Southampton.

[If the land be so rich that a grain crop will not stand, as you say, but would smother the young grass if sown with it, sow Hungarian grass, millet, or corn, instead of cereals, and then when they are cut, sow with timothy, adding in the spring clover seed. Lime and salt would not stiffen the straw to prevent its lodging in this case.]

The Benefit of Snow.

SIR,—While all farmers admit the value of snow as a protection to the fall crops and the roots of such plants as remain in the ground through winter, some doubt if there is any other benefit from it, and say that it has no fertilizing values. If this be correct, how is it that the crops are invariably better the seasons succeeding a good old-fashioned winter, when the snow is deep and long on the ground? A few words on the subject would be very acceptable to

AN OLD SUBSCRIBER.

[Every farmer understands the value of snow as a protection to winter crops and the roots of perennial plants, but above this it has a real manurial value that but few comprehend. A supply of ammonia is one of the conditions of vigorous plant growth. This compound of nitrogen and hydrogen, in its uncombined state, is a gas, lighter than air, invisible, and of a pungent odor. Water absorbs it in large quantities, when cold, but parts with it as the temperature rises. When dissolved in water it is known as "hartshorn" in common language.

Ammonia is formed, in greater or less quantities, in the decomposition of all organic substances, but most abundantly in the putrefaction of animal matter. When thus formed it passes into the air as a gas. The atmosphere generally contains an appreciable mixture of ammonia. In cold climates, after heavy winter rains, or after the ground has been covered with snow for weeks, and the cold has suspended the decomposition of organic matter, ammonia cannot be detected in the atmosphere. Rain or snow, falling through the air, takes up its ammonia and carries it to the earth, where it is absorbed, if the ground be loose and porous. But snow, being cold and porous, is one of the best absorbents of ammonia. On thawing, it carries its fertilizing store into the soil.]

SIR.—1st—I have a valuable young mare that is capped on both hind legs (that is what they call it round here; I do not know the veterinary name for it.) She has been so for eighteen months.

2nd.—I have another with a thoroughpin. Would rubbing be of any use? Neither of them are lame.

3rd.—When is the proper time for cutting western fodder corn?

OLD SUBSCRIBER, Nairn, Ont.

[1st.—Capped hock is the name given to any fullness or enlargement of the natural cap or joint of the hock. The cause of capped hocks can be given in two words, viz., external injury. This may be done by kicking in the stable or in harness. A horse may bruise his hocks by slipping down on his haunches; even lying down on rough stone pavement without bedding has been known to produce this blemish. Capped hock does not make the animal lame, not at least in an ordinary form. It is possible in a case of unusual size that stiffness may be observed in the motions of the joint, though this hardly ever amounts to actual lameness. So far as the animal's utility is to be considered he is quite as serviceable with a capped hock as without one. Treatment is really more a matter of choice than a necessity. Some recommend blistering, others puncturing, and others the firing-iron. Each of those have been attended with only partial success. We would recommend the use of some cooling lotion, followed by constant hand-rubbing. If followed up will tend to reduce the enlargement very much if not altogether.

2nd.—Thoroughpin is a distension of the capsular ligament from increased secretion of synovia, found at each side of the hock-joint, and when pressed on one side shows itself more prominent on the opposite side. It is generally accompanied with bog spavin. Over-exertion is the great exciting cause in young, growing animals. It often occurs without any assignable cause, more especially in rough, coarse-boned animals; in those it generally disappears as the animal grows older. We seldom find an animal lame from it.

Treatment—Keep the animal quiet, and apply cold applications, but continued pressure, with either a bandage or a truss, is the only sure remedy.

3rd.—The proper time for cutting fodder corn will depend somewhat on the time of sowing and locality. If the corn is sown early it should be cut as soon as the grain on the ear begins to

harden a little. In localities where it does not ear cut as soon as the stalks seem matured and before the leaves begin to turn brown; but if sown late perhaps you will not be able to let it stand even long enough for that, as it must in all cases be cut before any frost comes, or much of its value for feed is lost.]

Scabies—Potato Disease, Cause and Cure.

At a late meeting of the Potomac Fruit Growers, Prof. Taylor, Microscopist of the Agricultural Bureau, proceeded to speak of a disease to which the potato is subject, the *tubercine scabies*, or potato scab, in substance as follows:

It is thought by many that this is caused by insects, especially by the Colorado potato bug.

Entomologists oppose this view. Mycologists also insist that the scabies is a fungoid disease.

The Professor then detailed various experiments he had instituted for the purpose of settling the question.

These experiments indicate that the fungoid disease, scabies, by breaking the skin, expose the potato to the ravages of insects. All the specimens I have examined (and they have been very many,) and which were correctly supposed to have been eaten by insects, were found to be affected with this disease, which has paved the way for the damage done by the insects. If therefore the disease can be cured or prevented, these insect depredations will cease.

Scabies is not a new disease. It is common in Europe as well as in America. *Tubercine scabies*, the immediate cause of the disease, like all other fungi, is parasitic, and has the propensity common to them of setting up fermentation, in organic bodies, under certain conditions. These conditions, in the case of the potato, are found in undrained land and in fermenting fertilizers. It is well known that the disease is confined to certain soils.

The remedy then is obvious, as it has been found that well rotted manure, light soils, well drained land, and favorable climatic conditions, will produce tubers free from this fungoid disease, and consequently free from insect depredation.

G. F. N.

SIR,—In the *ADVOCATE* of November, in the poultry column, I saw a paragraph about caponizing cockerels. I presume caponizing is of the same nature as altering other male animals. If so, please inform me how it is done, and if you think it is of as much benefit in feeding poultry for the market as steers for the stalls. How do you know when bones are sufficiently burnt to be of most use to poultry? Are they necessary when lime is fed? Whether are raw turnips or potatoes the better for green winter feed?

J. L., Kintore, Victoria Co., N. B.

[The art of caponizing has been known for hundreds of years, but has never come into general use. There is difficulty and danger in the operation. We do not know of any one who treat their fowls thus successfully. If there are any who have found the operation profitable we would like to hear from them. Burnt bones are considered good by some. Burn, not excessively, but so they will pulverize easily. Fowls are very fond of oyster shells burnt and pulverized. Old mortar, pounded moderately fine, may take the place of either. Oyster shells are highly spoken of by authorities on the subject. Neither lime nor bones are required when feeding them. Potatoes, from the large proportion of starch in their composition, are not good fed unmixed as a regular diet, but when boiled and mixed with bran or meal will be found beneficial. Raw turnips or cabbage are preferable to potatoes chopped fine before feeding.]

SIR,—I have been very much pleased with the *ADVOCATE* during the past year. I have derived a good deal of useful information from it. I believe in your style of mixed farming. Farmers should feed more on their farms, and sell less grain and more stock, as stock is in such good demand now. I have five head of two-year-old cattle, for which I was offered fifty dollars per head before Christmas. I intend to keep them till spring. Please send along the *ADVOCATE* for another year.

J. C., Clinton P. O., Ont.

Complaints from New Brunswick.

SIR,—I think you should try and impress on the minds of our great men at Ottawa the necessity of admitting flour and grain duty free, especially corn and meal. I am aware that such a course might not be very popular with a good many of your subscribers; but I cannot imagine what objection the Ontario farmers can have against cornmeal coming in free of duty. We have to pay a tax of 50 cents on every barrel of flour we consume, which alone benefits Ontario. I think they should be satisfied with that, and allow us to import meal to fatten our cattle and hogs. There were five pounds of meal imported before the duty was imposed to one now. We could then fatten our own hogs and feed three head of cattle for the English market to one now. There is a great scarcity of money here, and we are so heavily taxed for the good of Ontario and to build a railroad for the benefit of a few British Columbia Indians, that it is with difficulty we make the smallest payment.

H. P., Waterville, King's Co., N. B.

SIR,—On this festive anniversary I think it strictly in order that I should manifest a little of the prevailing sentiment by renewing my subscription to the best agricultural Journal in the Dominion—the *ADVOCATE*—and take the liberty of saying to such of your readers who have not already done so, "go thou and do likewise." I have been pleased to see in your late issue that you have a good word for the Maritime Provinces. Previous to your eastern tour last summer one might infer from your Journal that Ontario was all of Canada. Since then, however, we have nothing to complain of on that score. Nearly a decade and a half ago the present Dominion Finance Minister was wont to tell us that the Maritimes were to become to the Confederated Provinces what New England is to the neighboring republic—in a manufacturing sense. "Why," said he, "our very geographical position ensures it; we must come to manufacture for the Union," though, from our standpoint, "a consummation devoutly to be wished for." I must say, up to the present, it is at best prospective, though I fancy it will require some Syndicates to bring it about. So may it be. I seldom attempt anything for publication, but if the present effort should find favor so be it; if not, just light the gas with it, that it may at least contribute to the diffusion of a little more light.

A. D., Sussex, N. B.

SIR,—Having seen in a former number of the *ADVOCATE* a letter on pruning orchards, perhaps my experience of 12 years will be a benefit to some of the readers of the *ADVOCATE*, as there is a vast difference of opinion concerning the proper time for pruning. I have pruned in the months of February, March, April and June. The month of June I positively object to, for this reason, the destruction of leaves and blossoms. It don't injure the trunk so much by making wounds as by bruising the tender shoots, which wither away and decay, so that it will take two years to recover the damage done by drawing out the branches that have been cut away. I prefer the month of February for old orchards, and when I prune old trees I always paint the wound. The paint will dry and get hard before the sap starts, as it takes about four years for a limb two or three inches through to heal over, and larger ones hardly ever heal altogether. I find the latter part of March and April the best time for pruning young trees. I pruned a young orchard three years ago, and last spring I was surprised to find, in two seasons, the wounds were nearly all healed up, and the trees were thriving well. I also find when I cut close up to the trunk, that the wound heals faster than when the stump is one inch long, for decaying takes place at the end of the limb and the bark comes off, and in some instances cause the trunk to decay. I have endeavored to show the right and wrong. Remember that in no case should the burr encircling the base of the limb be cut. And also as regards the manuring of orchards, I prefer spreading the manure all over the ground, as the succulent roots are mostly at the extremity of the roots of the tree. If piled up close around the tree it only manures as far as the wash flows from the pile caused by the rains that fall on the heap. Therefore it is better to spread all over the ground; the trees will thrive better, bear more fruit and live longer.

M. S., Pickering.

From Nebraska.

SIR,—In the December No. of the *ADVOCATE*, I saw an article headed "Caution." "The strong appeal made in behalf of the Nebraska farmers who are threatened with actual starvation, consequent on the utter failure of their crop," is an appeal confined to the Eastern part of this continent, for we know nothing of it here.

The Nebraska farmers know nothing about, neither do they require or wish for any benefit by such appeal, for they as a State have enough and to spare. Nebraska is daily exporting immense quantities of wheat, corn, cattle and hogs. True, there are some cases where men have gone too far West for the sake of getting large quantities of free grant land, having little or no capital; the crop was much lighter than usual, especially on new breaking, therefore you hear of isolated cases as if they were general.

There is considerable distress in some of the western counties of Kansas, but not in the middle or eastern counties.

The South-eastern part of Nebraska, where are a great many farmers from Ontario, is a very fertile country. We think the climate to be unequalled, the soil unsurpassed, and the people prosperous, contented and happy. We have good market facilities, being less than five hundred miles from Chicago, with three competing lines of railroad thereto.

By inserting this in your ever welcome monthly visitor, it will be only doing justice to a large number of Canadian farmers, who have adopted this State, as in their judgment the most favorable country for them in which to secure comfortable homes for themselves and families.

J. D. W., Lincoln, Nebraska, U. S.

[The above letter from one of our subscribers we publish, as we wish at all times to give fair play to disputants on any subject in our paper, and we have every confidence in the truthfulness of our subscribers. The strong appeal made in behalf of Nebraska was merely a reprint from an American paper, the writer of which probably used the word Nebraska thoughtlessly for Kansas, where the distress, it is admitted, does exist.]

SIR,—I must confess that I, in common with the other farmers and stockmen of the Dominion, owe you a great debt of gratitude for your fearless action in preventing the infection of our herds by unrestricted cattle traffic from the United States. There can be no doubt that were it not for your promptness in discovering every sign of danger and your rousing the people and the government to enforce the strictest restriction, contagious diseases would before this have obtained a firm foothold in Canada, to the incalculable loss of stock-owners and shippers. Persevere in the good work. Americans are making efforts to prevent the wide spread of pleuro-pneumonia being known. This they have done from the first outbreak of the disease. They at first denied its existence in the States at all, and some Canadians (shame on them) backed them up in their denial. You forced them to abandon that line of defence. Lately they say the plague is confined within very narrow limits—a few towns in the East along the seaboard. In this they are continually contradicting each other. There can be no doubt of its being firmly seated in the States of Connecticut, New York, Jersey, Pennsylvania and Maryland. This is a fixed fact. Besides it has been proved that cattle imported into England, affected with pleuro-pneumonia, undoubtedly came from the Western States, over lines of rail north of any localities known to be contaminated. 'Tis true that an American writer says the Western herds cannot be infected from the East, where it is now admitted pleuro-pneumonia exists, inasmuch as "Western herds had received no accession of members from the East." With all due respect, we differ from those who make this statement. The *Western Stock Journal*, in a late number, which I had the opportunity of reading, says: "This is a danger to which we of the West have given too little heed. It seemed so far away as not to immediately concern us. It is high time we awake to our danger. Thousands of calves have been shipped to the West from dangerous districts; and a little more listlessness on our part, and, through us, on the part of Congress, and the extensive herds that are the pride of the West will be innoculated with this contagion that extermination of herds can alone suppress."

A CANUCK, Amherstburg, Ont.

Value of Various Fodders.

The truth of this matter is that these theoretical values are all we have to guide us, and are by no means satisfactory, and never can be, although many very elaborate experiments have been made to verify them in practice. More especially is the difficulty found in feeding milking cows, when the product of milk is made the test of these supposed values; for a great deal depends upon the manner in which the fodder is prepared for the cows.

For instance, last winter I fed for two weeks to fifteen cows some excellent, clean timothy hay, bright and green, but consisting almost wholly of stalks and heads—just such hay, in fact, as would be thought the choicest kind of horse hay, and worth to sell one half more than mixed clover hay. But the product of milk fell off nearly one-half, and the butter was very inferior. I was surprised, however, to find on the last days of the two weeks that the cows were gaining rapidly in milk, and in searching for the reason found it in the fact that they were eating up their bedding as fast as it was thrown under them. The bedding was sweet marsh hay cut on a swamp, and thought to be dear at \$5 a ton, the price at which I bought it. To verify this, the marsh hay was fed for a whole week, and the timothy was used no more. The milk kept gaining the whole week, and was nearly up to the former weight when the cows were fed on mixed clover, red top, and blue grass, such as is known as the best cow hay. This was fed, cut and wetted to a thin mush, with steeped malt sprouts and lin-seed meal. This mode of preparing the feed produced the most milk I could get from the cows. When the same hay was fed long and uncut, and the sprouts and meal were given separately and dry, the milk fell off again more than one third. There is much to be learned in the matter of feeding. We are as yet only on the threshold of our knowledge of the art. I am sure that the feed is better digested and more productive by mixing the fine and bulky together and adding some moisture; perhaps it is better masticated and made more digestible by the mixing.

The value of the food given to cows in a year's feeding is enormous. To use this to the best advantage is of vast importance, because it may easily be used so as to lose one fourth of its possible value. Here is a great field for investigation by experiment stations, which should not be alone devoted to the growing of crops. For what is the profit if a farmer should grow great crops and lose a large portion of them in the feeding of them to his stock? I am an advocate of cutting, grinding, and mixing food. I have practiced it for twenty years, and am satisfied that in that time it has been a saving to me of one-third of the fodder and grain that have been used. Now, if this is so, it must have an important effect on the values of coarse fodders especially, of which the indigestible portions are greater than those of the finer fodders.—[Correspondent.

For want of space we have been obliged to hold over considerable correspondence until next issue.

Crevice in Forest Trees.

M. Des Cars recommends cleaning out the bleeding crevices which occur in the ash, elm, walnut, oak and other species with a sharp tool down to the bottom of the diseased part, and apply coal tar, repeating the process if necessary. Du Hamel advises the removal of the affected parts down to the live wood and covering the wound with cow manure, mixed with straw, then binding with rags fastened by osier or other ties. These crevices are usually caused first by some injury from which the sap continues to ooze until it bleeds the tree indefinitely. Insects find lodgment in these crevices, and rottenness appears and extends until the tree is destroyed unless the trouble be successfully treated.

A factory has been discovered at Milwaukee from which 12,000 lbs. of oleomargarine are sent out every day, with no mark to distinguish it from genuine butter.

Prof. Riley says that kerosene, or oil of any kind, is sure death to insects in all stages, and the only substance with which we may hope to destroy the egg. Oil will mix with milk, fresh or sour, and thus may be diluted to any desired extent.

Cause and Cure of Hard-Churning.

A complaint comes to hand of having to churn six or seven hours, though the cows get besides the best of hay, "beets, shorts and plenty of salt." The smaller the fat globules of which cream is composed, the more difficult they are to churn. As a rule they grow less as distance from the time of calving increases. At this time most cows have been a long time in milk, and are fed mostly on dry feed, and are often losing flesh, and perhaps pinched with the cold, all of which tend to diminish the size of the fat globules and make them hard to churn. If some oatmeal, or some food rich in fat were fed with the beets in place of shorts, it would improve the churning. All such food tends to make larger globules than shorts. But the churning could be made very much easier without change of feed, simply by setting the milk as it comes from the cows on the stove, over a kettle of boiling water till it rises to 140 or 160 degrees—till the wrinkles on it move pretty rapidly over its surface—and then setting it away in the milk-room, not so deep but that it will cool to the temperature of the room in from twelve to fifteen hours. This will not only make the churning easier, but will give the butter a higher color and flavor and more of it than if the milk had not been heated. Another reason for prolonged churning often occurs in the winter from keeping the cream too long. Where the milk and cream are kept at about 60°, the churning is best done from two to two and a half days from the time of milking, but at this time of the year it is often kept till it is a week or more old, and by this time it becomes so sour and slippery that the churn has but little effect upon it, and it must be operated the longer to make it come. If the cream is kept so cold as to stop or retard change, it must be kept a longer time, but then, unless excluded from the air, it is liable to get bitter and injure the butter. The better policy is, in the great majority of private dairies, to keep the milk and cream at a medium temperature and to churn often while the cream is fresh. It should not be later than the first approach of acidity, and just before souring, is better both for the butter and the churning.—Prof. L. B. Arnold.

Abortion in Cows.

I am more than ever convinced that close cellar cow-houses, crowding together, slanting floors and stanchions, are among the chief causes. I am quite satisfied that filth of all kinds is a prolific source of this increasing drawback to the dairyman's success. I know that annoyance from any cause, especially if prolonged, is very liable to cause abortion. Cows of a fine, delicate organism are prone to abortion, and in my experience have often aborted from causes which did not affect others of a coarser, stronger organism. Many persons throw all sorts of animal matter around the premises to which cows have unlimited access at all times. Hogs and other animals are killed, and the refuse allowed to decompose and emit foul orders, quite often to the contamination of the whole surrounding atmosphere. Dead chickens, lambs, pigs, etc., are allowed to lie on the top of the earth, which ought to be securely buried. The placenta of cows, and even the aborted fetus, are often left above ground, or merely thrown on the manure heap—possibly partially covered, to be entirely made bare by the scratching of poultry, etc.

Sympathetic abortion is quite extensive, and is the leading cause of the spreading of this dire evil among herds. I am not acquainted with any law of physiology which would warrant a belief that lack of phosphates in the system would directly be liable to cause abortion. It might cause disease, and which as an effect might culminate in abortion. Abortion, in my opinion, is not a disease, but always the effect of disease, or some exciting cause which for the time being is a disease. I cannot agree with some, that poor cows and a poorly developed fetus are common accompaniments of abortion. My experience is exactly the opposite, not only with regard to abortion, but also as regards puerperal and milk fevers, and also all other parturient troubles. To prevent abortion, keep dogs away, also cross men and boys; keep delicate cows aloof from the common herd; on no account allow any animal to annoy or tease any of the cows; give no ice water, or frozen or foul food of any kind; keep from slippery places during the winter; feed regularly, be kind, give pure air and all the sunshine you possibly can. Above all things keep an aborting cow apart from the rest of the herd. The best use of such cows is to fatten, then they can do no harm.—W. Horne, V. S., in Country Gentleman.

Window Gardening.

The question is often asked: How often should I water my plants? Although a seemingly simple question, it is under all conditions a difficult one to answer, as some plants, even of the same kind, require different supplies under different conditions. Take geraniums, for instance. When growing with full vigor, with the pots well filled with roots, there is but little danger of giving too much. Every day will not be too often if the weather is clear. Take the same plant with but a small number of leaves on it, and newly shifted from fresh soil, but with few roots, and watering once a week may even be too often for it. All soft-wooded plants growing vigorously require an abundance of water; always when they are the least dry, which will be known by the surface of the soil getting white, or when, the side of the pot being tapped with the finger, a hollow sound is made. By feeling the weight of the plants, a little practice will suffice for knowing pretty nearly the condition of them, whether wet or dry.

Plants sparsely supplied with foliage and but few roots require sufficient water to keep them in a healthy condition; but care must be taken not to approach anything like a saturation of the soil. Succulent plants—such as agaves and cactuses—require but little water. When at rest, their succulent leaves serve for storing up water sufficient to keep them in a healthy condition for a long period. Deciduous plants—such as fuchsia and crape myrtle—during the time they are without leaves should not, however, be allowed to get too dry. As the stem and branches evaporate moisture, sufficient water has to be given at the roots to supply this evaporation; for, if not, the roots will eventually shrivel up and die.

The temperature of the water supplied to plants should be about the same degree as the temperature of the room in which the plants are growing; or, if a little higher, will be a benefit, rather than anything else. And when water is given, sufficient should be applied to thoroughly saturate the soil. A mere dribble on the surface does more harm than good, as it draws up what moisture there may be in the soil below where it is wet. Plants should not be allowed to stand in saucers filled with water. Give sufficient water to run through the soil into the saucer. But then empty it out and do not allow the plant to remain in it. During cold weather watering is better to be done in the morning, as then all superfluous moisture gets a chance to evaporate before night.

The temperature at which plants should be kept during winter is lower than a good many would suppose. High night temperature to both greenhouse and windows is injurious, the results of which are weak and slender growths, with but few flowers being produced. A temperature of 45° during the night, with 60° to 65° during the day time is high enough for most plants. Of course there are plants that require a good deal higher temperature than this, but they are not so well suited for window culture. The main aim should be a steady temperature more than a high one. A high temperature to day and a low one to-morrow has a very injurious effect upon all kinds of plants, and should be avoided as much as possible. Pans for evaporating moisture should be kept on the stoves during severe weather when plants are growing. It not only helps to prevent gas from having an injurious effect, but modifies the temperature to a great extent. The most effective way of fertilizing plants in pots is by applying it in a liquid form. Caution is necessary, however, not to apply it too strong. Weak and often is the best method and has the most beneficial results.

The Germantown Telegraph advises that the best time for cutting grafts is not, as is generally directed, in the fall, before severe cold weather sets in, but that grafts taken in February, tied up, and buried in the ground under a shed, or in a dry place, are more apt to do well.

THE "Maple Leaf Farmers' Association," of Fitzroy, is making great progress. On the 18th of January they held their annual meeting for the election of their officers; they report that the members have derived much benefit from their connection with the association.

PRIMULUS.—The single-blooming Primulus are as valuable, but not at all comparable to the double varieties. They are as easily cultivated as the others and bloom more freely. It is love at first sight with every person who sees them. If allowed they would bloom all the year round, and at this time throw up their spikes in crowds when protected.



The Family Circle.

"Home, Sweet Home."

VIOLET WOOD'S HUSBAND.

A STORY IN THREE CHAPTERS.

CHAPTER I.

Somehow or other they had become great friends. Not that they were men cast in the same lines, but circumstances—that huge factor in human actions—had induced them to be very frequently together.

Later on, as Beesly came up to town to eat his dinners, the two friends took a suite of rooms together in Gray's Inn; chambers, Gretton remarked, which would permit them comfortably and with becoming patience to await the hour when fame and clients should present themselves.

It was perhaps some two or three years after the establishment in Gray's Inn had been set up that the latter came home one night from a musical drama in an unusual state of elation. "Shut up your law-books, have done with prose," cried Gretton, flinging down his hat. "Elliott, my boy, I've seen my fate!"

"What's that?" laconically asked Beesly without looking up from his arm-chair.

"My fate! Get out, you fusty lawyer; an angelic being in swansdown, and—Heaven knows what, with eyes that bowl you over. None of your mincing misses, tottering and drooping their eyes—nothing of that sort—superb lines, my dear boy, and such a smile."

"Admired your singing, eh?" inquired Mr. Beesly slowly, as he puffed out rings of pale blue smoke, and watched them rise and vanish into air.

"Well, I flatter myself that 'Once Again' really went off to-night. I never felt in better voice in my life, and Miss Wood is quite a connoisseur—knows what's good, I can tell you. I saw myself how she appreciated the crescendo passage," cried Mr. Gretton in elated tones.

"Quite affinitive, eh?" continued Beesly. "Quick work! But these things are instantaneous—like photographs of dogs and babies—I suppose."

"What a laconic beggar you are! I should enjoy seeing you in love with Miss Wood, head over heels, do you hear?" cried Gretton, helping himself to a brandy and soda. "You wouldn't have a chance; she's surrounded with men, and I can tell you it would do you a lot of good. I'm to lunch with the Woods on Friday. I'll take you to call on Sunday—no refusal, look upon the thing as fixed."

Mrs. Wood lived in a roomy house in one of the squares lying between Bayswater and Kensington Gardens. She had been a handsome, showy girl in her youth, but all traces of beauty had been washed out by the process of time. She had become hopelessly fat. She was not indeed more silly now than when she first gave her hand and fine person into Mr. Tobias Wood's keeping; but the triviality that is admissible at nineteen, with fine shoulders and the right turn of throat, is not to be tolerated in the same being grown hopelessly out of all proportions. Hers was not of the progressive order of mind; she literally stagnated, and submitted herself passively, with plump, folded hands, to whatever fate had in store for her. The news of her husband's death she accepted with Christian resignation, finding even in her deep crape loops of comfort in the fact that the late stock broker was buried in the most expensive manner, and that mourning really did become darling Violet wonderfully.

Mrs. Wood's love for her only daughter was at once her redeeming point. She idolized this girl, who was a refined and more delicate version of herself in the past days, and entered into her amusements and successes as if they had been her own. The stock-broker's widow was a genial lady, who lived at all times, as she expressed it, "to see young folk about." She kept open house, and gave no small number of dinners and dances, so that Miss Violet's admirers found her a by no means inaccessible goddess. Accessible she was at most times, approachable at few, for Miss Wood was not entirely as other young ladies; capricious and fantastic she was at moments, melancholy and desponding at others, but at no time to be subdued by ordinary means.

Gretton and Beesly were well received from the first in this hospitable house, so that the tenor's ardor increased rather than diminished, and the two men got into the habit of being there frequently.

Mr. Andrew Gretton was a man on whom fortune had been pleased to bestow a handsome person, a tenor voice, and sufficient means. But society, like the wicked fairy tale, had added another gift that well-nigh nullified the other attractions; she has given Mr. Gretton, namely, an exaggerated perception of his own superiority to the world at large. Society had patted him on the back, he had been likened unto Eario, he had been gushed over by maiden ladies, and had been taken into mamma's back drawing room and confidence. In short, Mr. Andrew Gretton had become a trifle spoiled.

"How could a nice girl—a girl like Miss Wood—come to have such a mother!" said Gretton one night, as he and Beesly left the house in Bayswater, and lighted their cigars preparatory to halting a hansom.

"I should rather put it that it was exceedingly clever on Mrs. Wood's part to have produced a daughter like Miss Violet," answered Beesly. "There is something special about that girl; there's a fine cut, a nicely about her; she wasn't ready made, nor, I take it, turned out of a mold."

"Yes, yes, of course; the girl is everything she should be, but my dear boy, the mother; what a mother-in-law! Ye heavens! no, by Jove, I should have forgotten myself long ago and gone in for the girl, but for the mother," exclaimed Andrew. "By the bye, old man, you heard what they were

saying to-night. They want us to come over to Paris for Christmas. It's like my luck to have booked myself for almost every week in January, and to be obliged to go and eat my plum-pudding in Yorkshire. I wish you would run over and look after the Woods; they will want some one to see them about, and take them to the theatres, and you can trot Violet round, and see those little French fellows don't get at her."

"We're not sure we want the bone ourselves, but we object to anybody else having it, eh? Never mind, my boy; I'll go over and carry Miss Wood's parcels. Am I to make meteorological reports? Weather fair, daughter calm, mamma moderate, and that sort of thing?"

"Of course you must let me know what is going on, and perhaps I shall be able to run over," replied Gretton, who always had a hundred plans. "Did you hear that old fellow Cadbury to night saying he would go?"

"What, the silent old boy with the whiskers?" asked Beesly. "I never know what he does at the Woods; he never speaks, but he is always there. One gets to look upon him as a part of the furniture."

"He's got a lot of money," returned Andrew, "and has proposed no end of times to Violet, Mrs. Wood tells me. The old idiot hangs round, asking *les yeux douz* at Miss Wood. Isn't it a capital joke? Ha! Ha!"

CHAPTER II.

Toward the middle of December the Woods found themselves comfortably ensconced in Paris in one of the many hotels that look into the Tuilleries Gardens. Mr. Cadbury had been unable to leave town; so Elliott Beesly had escorted the mother and daughter over the Channel, and had already written to his friend Andrew, telling him how things were going on.

It did not occur to Beesly that any difficulty could possibly arise out of the situation. He had in his nature a tinge of old-fashioned chivalry, which he often enough covered and hid away with brusque speeches, but he was at the same time the least susceptible of beings to that emotional side of man that is engendered by the proximity of pretty women. He had absolutely nothing of the flirt about him. Without a shade of cynicism, he often enough confessed he had never, with the most fascinating maiden, got beyond the desire of seeing her happily married to somebody else.

He was a hard worker and a great smoker; these habits alone, apart from the bent of his mind, might have prevented him being anything of a lady's man. It was therefore in perfect good faith that he accepted the charge half jestingly laid upon him by Gretton, and in his ignorance, one might say innocence, of such matters, found himself, in less than three weeks, in the great crisis of his life. How much mere accident, or the circumstances in which we are thrown, influence our actions and bend our purpose, is not generally admitted. If any one had told Elliott Beesly, as he lighted his cigar that foggy November night in Bayswater, that in a few weeks' time he would be madly in love with the young lady to whom he had just so coolly bade good-night, he would have smiled upon him commiseratingly, and looked on him as mad. He would have told him that it wasn't his line of business, that the emotions were an extra to the every-day fare, the heavy price of which no man in his senses would care to pay. He would have argued that a man can help falling in love if he chooses, and that in this case the young lady was given in a way in trust. He would have talked for half an hour in the same strain, and convinced everybody, and more than everybody himself.

But our theories are, of all things, variable—we say such and such things are not, for the simple reason that they have not happened to us.

It was, therefore, without a foreboding that Elliott Beesly took up his abode in the Rue de Rivoli, and proceeded to offer his services to Mrs. Wood and her daughter.

Now, the widow was extravagantly fond of French finery, and nothing would satisfy her but an outfit in Paris for the next London season. Dresses she must have at Worth's, bonnets at Mme. Verot's, while at the same time she took a childish delight in having her large good-tempered person pushed about and carried along—as if on wheels—by the crowd in the Louvre or the Bon Marche. The worthy lady delighted in bargains, and was wont to buy car-loads of goods, of which she would make no use, for the simple reason that they were cheap.

Miss Wood was a young lady who preferred her own taste to everybody else's, and perhaps she was not far wrong. She designed her own dresses, had them made up in Baker-street, and had been known even to have invented a hat. She had a peculiar grace of her own that had nothing of a dress-maker's art in it; and, moreover, there was something original in her appearance that never bordered on the eccentric. Shopping in Paris, then, had few charms for Violet; so while Mrs. Wood was trying on mantles and looking at the latest eccentricity in fans, the daughter was free to wander in the Luxembourg Gallery, or spend a couple of hours with the Venus of Milo.

It was thus that Beesly and Violet were thrown constantly into each other's society. Mr. Beesly could not be expected to take more than a moderate interest in bonnets, and Mrs. Wood was only too delighted for Violet to have some one to "do" the Galleries with.

They had been dawdling one afternoon in the Louvre, and had come down by the girl's special desire into the sculpture gallery to look at what she declared to be her favourite statue in the world—the immortal goddess of Milo.

"How is it," cried Violet, as she and Beesly sat looking up at the statue; "how is it that a great work—a really great work—is always new? I wonder," she went on, "how many times I have seen this Venus, yet she always strikes me as the first time I saw her. It is of sensational pictures and catching music that one gets so tired."

"You might as well say why will you be tired of the shape of that hat the day after to-morrow?" smiled Beesly. "One is a mere fashion; we continually alter the shape of our head-covering, but what we cover remains very much the same. A real work of art is, I suppose, the pith and essence of a struggle after what we conceive to be beautiful or true. Look at this Venus, now. She affects us perhaps as much as she affected men when she was first hewn out of the block of marble."

"And there she will stand when we little mortals are dead and buried; just so, with that wonderful, inscrutable smile. Think of the others that will come and look at her as we have done, feeling perhaps, just as we do, the same strange, sad feeling," cried Violet, with a pretty burst of enthusiasm.

The place was quite empty; in the far distance the last visitor was clattering down the long gallery out at the other end. It was already growing dusk.

"You feel that, too; the wretchedness of knowing something beautiful that is beyond us—out of reach?" asked Beesly, turning round to her quickly.

How strange and dark her eyes burned in the twilight; how graceful the subtle lines of her figure; how divested of all coquettishness and consciousness her pose! The dark purple hangings swept behind her, and out through the high window the sun was all red, a-dying in a pinky sky.

She was actually beautiful at the moment, but she was more than that to Elliott Beesly; she was a sweet breathing woman, who made him feel the blackness of his life, who opened out a world of possibilities.

"Something—beautiful—out of reach?" repeated Violet, becoming suddenly conscious under his direct gaze, of the meaning of his words. "I don't know, I'm sure," she stammered.

He watched how the quick color spread over the girl's face and throat, how her deep eyes met his with an entreating, startled gaze. What a fool, ten thousand times a fool, was Gretton not to snatch at such a happiness! Then, with a sudden start, he remembered his friend, and he asked himself what he was doing, looking into this young lady's eyes.

"Bah! I'm talking nonsense," he said in a changed voice. "You must be getting cold, Miss Wood; had we not better be going home?"

After the above episode Mr. Beesly kept wisely to strictly neutral topics with Violet, and for the next few days contrived that the mother of his dangerous siren should be in constant attendance. He even evinced a hitherto concealed ardor for millinery, and insisted upon accompanying Mrs. Wood several times to the jeweler's to see about the setting of her diamonds.

Of course, his conduct was mystifying in the extreme to Violet, who could not help noticing his changed manner. What has she done to offend him? She could no longer conceal from herself the fact that she valued what he thought of her. There was a vein of tenderness in this reserved man, with his hard mouth and cold gray eye, that was a surprise to her who had been in the habit of seeing him constantly for the last eight months. But in London they had been differently placed. He had never called at their house without Andrew Gretton, and had always stood aside to make room for the tenor to warble his love songs, or to drop in mock humility at her feet. She remembered one evening, when she found herself with Beesly in the conservatory, he had jumped on Gretton's approach, and ceded his place to his friend.

Was she too silly, too girlish, to please him? she asked herself. For her experience of men told her that they will be inclined to find the way and means if the object be worth their while. All this was true; but his reserve and coldness had seemed to drop for an instant in the twilight of that afternoon. It was as if she looked through a loophole at some wide vista, of whose existence she had never dreamed; and once having known the view beyond could never be again content with blank walls.

It was, therefore, in much perplexity and nightly questionings that the week went by for Violet. In the beginning of the next a hard frost set in; the air was keen and sharp, the skaters flocked to the Bois, and the sun hung like a red lamp in the sky.

"Oh, mamma, how I should like to skate!" exclaimed Violet, as she appeared for breakfast in the bright little room. "Well, my dear, I've no objection," answered mamma; only you know I can't stand about on the ice, my dear. You must get Mr. Beesly to take you."

"Oh, I wonder if he would mind going," said Violet, who perhaps had her doubts. "Do you think Mr. Beesly skates, mamma?" she went on; "we must go and get skates this morning if he does, and then we might go this afternoon."

So it happened that, in spite of Mr. Beesly's precautions against what he regarded as a culpable weakness in himself, he started out with Miss Wood for an afternoon's skating in the Bois de Boulogne.

In the bright, cold daylight, and in the crowd on the ice, things went off entirely to Mr. Beesly's satisfaction. Violet and he were on exactly the same neutral ground as they had been all the week. But as the sun sank, large and crimson, into the mist, and the twilight grew apace, Beesly could not help recalling the afternoon in the Louvre. Perhaps it was only the same effect of light.

Violet could not help noticing that his hand trembled as he helped her into the little flaccid that had been waiting for them. Did he not linger as imperceptible instant as he drew another wrap round her shoulders? Why did the long drive through the Bois and Champs Elysees seem the shortest drive they had ever taken, and why did Mr. Beesly pay the coachman more than double his fare?

It occurred to both of them, why? "Do not light the candles," said Violet, as they came into the cozy sitting-room, where the fire was burning brightly; "I like the fire-light. This is the nicest hour of the day, I think," she continued to Beesly; and then she threw off her heavy furs and knelt down, holding her pink fingers to the blaze.

"What was the madness that kept dancing in his head?" Beesly asked himself. He felt his brain confused, as if there were no sharp line between right and wrong; felt as if he must throw himself down beside that slim bending figure in the fire light and tell her he could not spare her out of his life. Then he thought of Gretton, and he turned and looked into the street.

There were dancing lights of the carriages, the blaze of the cafes, as they had seen them before. A hurdy hurdy was playing in the road below, and a lounge at a cafe turned at that moment to speak to a smartly dressed girl.

Then something seemed to snap in his brain. "Where is your mother?" asked Beesly in a hard voice. "Still shopping, I suppose," returned Violet. "But why do you ask like that; are you—frightened of me?" she asked with a little hysterical laugh.

"If you like it, I am frightened of you," said Beesly, sitting down; "perhaps I am frightened of myself."

A pause. "Have you any message for Gretton?" he asked, making a sudden resolution. "I think I shall have to go over to London to-night or to-morrow morning."

"Something has happened?" she asked tremulously, turning her face to him.

"Nothing, I assure you. I've been idling so pleasantly, the time has slipped by," he answered in the same cold tone, and avoiding her eyes. "I must get back. Have you any message for Gretton?" he repeated.

"Thank you, none," she answered haughtily, and she stood up with her back to him and leaned her arms on the chimney-piece.

He was going, and in parting had nothing to entreat a message for Gretton. She had been living in a fool's paradise in supposing he would ever have anything else to entreat.

Another long silence. A little flame blurted out from the fire, lighting the room, and throwing their gigantic shadows on the ceiling.

"I am sorry mamma isn't here to bid you good bye," said the girl in a dry voice, without turning her head. "For my part I hate leave-takings."
The flame flickered a little and then went out; it seemed somehow to Beesly, gazing dully into the fire as if with it his hope went too.
"You don't hate saying good-bye more than I," he murmured, as he dashed his hand across his face.
Then he got up and took possession of her hands.
"There are moments," he said looking with a kind of fierceness into her eyes, "when we cannot ask ourselves what we like; we only know what with heaven's help we must try to do."
The next moment the door was shut and he was gone.

CHAPTER III.

On Elliott Beesly's arrival in London he was greeted by a thick yellow fog. Driving to his rooms in Gray's Inn, he remembered he had had no time to send word of his coming, so that he was prepared to find Gretton out. Turning the key of his door he found the carpets up, the blinds down, and a general unaired dampness pervading their rooms. "Gretton is still away, then," thought Beesly. "When shall I get this intolerable business off my mind?"
"Make a fire," he said to the servant. "Were there any letters? Yes, a number on the mantle-piece for both gentlemen."

Beesly picked the bundle hurriedly up; perhaps there would be a line from Gretton saying he was coming back. Nothing but long blue envelopes—unmistakable bill and small square epistles from Gretton's train of admirers. Ah! there at last was Andrew's writing.

Gretton hailed from Scotland, and wrote a long letter, describing his various visits, and the invariable success of his voice and acting connected therewith. He ended up by asking for another fortnight, Beesly was to say all sorts of imaginable pretty things for him. "Pretty things!" The letter made him wince more than once. What was the fellow doing comfortably in Scotland, when Miss Wood was coming to London? Would he be content, Beesly asked himself, to be tuning his pipe in the Hebrides while there was a Violet Wood in the South?

He threw the letter aside, and resolved to dine at his club. The fog was thicker than ever in the street, but on arriving at his destination he was hailed by a number of his friends.

"What have you been doing, old fellow? Haven't seen you. Paris, eh?" exclaimed one of them, as the dinner went on.

"Usual sort of thing, I suppose," said Beesly, with no great show of interest in the topic.

"Ah," exclaimed a rubicund and beaming old gentleman, the jovial man of the club, "you should stay in London—nothing like it, weather is always nice and seasonable."

"So it is," said Beesly, gazing out through the window into an ocean of pea-soup.

"Yes," exclaimed the old gentleman, casting round for some statistics which he had nearly, but not quite, got right; "London is the most healthy; Berlin—"

"So sorry I have to go to the theatre," said Beesly, getting up and wondering why the whole thing seemed such an intolerable bore.

The Frivolity Theatre, however, proved little more amusing than the statistics. Beesly lounged back in his stall, and wondered what all the large audience about him found worth coming to see.

He turned his eyes from the stage and glanced round the theatre. In the second box from the stage there was a lady whose turn of neck reminded him of Violet. His eyes kept wandering to that box, until the young lady turned round and revealed a face of unredeemed homeliness. Beesly seized his hat and hailed the first hansom. There was the same light-discomfort in the chambers when Beesly got back. He lighted a pipe, and then, with an unaccountable feeling of restlessness, wandered from room to room. He lounged almost unconsciously into Gretton's bedroom, when suddenly something on the wall attracted his eye.

It was the photograph of a slim young girl in a white dress. Stuck into the cord that held the frame was a bunch of faded roses. How well he remembered the night that Andrew had begged that nosegay. He wondered that it had seemed of so little importance then. He unhooked the portrait gently, and as he did so the roses fell all dusty and shivering to the ground. It was a photograph of Violet Wood. How true to life it was.

There was her trick of hand-clasp—there her frank, open brow, her clear, direct gaze, in which you seemed to see her very soul. The hair was thrown a little back, and the lips just parted for a smile.

"My darling, this is all I may ever be to you," and he stopped and kissed the portrait on the lips.

Then he hung it up on its hook, and came out and locked the door. It was as if he had just buried the best piece of his life.

The next day, in the more hopeful morning light, he resolved to give himself another chance. Why should he not appeal to Gretton? He wrote to Andrew and told him all that had passed. He did not conceal for one moment the fact that he was in love with Miss Wood; he considered that he owed it to his friend to be open and direct. He knew, of course, the ugly light in which his conduct might be viewed; but he assured him that he had made no sort of proposal to Violet. Beesly conjured him finally, by all that he held most sacred to tell him if he were serious in his attachment, so that they might come to an understanding at once.

In answer to this letter came an unmitigated attack from Gretton. He considered that he, Beesly, had betrayed a trust, that all intercourse from that moment had better cease between them, and further, that he should not dream of entering into the question of his attachment with a man who had proved himself to be deficient in the commonest sentiment of honor.

In the meantime Mrs. Wood had been much perplexed by Violet's behaviour in Paris. First of all the girl evinced a strange desire to go back to London at once, and when the mother demurred on account of unfinished finery, and the thing was put off for a day or two, Violet expressed a wish to winter abroad. This last idea gained ground as the time went by, and no sort of word came from Elliott Beesly.

"What is there in me that he should care for me?" she often said to herself, drearly. "He must, I suppose, have seen that I cared for him, and thought it best to go away. Of course he could not do anything else." She made up her mind to carry off her mother, there and then to Italy, so that Mrs. Wood found herself that winter, somewhat to her surprise, in Rome.

It was in Rome that they first heard through mutual friends of Beesly's departure from Australia; and it was in Rome

that Violet grew seriously ill. She was ordered change of scene and air; so that Mr. Cadbury—who had joined them in Italy—managed to get them a charming villa on the heights above Florence, where they passed the spring and early summer months.

It will be wondered, in the face of Elliott Beesly's departure for Australia, why Andrew Gretton did not again come forward on the scene. But that which is without let or hindrance is, to men of Gretton's stamp, often enough devoid of charm. His grievance once removed, he slipped comfortably into his old mode of life. He had honestly felt himself an aggrieved man in reading Beesly's letter. He was as much in love with Miss Wood as it was given him to be in love with any one; but, after all, Mr. Gretton's emotions were not of the kind that outbalance prudential considerations. In Violet's absence he reflected that she was the most charming of women, to whom he should infallibly propose one day, but he could not shut out the vision of an inseparable mother-in-law, who was not immaculate in the matter of aspiration, and who was liable to wear too much jewelry.

It was, therefore, with a feeling of hurt pride and profound astonishment that Gretton read one morning in the *Times* the following announcement:—

"At the British Embassy, in Paris, Violet, only daughter of the late Tobias Wood, Esq., to Richard Cadbury, of Cromwell Road, S. W."

Mr. Gretton's self-love received a severe blow; but he was not one who sighs long after the unattainable. Violet, then, had married the respectable middle-aged gentleman, and before many months had elapsed Andrew managed to shrug his shoulders over the affair.

As for Beesly, who did not get the news for months afterwards, his friends say he has become a changed man. They wonder what could have happened to him on that voyage round the world, or why he suddenly gave up studying law. His health seemed about this time to have completely broken down, and now, though nearly seven years have passed, he rarely, if ever, comes to London. He wanders about the Continent, seldom staying long in one place, telling himself that it is his business to forget one incident in his life.

Perhaps the perseverance with which he pursues this end is suggestive that he is not one who easily forgets.—*All the Year Round.*

Bathing.

It is important to recognize that the only virtues of water as used by the bather are two—namely, its value as a cleansing agent, and as a surface stimulant. In this last capacity it simply acts as a medium affecting the temperature of the part to which it is applied, or which is immersed in it.

Right views of fact in reference to this matter are important, because there can be no question that some persons overrate the uses of cold water, and run considerable risks in their pursuit of them.

Every beneficial action that can be exerted by a bath is secured by simply dipping in the sea, or a moderate effusion of cold water! Except in cases of high fever, when it is desired to reduce the heat of the body by prolonged contact with cold, a bath of any considerable duration is likely to be injurious.

Then, again, it is necessary to recognize the risk of suddenly driving the blood from the surface in upon the organs. The "plunge," or "dip," or "shower," or "douche," is intended to produce a momentary depression of the temperature of the surface in the hope of occasioning a reaction which shall bring the blood back to the surface with increased vigor, and almost instantly. If this return does not take place; if, in a word, redness of the skin is not a very rapid consequence of the immersion, it is impossible that the bath can have been useful, and in nine cases out of ten when the surface is left white or cold it does harm.

The measure of value is the redness which ensues promptly after the bath, and this reaction should be produced without need of much friction, or the bath is not worth taking. The rubbing employed to recover the circulation lost by the bath would probably have done more good without it! Another effect of the bath when it acts properly is to stimulate the nervous system, through the vast series of its terminal fibers which are distributed in the skin. In this way also the action must be very rapid, or it is not efficacious. Unless the vigor of energy is quickly called out, the agent is useless; and if it produces either drowsiness or depression it acts mischievously, and lowers the power it is intended to stimulate and augment.

Bathers should bear these facts in mind, and be warned by them not to trifle with an agency which, if it is not of value, is worse than useless, and can scarcely fail to do harm.—[*Lancet.*]

A TIDY ROOM.—Do you ever observe that a tidy room is invariably a cheerful one? It is cheering to come into one's breakfast room and find it spotlessly tidy; but still more certainly will cheerfulness come if tidiness is the result of our own exertion; and so we counsel you, friend, if you are ever disheartened, vexed or worried about something that has gone wrong with you in the world, to have resort to the great refuge of tidiness. Don't sit brooding and brothing. Go to work and make everything tidy about you and you cannot fail to recover cheerfulness.

Homes.

The clustering meanings that gather about our dear Saxon word "home" are numerous. It suggests to us a temple of love and truth, of peace, consolation, and rest; the centre of joy and harmony, of all that is beautiful and desirable; and so we come to regard Heaven as a home, differing from our earthly ones only in its perfection.

Of every reality in the world we can in our minds form an ideal, of none a more beautiful than of a home. There should be all that tends to cultivate and refine the taste. Books to invite one to scan their contents; music to soothe and cheer; well chosen pictures, an artistic and harmonious blending of plants, since in each swelling bud and blossoming flower lessons of love and trust may be found.

This is our ideal home—but, sad to say, an ideal too seldom realized. "Every home is a happy one until you see beneath the roof," said a writer in the olden time, and grievous it is that the peaceful-looking roofs so frequently cover disharmonies and indifference, or gathering storms. In these uncongenial abodes, each member of the household has his or her opinion of every subject, if they are strong characters. Each one tenaciously advocates his side of the question; bitter, grieving words ensue, anger and coldness creep into the hearts, till home becomes dreaded, and only a meeting-place for food and lodging, where wearily drag the hours and days. So important are the seemingly little things in a house-life, so many are the causes which produce these sad results, that it is difficult to know on which to descant, or how to make the weight of their importance felt.

Our homes should be the strongholds of our country, since in their influence are the minds of our future citizens and statesmen formed, and girls are nurtured who will raise up other homes fashioned after the models of those they have known.

Every vocation in life requires years of preparation. A life work demands a life study. But a woman whose mission and whose work it is to make the home, too often enters upon her duties wholly unfitted and unprepared, having given no thought to the weight her influence will have there. She neglects her mind, forgetting that the impetus to improvement and culture must emanate from her. She neglects her body, forgetful that good health alone begets good temper. She neglects her manners, forgetting that hers will leave their impress upon every inmate, while she overlooks no fault in others. She descends to idle gossip, too little mindful of a woman's home life, and forgetting that, as in old Rome the Lares made the home, so she now is the presiding and conferring deity.

The training of boys also is rarely that which will fit them to be loving and thoughtful. If mothers would realize this, and educate their sons for husbands, and to be gentlemen indeed, half the sorrow of home life would be avoided. Were boys taught to be courteous, kind, and attentive to their sisters, and were they made to understand that they have a duty to fulfil in the home, we need no longer say as now, that husbands are also greatly responsible for the too universal wretchedness.

They too often address to their wives sharp, discourteous words, "Which they forget and we remember," a young wife sadly said to us the other day. Fully absorbed in their own pursuits, oblivious to the trials and needs of their wives, they offer no word of cheer to those who have labored wearily in dull monotony all day. They give no aid in the education of children, but deem their sole duty lies in providing pecuniary support; failing to read in the careworn, patient face, from which the girl-bloom has too soon faded, silent pleading for a little thoughtful tenderness, a little loving aid. True, they love their wives devotedly; but love, without the nameless little tender acts which it should engender, is as the flower bereft of its perfume; and, alas! too often such love drives away devotion from the grieved heart, while cold duty takes its place.

All must realize this need of our country, all must grieve over the wretched lives and hopes of many households; but to women the sorrow must be keenest, for the fault in greatest degree is theirs, theirs alone the power to rectify it. Let them make it their glory so to fill their appointed place, that from their abodes may emanate and descend influences that for revolving years shall bless other households.

Minnie May's Department.

MY DEAR NIECES.—So many of you are complaining of not feeling well, when, if the facts were really known, I believe you have been eating too much trash at this festive season. You require more variety in your daily food. Some housekeepers, to attain this, only go a round of different kinds of pie and cake. Cake and pie do not supply much actual food, and the good material that is used in them is put in such a shape that the stomach is weary and worn out by its efforts to digest them. This accounts for much of the tiredness complained of by women and girls. They are half starved because their food is poor. The use of much poor food, called "dainties," (I don't abuse these things because I dislike them. I have "a sweet tooth," and know my weakness well enough to understand the weakness of others) spoils the appetite for substantial food. The stomach is feeble for lack of good material in the blood to repair its waste, and it takes food unwillingly because it is tired with overwork—overwork upon the concentrated conglomerations of rich cake and pastry. We must not only "cease to do evil," but "learn to do well;" not only give up the use of unwholesome food, but eat plenty of that which is wholesome. The proper variety is one made up of fruits, grain and animal food, the latter consisting of meat, eggs, or milk in its various forms. With palatable graham or oatmeal preparations, especially where milk is freely used, meat is seldom craved for or found to be necessary to high health or strength, but when starch, sugar and fat preponderate, as in the common fare of white bread and butter, potatoes, pie, etc., a little beef often seems a necessity to one who has to put forth strength. You will hardly believe until you try it, how heartily a plain and nourishing variety of food is enjoyed by those who live with reasonable simplicity? It is easier in every way? All feel better and more good-natured, with no unreasonable craving for confectionery, pickles or stimulants. It lightens the care of children wonderfully. It makes the cooking more simple and easy, and last, but not least, it saves the doctor's bills.

MINNIE MAY.

Answers to Inquirers.

M. J. W.—How can I clean the isinglass in a parlor stove, so as to make it clean? **ANS.**—This is not isinglass, but mica, a transparent kind of stone, which splits in very thin sheets and is incombustible. To make the mica clear, wash it with vinegar and water or with kerosene oil.

ED.—If a gentleman, when calling at the house of a friend, be answered by a lady who is a stranger to him, should he lift his hat? Or, if calling at a house where they are all strangers, should he lift his hat? **ANS.**—We suppose you mean that the lady who may come to the door may be a stranger; of course you should lift your hat before addressing any lady.

SUBSCRIBER.—I have some lard put up in glass cans with light covers; it had turned rancid; what can be done with it? **ANS.**—The cause of this trouble is that lard was not properly strained and cleansed. To cure it melt it in clean iron pot, add some boiling water with a tablespoonful of baking soda dissolved in it and stir thoroughly, then boil on a moderate fire, stirring frequently, then strain into a clean pail. When it is cold cut out the lard and return it into the pot leaving the water in the bottom of the pail. Melt the lard and pour it into the jars again, which need not be closed except with paper tied over the tops.

JOHN.—What would be the proper reply to make to a lady when she says—"Miss Smith sent her love to you?" **ANS.**—A lady never sends her love to a gentleman, unless under exceptional circumstances. A lady may "desire to be remembered" or send "kind regards," you may then say "thank you" to the lady who gives the message, and add "Miss Smith is very kind, please remember me to her when you see her again." Of course

this may be varied in many ways according to circumstances—your relationship or degree of friendship with the lady, &c. In country places it is still customary to send "best respects," and it is a very good style of message, but sounds rather old fashioned.

MADGE says:—Please give a few simple rules, such as whether we should put bread, cake, &c., on the table or on the table cloth beside it, how we should place the knife and fork when we wish to lay them down during the meal, and how we should place them when we have finished, where we should put our bread when buttering it, and whether we should break the egg in the cup, or how it should be managed. **ANS.**—Bread may be laid beside the plate at dinner; at tea or breakfast it is usually put upon the plate to be buttered. Bread used at dinner is not usually buttered. Cake is always put on the plate. The knife and fork are laid on the table just as they would naturally fall from the hands during the meal; when finished with the course they are laid parallel, either straight in the middle of the plate or with the handles inclining to the right. Eggs may be eaten from the shell or broken into cups or glasses. When eaten from the shell the top should first be taken off with a knife, cutting clear across a good portion of the top; it is then eaten with a small spoon.

RECIPES.

ROAST QUAIL.

Rub the breasts of the quail with fresh butter; and as they roast baste often with butter. Cook twenty or twenty-five minutes with a good fire Season and serve hot.

WINE JELLY.

Soak a box of gelatine in cold water half an hour. Add a quarter of a pound of sugar, and pour over it three pints of boiling water, stirring well. When the mixture cools a little, add a pint of wine and the juice of a large lemon. Pour into moulds.

GINGERBREAD.

One cup of syrup, two tablespoonfuls melted butter, one teaspoonful ginger; mix thoroughly together; one teaspoonful saleratus in one cup of boiling water; stir into a shallow tin baking pan, and put it into the oven an hour before dinner time. After it has baked about ten minutes put it under the roasting beef? When the meat is taken up, leave the pudding in the oven for five minutes, then pour off the fat and serve with the meat.

YORKSHIRE PUDDING

To be eaten with roast beef, as one would eat a vegetable, is made in this way: Stir three tablespoonfuls of flour into one pint of milk; add three eggs and a little salt; pour into a shallow tin baking pan, and put it into the oven an hour before dinner time. After it has baked about ten minutes put it under the roasting beef? When the meat is taken up, leave the pudding in the oven for five minutes, then pour off the fat and serve with the meat.

BARLEY SOUP.

Boil one pint of pearl barley in one quart of stock till it is reduced to a pulp; pass it through a sieve, and add as much more stock as will be required to make the *puree* of the consistency of cream; put the soup on the fire, when it boils, stir into it, off the fire, the yolk of an egg stirred up with a gill of cream; add half a pint of fresh butter, and serve with small dice of bread fried in butter.

OYSTER SOUP.

One quart of solid oysters, free from grit. Pour into a saucepan two quarts of boiling water; cream a large tablespoonful of flour with a half teacupful of butter, thicken the boiling water with the paste, season with pepper, boil up, add the oysters, cook until the edges curl. Have heated a teacupful of sweet cream or as rich milk as you can get, turn into the tureen, pour in the oysters and serve.

DESSERT PUDDING.

Here is a delicious pudding for desert: One pint of nice bread crumbs (not crumbs of stale bread unfit for the table) one quart of milk, one cup of sugar, and the well beaten yolks of four eggs, the grated rind of one lemon, and a piece of butter the size of an egg. Bake until done. Whip the whites of four eggs and beat in a cup of pulverized sugar in which you have put the juice of the lemon. Spread over the pudding a layer of jelly or raspberry jam, or any sweetmeat you prefer, then pour over it the whites of the eggs. Set in the oven to brown slightly. Serve with cold cream. This is an excellent dessert for an elaborate dinner, as it may be made early in the morning, and so be out of the way.

The Same Old Story.

She read until she could not see—
Did "Ivanhoe" e'er weary?—
Then dropped the book upon her knee,
And said her life was dreary.
From day to day I still must tread
The same dull round of duty—
Of darning socks and baking bread,
Without one glimpse of beauty.
From week to week my landmarks are:—
A sermon dull on Sunday;
On Friday night the Plumville Star;
The weekly wash on Monday.
And, oh! there's never a line of grace,
And never a bit of glory.
She sighed and lengthened her pretty face—
"It's always the same old story!"

She dried her eyes and curled her hair,
And went to the conference meeting—
From the garden gate to the vestry stair
The self-same words repeating.
At last the final hymn was sung,
And all the prayers were ended,
When one from the doorway crowd among
Her homeward steps attended.
They left at length the village street,
And sprang the low wall over,
To cross through Captain Peaslee's wheat
And Deacon Bascombe's clover.
The moon seemed shining overhead
To flood their path with glory;
They whispered low, but what they said
Was—Only the same old story!

A Courteous Rector.

A courteous Rector in a Northern county was in the habit of not beginning divine service until he had satisfied himself that the Squire was duly ensconced in the family pew, but happening one Sunday to omit ascertaining the fact, he had gone into the reading-desk and had commenced "When the wicked man—" when he was instantly stopped by the faithful clerk, who exclaimed, "He ain't come in, Sir!" This is a well-known story, and is perhaps apocryphal, but something similar happened to a friend of mine, who did his first duty after his ordination as deacon in a village church to which he had been appointed curate, his Rector being engaged at a second church in another part of the parish. The old parish clerk, after ringing the two bells at the west end of the church, came up to the chancel where the curate had put on his surplice behind the high-curtained end of the Squire's pew, the church not boasting a vestry, and was looking at his watch with a nervous anxiety to keep to the exact time for beginning his first service. To his surprise, the clerk, after saying to him in audible voice, "You must wait a bit, Sir, we ain't ready!" stepped into the communion area, clambered on to the communion table, and stood upon it while he looked through the east window and carefully scrutinized the churchyard path that led past the window to a door in the wall of the Squire's garden, through which his wife, who was a lady of title, was accustomed to come to church with her children. The curate was full of George Herbert's and Keble's reverence for holy places, and was aghast at the sight of the parish clerk thus standing on the communion table in full sight of the congregation, and coolly turning round from his inspection through the east window and saying to the curate in an audible voice:—"You moant begin yet. Her ladyship baint come!" "Pray come down," expostulated the curate. "I can see best where I be," replied the imperturbable clerk. "I'm watching the garden door. Here she be, and the Squire!" upon which he descended from his position, greatly to the curate's relief. As the incident excited no surprise among the rustic congregation, it probably was of frequent occurrence.—[All the Year Round.

KEEPING PLANTS.—When frost comes and you are afraid that the fire may get low, and your plants get nipped, just get a lantern and some good oil; fix your lantern nicely, and it will burn all night, and by placing it under your flower shelf, you will be pleased to find how safely your plants get along. I have tried this for some years, and find that the heat from a common railroad lantern will protect quite a quantity of plants, if the lantern is placed among or under them.

The Tiger and Alligator.

In Africa wild and dangerous animals abound. Man has but a poor chance when in close conflict with these monsters of the jungle and the marshes. It may be a matter of speculation for the young folks to compare the powers, advantages and disadvantages of the two combatants, particularly when you see the reserve guard or companion of one. Perhaps the other may have a greater force unseen in reserve.

HUMOROUS

"What is worse than freckles?" asks an exchange. Corns, sonny, corns. They don't show so when you're dressed up, but then if you keep straight no fellow can step on your freckles.

How Jones did his calling New Year's Day upon Brown:—"Miss Van Smither-eens, happy noo yeaw, aw. You look chawming, weally, Miss Mawee, d'lighted 'm shah; thanks, aw; no shewewy, aw; bullyong, yosse, thanks."—Albany Express.

AT A CHILDREN'S PARTY.—Edwin (who, together with Angelina, is doing the amiable at the little ones' party):—"How sweetly innocent and that sort of thing the children—." Small treble voice from the centre:—"Ere, I say, tarn't I have some of that cussed pudding?" (He meant custard.)—Fun.

To his fond father, who has asked him where he is in his class now—"Oh, pa I've got a much better place than I had last summer." "Indeed? Well, where are you?" "I'm fourteenth." "Fourteenth, you little lazybones! You were eighth last term. Do you call that a better place?" "Yes, sir; it's nearer the stove."

"My child," said a bereaved lady to her little girl, "grandma is now happy in Heaven; she will have no more pain." "Yes, mamma," answered the child, thoughtfully, "I suppose she is happy; but I don't know about not having any pain. I should think it would hurt awfully to have the wings stuck in!"

Tableaux Vivant.—Bridegroom (to his little sister-in-law at the breakfast)—"Well, Julie, you've got a new brother, now—" Julie (enfant terrible)—"Yes; and ma said the other day to pa, she didn't think he was much account, only it looked like Lottie's last chance!" Great clatter of knives, forks and spoons.—Punch.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—The joyous festivities of Xmas and New Year's are past, and we have again settled down to our various occupations. Our friends have returned to their respective homes, and we are left to pursue our daily

One night in particular quite a party of us started for a drive of two or three miles to visit some friends. We had two splendid horses and a large box sleigh, with plenty of straw and lots of buffalo robes. We could not think of spoiling the romance of the situation by having seats. I can assure you we enjoyed the drive, although it was about one of the coldest nights we have had this

winter. Still, as we all had very warm wraps it had only the most exhilarating effect. This has also been the most delightful winter for skating, as there is not much danger of the ice thawing at present. I suppose, tho', that in the country there has been too much snow for the benefit of the ice. In the cities it makes no difference about that, for as long as it is cold enough to freeze there is always skating at the covered rink.

I would advise you all to make the most of the present time, and enter warmly into any amusement on the tapis, but never to the exclusion of your duties. All amusements are harmless when not carried to excess. If so, the most harmless among them may be rendered very pernicious.

UNCLE TOM.

PUZZLES.

104.—ENIGMA.
In cream, not in milk.
In chintz, not in silk.

In time, not in late.
In pencil, not in slate.
In atlas, not in book.
In sight, not in look.
In love, not in pity.
My whole an American city

WALTER.

105.—ENIGMA.

First in mouse, not in rat.
Second in dog, not in cat.
Third in house, not in lot.
Fourth in can, not in pot.
Fifth in owl, not in hawk.
Sixth in flower, not in stalk.
A famous city am I;
You'll guess me if you try.

HERMIE.



WHICH WILL CONQUER?

routine of duties, with the occasional break of a party or a day's skating. Home circles have been broken; dearly loved brothers and sisters have departed to battle with the world and capricious fortune, firmly resolved to "make their mark" and carve for themselves a name that will long remain famous, or use the words of that very popular poet Longfellow:—"Departing, leave behind them foot-prints in the sands of time." The foot-prints left behind by many are not always very steady, but I hope none of my friends will render themselves famous in that style of "print." Of course you have taken advantage of the "beautiful snow," and the bright moonlight nights to enjoy sleigh-riding to the fullest extent. I spent nearly a week in the country this Xmas, and never allowed a day to pass without enjoying that pleasure.

106—WORD SQUARES.

1. First, a package. Second, certain animals. Third, to jump. Fourth, to perceive.
2. First, something that once laid in a famous house. Second, a space. Third, a Shakspearean character. Fourth, sour. C. I. F.
3. First, the resting-place of an army. Second, an Asiatic sea. Third, a companion. Fourth, an argument. CHARLES.
4. First, a picture. Second, something which often causes pain, and yet no one likes to part with. Third, a river in Transylvania. Fourth, passageways. Fifth, to efface. ANNIE.

107—BLANKS.

Fill the following blanks with words pronounced alike, but spelled differently.

1. Will you — me a —.
2. The — sang a plaintive —.
3. — the men saw the —.
4. — will read a —.
5. They gave — a — to reach.
6. — will — the tree.
7. His — was that of a — man.

Answers to January Puzzles.

- 99—Smother, mother, other, the, he, e.
 100—Our Menagerie: Horse, elephant, camel, giraffe, gorilla, kangaroo.
 101—1, Virginia creeper; 2, flag; 3, sage; 4, dock; 5, cow slips; 6, egg-plant; 7, pink; 8, beech; 9, yew; 10, fir.
 102—Charlemagne.
 103—Shubenacadie.

Names of Those Who Sent Correct Answers to January Puzzles.

Charlie Gordon, Maggie West, Annie A. Rock, Frank Sharmen, Minnie Sharmen, Nita Nelles, Joseph Roe, Maggie Ellis, Minnie Hill, Frank C. Smith, Jessie Cowan, A. L. Moore, Arthur Ninphidge, Gus Gouinlock, M. M. Dixon, Mary Hilton, T. J. Fox, Johnny Crawford, Harry Johnson, Connie Jell, Edward Bradford, Katie Booth.

How to Mind a Baby.

First, a man must need have one to take care of. It isn't every one that is fortunate enough to have one, and when he does his wife is always wanting to run over to the neighbor's only five minutes, and he has to attend to the baby. Sometimes she caresses him, and oftener she says sternly "John, take good care of the child until I return." You want to remonstrate, but cannot pluck up courage while that awful eye is upon you; so you prudently refrain, and merely remark, "Don't stay long my dear." She is scarcely out of sight when the luckless babe opens its eyes and its mouth also, and emits a yell which causes the cat to bounce out the door as if something had stung her. You timidly lift the cherub and sing an operatic air; it does not appreciate it, and yells the louder. You try to bribe it with a bit of sugar; but not a bit of use, it spits it out. You get wrathful and shake it. It stops a second and you venture another, when, good heaven! it sets up such a roar that the passers-by look up in astonishment. You feel desperate; your hair stands on end and the perspiration oozes out of every pore as the agonizing thought comes over you, what if the luckless child should have a fit! You try baby talk; but "litty, litty, lamby" has no effect—for it stretches as if a red-hot poker had been laid upon its spine, and still it yells. You are afraid the neighborhood will be alarmed, and give it your gold watch as a last resource, just in time to save your whiskers; though it throws down a handful of your moustache to take the watch, and you thankfully find an easy chair to rest your aching limbs, when down comes that costly watch on the floor and the cause of all the trouble breaks into an ear-splitting roar, and you set your teeth and prepare to administer personal chastisement, when in rushes the happy woman known as your wife, snatches the long-suffering child from your willing arms and, sitting down, stills it as if by magic, while you gaze mournfully at the remains of your watch and cherished moustache, and muttering a malediction on baby kind in general, and on the image of its father in particular, vow never to take care of a baby again—until the next time.

FOR CHILBLAINS AND FROSTED FEET.—Coal oil, such as is used in lamps, poured on the stockings in the morning will heal up all sores or pains caused by frost. An experience of fully twenty years proves this. Feet are often frozen without knowing it, caused by too tight boots, or some other obstruction to the circulation of the blood. Coal oil is a sure cure in all such cases.

A Joy Forever.

We passed from out the dazzling light,
 We left the rustic throng of dancers:
 Miss Smith had said to me. "We might,
 I almost think, sit out the Lancers."
 And, wandering on, we lost our way—
 A country house is most perplexing—
 Miss Smith was filled with sweet dismay,
 And closer clung—'twas very vexing.

We rested at a window seat,
 My hand detained a hand half willing;
 We murmured of the floor, the heat,
 And other things as wildly thrilling.
 Some mistletoe, o'erhead entwined,
 Gave rise to arch but tempting banter,
 I kissed her—lost my peace of mind—
 And got a piece of hers instanter.

She stamped her foot, her bosom rose
 And fell with maidenly vexation;
 She said—but what she said; Lord knows!
 For I was lost in admiration.
 But there she stood, a deer at bay,
 A picture for a master's sketching;
 I soothed her, as a mortal may,
 (And thought she never looked so fetching.

My deeds were rash, my words insane—
 At length we could no longer tarry—
 And when we joined the dance again
 Miss Smith was Kate and I was Harry.
 Ten years' possession has not tired
 My love, but I'm in this position:
 The tantrums which I once admired
 Have palled from frequent repetition.

The True Heart's Whisper.

Though lowly my cottage, and frugal its fare,
 Affection, and truth, and devotion are there;
 And when evening arrives, and the day's toil is o'er,
 My husband comes home, and I bar up the door.

He goes to the crib where his little ones lie,
 And I know the sweet light that there beams in his eye;
 Then he turns to his supper, though humble it be,
 With a kindness of heart that is heaven to me.

I love him too well to repine at my fate—
 Frugality still keeps the dun from our gate;
 And I hope that his children may rise to repay
 The toils and the sorrows that wear him away.

Oh, innocent, upright, and pure be their youth!
 May they hear from my lips only kindness and truth!
 And when mercy's mild messenger bears me from life,
 Leave my memory dear as a mother and wife.

Common Errors in Speech.

Attention to the following would save many persons whose early education has been neglected, the annoyance of being laughed at for their inaccurate English.

1. You should not say, "I seen such a man," but "I saw such a man."
 2. You should not say, "I done it," but, "I did it."
 3. You should not say, "It is me," "It is him," "It is her," but, "It is I," "It is he," "It is she."
 4. You should not say, "Them things," but, "those things" or "these things."
 5. You should be careful always to use a plural verb with a plural noun; for instance, don't say, "Prices is high," but, "prices are high."
 6. You should not say, "He declined for to do it," but, "He declined to do it." The word *for* is unnecessary, and therefore, wrong.
- To educated persons, the pointing out of these rules may appear quite unnecessary; yet, the errors referred to are so common that it is well to notice them.

FIRST PRINCIPLES OF AGRICULTURE.—Students of the science of agriculture may well feel thankful to the author of this little agricultural manual. It will, we have no doubt, realize the expectation of its publishers, that it will not only be found useful for pupils under instruction in the elementary stage of agricultural science, but of value to those who desire to inform themselves on the subject. "First Principles" is from the pen of Prof. H. Tanner, F. C. S., London—MacMillan & Co. publishers.

Monkey Toilets.

In India, where the monkeys lives among men, and are the playmates of the children, the Hindoos have grown fond of them, and the four-handed folk participate in all their simple household rites. In the early morning, when the peasant goes out to yoke his oxen, and the dog shakes himself and casts off the dust in which he slept last night, the old monkey creeps down the peepul tree, only half awake and looks about him, puts a straw in his mouth and scratches himself contemptively.

But they are sleepy and peevish, and the youngest get cuffed for nothing, and begin to think life dull. Yet the toilet has to be performed, and whether they like it or not, the young ones are silently pulled up one by one to their mother to undergo the process. The scene, though repeated exactly every morning, loses nothing of its delightful comicality, and the monkey brats seem all to be in the joke of "taking in mamma." But mamma was young herself not long ago, and treats each ludicrous affectation of suffering with the profoundest unconcern, and as she dismisses one "cleansed" youngster with a cuff, stretches out her hand for the next one's tail or leg, in the most business-like and serious manner possible.

The youngsters knew their turn quite well. As each feels the moment arrive it throws itself on its stomach as if overwhelmed with apprehension, the others meanwhile stifling their satisfaction at the way "so and so is doing it," and the instant the maternal paw is extended to grasp the tail the subject of the next experiment utters a piercing shriek and, throwing its arms forward in the dusk, allows itself to be dragged along a limp and helpless carcass, winking all the time, no doubt, at its brothers and sisters at the way it is imposing on the old lady. But the old lady will stand no nonsense, and, turning the child right side up, proceeds to put it to rights, takes the kinks out of its tail and knots out of its fur, pokes its fingers into its ears and looks at each of his toes, the irrepressible brat all the time wearing on his face an absurd expression of hopeless and incurable grief, those who have been already cleansed looking on with delight at the screaming farce, and those who are waiting wearing a becoming aspect of enormous gravity.

The old lady, however, has her joke, too, which is to cuff each youngster before she lets it go, and, nimble as her offspring are, she generally, to her credit be it said, manages to "fetch them one on the ears" before they are out of reach. The father, meanwhile, sits gravely with his back to all these domestic matters, waiting for breakfast. Presently the mats before the hut doors are pushed down, and women, with brass vessels in their hands, come out and while they scour the pots with dust, exchange between songs the compliments of the morning. The monkeys by this time have come closer to the preparations for food, and sit solemnly, household by household, watching every movement. Hindoos do not hurry themselves in anything they do, but the monkey has plenty of patience, and in the end, when the crowd has stolen a little, and the dog has had his morsel, and the children are all satisfied, the fragments of the meal are all thrown out on the ground for the "blunder orgue," the monkey people, and it is soon discussed, the mother feeding the baby before she herself eats.

TREATING A BAD COLD.—A bad cold, like measles or mumps, or other similar ailments, will run its course of about ten days in spite of what may be done for it, unless remedial means are employed within forty-eight hours after its inception. Many a useful life will be spared to be increasingly useful by cutting a cold off short, in the following safe and simple manner: On the first day of taking a cold, there is a very unpleasant sensation of chilliness. The moment you observe this, go to your room and stay there; keep it at such a temperature as will entirely prevent this chilly feeling, even if it takes a hundred degrees, Fahrenheit. In addition, put your feet in hot water, half-leg deep, as hot as you can bear it, adding hot water from time to time for a quarter of an hour, so that the water will be hotter when you take your feet out than when you put them in it, then dry them thoroughly with a rough towel, then put on warm, thick woollen stockings, even if it be in summer, for summer colds are generally the most dangerous; and for twenty-four hours eat not an atom of food, but drink as largely as you desire of any kind of warm teas, and at the end of that time, if not sooner, the cold will be effectually broken without any medicine whatever.

Commercial.

FARMER'S ADVOCATE OFFICE,
London, Jan. 27, 1881.

Another month of cold frosty weather and good sleighing generally. In some sections the snow is getting rather too deep to be comfortable. Business on the whole is very good; but not quite so brisk as December.

WHEAT.

The trade in this article has been unusually quiet during this month. With the exception of what the mills have bought, there has very little changed hands, the export trade being almost nil.

Still, holders are very firm, and do not give way much, the very light deliveries from farmers causing them to be able to hold an independent attitude. This, with high rates of freight, has kept buyers and sellers apart. Taking everything into consideration, it is perhaps just as well, for the railroads and the steamship lines are only beginning to get clear of the blockade at the seaboard. The delay in shipments has been very great, and a good deal of trouble and annoyance to shippers has been the result.

Beerbohm endeavours to make out that there is wanted by the rest of the world during the present crop year 186,000,000 bushels from the United States and Canada, over and above the surplus which other exporting countries may have to spare. These figures are much larger than those given by other estimates, and larger than indicated by the recent movements from this side.

There is no doubt that stocks are still very light on the other side of the Atlantic, and that a good deal more wheat is wanted from somewhere just how much, and when, will be largely regulated by a combination of events and circumstances over which no one has any control, and which no one can foresee to any degree of certainty. It is the opinion of many that there is a very strong "bear" movement in London and other parts in England, which is having a good deal to do with the dullness.

PEAS

Keep very quiet. Lower prices in Liverpool, together with high freights and the prices asked by holders, has completely brought the trade to a standstill for some weeks. There are a good many now in stock, and it remains to be seen whether holders will get their price or not. This is a very important crop, and we wish some means could be devised for getting rid of the bugs; at any rate, let every farmer who has buggy peas keep them at home and feed them to his stock. We notice that in some sections it is turning the attention of the farmers to growing more.

CORN.

This is a very important crop, and one to which sufficient importance is not attached. Many farmers might, with great advantage to themselves, grow several acres every year. We notice in some sections large fields where two or three years ago one would not see an acre. Mixed with oats or barley, there is no better feed for feeding cattle. The shipment of American corn to England has assumed very large proportions within the last five years.

BARLEY

Keeps steady with a good demand, and the general opinion is that it will keep steady, and may go still higher.

CHEESE

Has improved very much the past two weeks, and there is now a very strong feeling on this side.

Markets in New York are firm at 13 to 14 cts., and about the same in Montreal. The home consumption of cheese in America is said to be increasing at a rapid rate, which seems to have been lost sight of until the past few days, when it was found that the local demand in New York was larger than in any previous period in the history of the trade. The stock of cheese in Scotland is said to be much smaller this year than this time last year. Stocks in London, Liverpool, New York and Montreal, on the first of January, 1881, were only about 90,000 boxes more than same time last year; while the stocks in January, 1879, were just twice as heavy as 1881. This 90,000 boxes, with a good local trade, and an improved tone and demand in England, will be but a small affair, and we look for a bare market by the time that new cheese is ready to move.

BUTTER.

There is a decided improvement in the demand for this article. Hard frost in England has done much to improve the demand for low and medium goods, and has enabled holders to work off this description of goods at a considerable advance over former rates. Still there is too much of this class of goods offered, and these same goods have to be put on the same level with "Tallow Butter."

London Markets.

London, Jan. 29, 1881.

The exports of agricultural produce from the Dominion have been very large. The exports for December were as follows: Produce of the mine, \$82,276; produce of the fisheries, \$521,062; produce of the forest, \$468,675; animals and their produce, \$2,673,913; manufactures, \$259,830; miscellaneous articles, \$63,167. Total, \$4,412,537.

GRAIN.

	Per 100 lbs		Per 100 lbs
Deihl Wheat	\$1 70 to 1 77	Peas	80 to 1 00
Treadwell	1 70 to 1 75	Oats	90 to 1 00
Clawson	1 70 to 1 77	Barley	1 30 to 1 50
Red	1 70 to 1 77	Corn	95 to 1 00
Spring	1 50 to 1 70	Rye	80 to 90
Barley	1 30 to 1 50		

PRODUCE.

Butter, crock	22 to 23	Potatoes, bag	65 to 70
do roll	25 to 26	Apples p bag	30 to 50
do keg	15 to 18	Turnips, p bu.	20 to 25
do inferior	8 to 15	Beef, per qr.	3 50 to 5 60
Carrots, p bu	15 to 25	Mutton, lb.	6 to 7
Onions, bag	0 75 to 1 00	Lamb	7 to 8
Beef, per qr.	3 50 to 6 50	Wool	27 to 27
Tallow rec'd	4	Dressed hogs,	
rough	6	per 100 lbs.	6 40 to 7 00
Honey	20 to 25	Live hogs, do	5 00 to 5 50
Cordwood	3 50 to 4 00	Lard	9 to 10
Ducks	30 to 60	Geese, each	45 to 50
Chickens, pr.	25 to 40	Turkeys	75 to 1 25
Cheese, per lb	13 to 15	Milch cows	26 00 to 49 00

FLOUR.

Flour, fall wht.	3 25 to 3 00	Oatmeal fine	3 00 to 2 40
mixed	3 00 to 2 75	coarse	3 50 3 25
spring	3 00 to 2 75	Cornmeal	1 75 to 1 50
Shorts, per ton	14 00 to 13 00	Bran, per ton	10 00 to 10 00

HAY AND STRAW

Hay, per ton	10 00 to 13 00	Straw, per load	2 00 to 3 00
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English Markets.

London, Jan. 26.—Floating Markets—wheat and maize heavy; cargoes on passage—wheat weaker and rather easier; maize quiet. Mark Lane wheat and maize dull; good cargoes red winter wheat off the coast 46s 9d. Imports into the United Kingdom during the week, wheat 200,000 qrs., maize 75,000 qrs., flour 105,000 bbls.

Liverpool—Flour, 9s. to 11s. 6d.; wheat, spring, 8s. 6d. to 9s. 6d.; red winter, 9s. 2d. to 9s. 8d.; white, 9s. to 9s. 8d.; club, 9s. 8d. to 10s.; corn, 5s. 4d.; oats, 6s. 2d.; peas, 6s. 9d.; pork, 67s.; beef, 74s.; cheese, 68s.

Toronto Market.

Toronto, Jan. 29, 1881.

Fall wheat No. 1, \$1.12; No. 2, \$1.09; No. 3, \$1.05; spring wheat, No. 1, \$1.16; No. 2, \$1.14; No. 3, \$1.08; barley, No. 1, 98c to \$1; No. 2, 88c to 93c; No. 3, 75c to 85c; oats per 54 lbs. 23c; peas, 60c to 68c; rye, 80c to 81c; flour \$4.05 to \$5; timothy, \$2.25 to \$2.50; clover, \$5.10 to \$5.50; better 12c to 18c; cheese, 11 1/2 to 14c; potatoes per bag, 45c to 50c; dressed hogs per 100 lbs. \$6.50 to \$7.

Montreal Market.

Jan. 29, 1881.

Flour, fine, \$4.15 to \$4.40; extra superfine, \$5.20 to \$5.25; strong bakers' \$5.75 to \$6.25; oatmeal, \$4.45; cornmeal, \$3.40; oat 35c; peas 82c; butter, western, 15c to 18c; Brockville and Morrisburg, 18c to 21c; eastern townships, 20c to 22c; creamery 24c to 28c; cheese 12c to 14c; pork \$16.50 to \$17.50; hams 12c to 13c; dressed hogs, \$6.60 to \$6.80.

New York Markets.

New York, Jan. 28, 1881.

Wheat, Chicago, \$1 12 to \$1 16; Mil., \$1 17; red \$1 19; flour \$3 50 to \$4 30; corn 55c to 67c; rye, 97c to \$1 01; barley dull and nominal; dressed hogs 7c to 7 1/2c; pork \$13 75 to \$14; tallow 6c.

Boston Markets.

Boston, Jan. 28.

Corn, per 56 lbs., 57c to 60c; oats 46c to 53c; wheat \$1 10 to \$1 22; rye \$1 00 to \$1 05; barley \$1 00 to \$1 35; shorts per ton \$18 00; cotton seed meal per cwt. \$1 55; flour \$3 50 to \$6 50; cornmeal \$2 00 to \$2 65; oatmeal \$5 00 to \$6 25; rye flour \$5 50; butter 20c to 35c; cheese 11c to 14c; skim do 6c to 9c; potatoes per bushel 65c to 86c.

Stock Notes.

Samuel Wood, of Islington, Ont., has recently sold two Berkshire pigs to Jos. Featherston, Trafalgar, for \$70. Mr. W. reports his cattle as doing well.

Mrs. S., Oshawa Post Office, has two very prolific turkeys, they having produced 320 eggs last season. Whose turkeys can show a better record?

Mr. S. Westney, of Scarborough, Ont., has purchased five Berkshire swine from Mr. Alex. Dutton, of Lobo, and Mr. J. Bentley, of Hamilton. It is his intention to establish a herd, and has secured good animals for that purpose.

We call the attention of our readers to the extensive auction sale of Durhams and Cotswolds (the property of the late Geo. Millar, of Markham, Ont.), which is to be sold the 9th of this month, an advertisement of which will be found in this issue.

We call our readers' attention to the extensive auction sale of pedigreed Herefords, the property of the late Wm. Taylor, Hereford, Eng. The sale is a large and important one. Canadians who desire to import Herefords should not lose sight of this opportunity. See advertisement in this issue.

We are in receipt of two photographs of the Fellhampton Herefords from S. W. Urwich, of Leominster, Hereford, England. These photographs represent Herefords better than any we have yet seen. We would insert them in this journal now if we had a really good wood-cut of them.

The annual ram sales of some of the distinguished English breeders of Cotswolds show an advance in price over several preceding years, though not so good as in former years. Mr. Lane sold 52 animals; the quality is said never to have been better; the average was £16 8s. 4d. Mr. Garne sold 46 rams at an average of £17 7s.

From statistics recently given in the House of Parliament, we learn the number of cattle exported from Canada to England in 1880 was 32,680, valued at \$2,292,161, against 23,273, valued at \$1,767, 801 in 1879. The number of sheep exported in 1880, was 110,143 valued at \$629,054, against 54,721, valued at \$335,099; exported in 1879.

Mr. Cochrane, of Compton, P. Q., says of his late importation of Hereford cattle: "They have now been at home rather more than a month and are doing remarkably well. Four have dropped calves since landing. Shorthorns are also looking well. Hay being very dear and straw unusually good, I am making use of the latter to a considerable extent in feeding this winter, cutting it short in a chaff cutter and mixing with pulped swedes. All the cattle have this mixture twice a day, at 5.30 a. m., and 2.30 p. m., with whole hay at 11 a. m., and 5 p. m. Fattening cattle, calves, and all young stock, have their meal (corn, cotton-seed, linseed-meal and bran), well mixed with the pulp and chaff, and have three feeds of the mixture, besides two feeds of whole hay, and one of broken linseed oil cake at noon each day. My steers are thriving well upon three feeds of whole swedes, four of whole hay and one of corn (meal and cotton-seed), three pounds per head per day.

"Sheep do not take kindly to the straw, so that I am obliged to use my hay almost entirely, to mix with pulped roots for fattening sheep, which are fed morning and evening with the mixture, and at noon with corn and broken linseed cake. Breeding ewes are kept entirely on whole (fine) hay, given morning and evening, and a little bran at noon.

"The winter has been extremely favorable so far; the temperature having been pretty uniformly cold, with no very high winds; plenty of snow with good sleighing since the 21st of November."

The shipments of live stock from Montreal, Quebec and Halifax to Great Britain, for the season ending November 30th, 1880, were—Cattle, 46,450; sheep, 81,543. The figures for 1879 were—Cattle, 29,178; sheep, 78,780. In 1878 there were—Cattle, 18,655; sheep, 41,250. These facts show us how rapidly this business is increasing, and it is estimated that 100,000 cattle will be shipped from the Dominion next year. It is very satisfactory to know that all these animals were raised in Canada.

Trichinosis.

NEW YORK, Jan. 29.—The death from trichinosis of Robert King, an inmate of the Charity Hospital on Blackwell's Island, reported to-day, is the second case in this city within a few weeks.

Water is a much better deodorizer than is generally supposed. It has great absorbing properties. Fresh water running through a milk-room keeps it free from odors. Standing water soon becomes charged with odors, and then casts them off again. Water used in a milk-room to cool the milk, is a great purifier, and must not be allowed to stand more than twelve hours before being changed.

French poultry fanciers, who make a specialty of raising fowls for the market, are now feeding poultry with barley and steamed carrots. Its rapid fattening qualities are something wonderful, and it is also said that the roots also impart a peculiar flavor to the flesh, that suits the taste of the French epicure exactly. The large yellow carrots are considered the best for this purpose.

INCREASE IN THE PRODUCTION OF HOPS.—From the report of the Hop Growers' Association of Central New York we learn that the total crop of 1839 was only 6,193 bales, but it had increased to 55,055 in 1859, and in 1879 to 110,000 bales. The average price from 1853 to 1862 was 22 cents, and from 1871 to 1875 30½ cents, thus indicating an increase in price corresponding with the increasing demand and supply. This is certainly a favorable and encouraging showing for hop culture in Ontario.

If a horse is hurt in any place where it is difficult to put on a bandage, instead of a sticking plaster, which does not hold well, use some strong glue to make a circle around the wound; then glue on this some cloth and to that you can sew, paste, pin or in any other way fasten what you used in the form of liniment or the like. It is in no way necessary to cut away the hair as with sticking plaster. To remove after healing use a little warm water.

WILL THE PLOUGH AND HARROW PULVERIZE THE SOIL BETTER THAN A SPADE?—J. C., writing to the Gardeners' Monthly, says: "I know of one man at Ashford, England, who holds one hundred acres, and for each one he pays £7 per year. He is a spade gardener. This man was making a fortune; his land was set with fruit trees, in rows about 25 feet apart, and was cropped with beans, beets, lettuce, parsley, violets and strawberries." So fully convinced are the farmers of Great Britain of the superior advantage of spade culture that they have invented a "spade plough," uniting the economy of horse labor with thorough pulverization effected with the spade.

A correspondent of the Kansas Farmer writes as follows:—"The reports of the suffering in Western Kansas have been exaggerated. That there are, however, many poor people in want is a matter of fact." The acreage of wheat in this part is less than last year, owing to the failure in part, or the whole for the last two years, and the dryness of the ground in August and fore part of September. After the rains began a great many farmers borrowed wheat of the railroad companies and sowed it rather too late, yet it looks well now, but will not be so able to stand drought and hard freezing. Many of the settlers becoming discouraged on account of the drought last summer have moved away. Some got leave of absence under the law, some proved upon their claims, and some mortgaged for all they could borrow and then left for parts unknown.

From MacMillan & Co., publishers, New York, we have received a work entitled, "Food for the Invalid," (edited by Fothergill & Wood, M. D's.) It is neatly arranged, and contains a number of very useful receipts, of much valuable teaching.

Save the Feathers.

The accumulation of feathers alone about a farm-yard would, in the course of a year or two, if carefully saved, add a comfortable amount to our pocket money. I noticed a few months since, an extract taken from an American paper, stating that:

"An artificial down is made from feathers of no matter what kind; by cutting the barb of the feathers, from each side of the quill, and putting the barbs in a stout cloth sack and rubbing them between the hands as a washerwoman does linen. Five minutes rubbing will have mixed the mass into a felt-like substance, rendering it homogeneous. This is *edredon artificial*, and sells in Paris for \$8, gold, a pound; and the price is constantly increasing. But there is something more wonderful still, a process has been invented for making cloth of feathers. To make a square metre of cloth (a metre is three inches more than a yard), cloth vastly lighter and warmer than wool, from 700 to 750 grammes (a gramme is equal to 16.9 grains avoirdupois) of this artificial down is required. But this feather cloth (*drap de plume*) takes color admirably, and is almost un-wear-outable, because instead of breaking and cutting in the place most exposed to wear, it makes itself more and more into a felt-like substance.

If the feather trade has already grown to be such a source of income to the French, I should think America would soon utilize them too, and that we would soon find a sale for feathers, prepared in the way described, in the city of New York. But if there is no sale for them prepared thus, we know that feathers always command a good price, and it is a shame to neglect anything that might prove a source of profit.—*H. in Country Gentleman.*

Shetland Ponies.

The ponies are not an agricultural, but a domestic necessity. In Shetland, as in parts of Ireland, every family depends for its supply of fuel on peat, and as the peat is seldom found near at hand on the shore where the houses stand, but on the hill behind them—there is always a hill in the rear in Shetland, every island consisting mainly of hill, with a patch or two of "smooth" land in a few snug nooks by the shore—and as it often is at a distance of several steep and stony miles, each house requires several ponies, the number depending on the distance and the character of the road. A family living "convenient" to the peat may require only two peat-carriers, and another family may require half a dozen. The material, after it has been dug and dried in the usual manner, is carried home on the backs of the ponies in baskets called "cassies." It is obvious that the back which has to perform this kind of service should be broad and strong. The Shetland pony is a striking example of development; for generations past he has been bred and reared and trained with a uniformity which could not have been secured in any other part of the United Kingdom. Hence his physique and general character, his hereditary instincts and intelligence, his small size, and his purity and fixity of type. A pony belonging to a breed which has had to pick its zigzag way down a steep declivity during many generations must be sure-footed. By the same rule a pony whose grooms and playmates include a dozen juveniles—the children of the neighborhood, who roll about underneath him or upon his back—must be gentle; and the same pony, living on the scathold on air sometimes rather than on herbage, must be hardy. The pony of the Shetland Isles is, in fact, the offspring of circumstances. He is the pet of the family, gentle as the Arab's steed under similar training. He will follow his friends in-doors like a dog, and lick the platters or the children's faces. He has no more kick in him than a cat, and no more bite than a puppy. He is a noble example of the complete suppression of these vicious propensities that some of his kind exhibit when they are ill-treated, and of the intelligence and good temper that may be developed in horses by kindness. There is no precedent for his running away, nor for his becoming frightened or tired, even when he has carried some stout laird from Lerwick to his house, many Scotch miles across the hills. He moves down the rugged hillsides with admirable circumspection, loaded pannier-fashion with two heavy "cassies" of peat, picking his way step by step, sometimes sideways. In crossing boggy spots, where the water is retained, and a green carpet of aquatic grass might

deceive some steeds and bring them headlong to grief in the spongy trap, he carefully smells the surface, and is thus enabled to circumvent the danger. In the Winter the Shetland pony wears a coat made of felted hair, and specially suited for the season. His thick Winter garment is well adapted for protecting him against the fogs and damps of the climate. It is exceedingly warm and comfortable, fits close to the wearer's dapper form, and is not bad looking when new. But when the coat grows old toward Spring, at the season when the new one should appear, it becomes the shabbiest garment of the kind that you often see. Its very amplitude and the abundance of the material render it the more conspicuous, when it peels and hangs for awhile ragged and worn out, and then falls bit by bit till the whole of it disappears. No horse looks at his best when losing his old coat, and the more coat there may be to lose the worse he looks.—[The London Field.]

Advertisements.

EXTENSIVE CREDIT SALE

—OF—
20 Shorthorn Cows and Heifers, 4 Bulls and 25 pure-bred Cotswold Sheep,

The property of the late George Miller, at Rigfoot Farm, Lot No. 16, 10th Concession, Markham, on

Wednesday, Feb. 9th, 1881,

Catalogues furnished on application. Sale to commence at 12 o'clock sharp; lunch at noon. Markham is only 20 miles from Toronto on the Toronto & Nipissing Railroad, and teams will be at Markham Station to convey parties wishing to attend to the premises.

TERMS—\$25 and under, cash; over that amount eight months' credit on approved paper. 8 per cent. per annum allowed for cash.

THOS. POUCHER, Auctioneer.

Markham, Jan. 17th, 1881.

182-a

Thinghill Court Herefords HEREFORDSHIRE, ENGLAND.

EDWARDS & WEAVER

will sell by Auction upon the premises at Thinghill Court (6 miles from Hereford), on

Monday and Tuesday, Febr'y
28th & March 1st, 1881,

101 Head of Magnificent Pedigree Hereford Cattle, of the purest lineage, comprising 43 in calf and other grand breeding cows and heifers, with pedigrees of from 5 to 6 grand-dams; 12 yearling heifers, with 6 grand-dams; 29 bull and heifer calves, with 7 grand-dams; 14 yearling steers and a grand stock bull, "The Pilot," (5647), by the world-renowned bull, "Tredegar," (5077).

The above grand herd was the property of the late most successful breeder of Herefords, MR. WM. TAYLOR; are sold by order of the executors, and will be found in Hereford Herd Book, vol. XI. The following famous bulls have been used in this herd: Old Court (306), Conrad (688), Paddock (773), King John (830), Carlisle (923), Croft the 2nd (938) The Friar (1075), General (1251), Malcolm (1305), Youngster (1462), Coroner (1555), France (1903), Sir Frank (2762), Triumph 2nd (3553), Peer (401), The Emperor (5640), The Monkton Lad (5646) and Pilot (5647).

Full particulars and pedigrees in catalogues to be obtained of the Editor "Breeder's Live-Stock Journal," Chicago, Ill., U. S.; the Editor "Farmer's Advocate," London, Ontario, Canada; Mr. S. W. Urwick, Secretary of the Hereford Herd Book Society, Leominster, Herefordshire, and of the Auctioneers, Leominster and Hereford, England.

Purchasers of stock from a distance can be accommodated with keys on the farm on easy terms.

182-a

The London Mutual FIRE INSURANCE CO. OF CANADA

The Annual General Meeting

of the members of this Company will be held at their offices, 433 Richmond street, in the city London, on

Wednesday, 16th of February, 1881,

at the hour of 2 o'clock p. m., when a report on the Company's business will be submitted and Directors elected in the place of those retiring, but who are eligible for re-election.

D. C. MACDONALD,
Manager and Secretary.

182-A.

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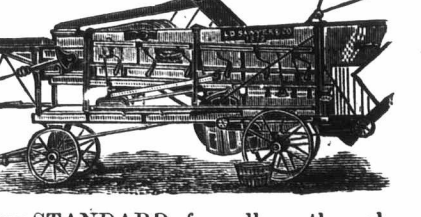
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