

FARMER'S ADVOCATE

AND HOME MAGAZINE.

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The Farmer's Advocate

—AND—
HOME MAGAZINE.
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Advertisements, to secure insertion and required space, should be in by 20th of each month.
Letters enclosing remittances, &c., only acknowledged when specially requested. Our correspondence is very heavy and must be abridged as much as possible.

Finis.

Everything that we have to do with has an end, and it is not till the end is attained that we can be sure of its results. Many of our undertakings fall far short of our expectations. When we engage in any beneficial undertaking and complete it satisfactorily, we are apt to feel a satisfaction and desire to accomplish greater undertakings.

The present number closes our labors on this our 13th volume of the *ADVOCATE*. There undoubtedly have been errors and omissions that some may complain about (perfection is not attainable on this orb), but notwithstanding these, we feel satisfied that we have striven to do our duty. We have fulfilled our promises and have given you a better volume than any of its predecessors. The tone of the letters received indicates a high appreciation of our labor by our readers—higher than any before received. We return our thanks for your liberal patronage, which has enabled us to improve the *ADVOCATE* in various ways, and we solicit continuance of your favors, promising that no labor, time or money will be spared to make the volume for

1879

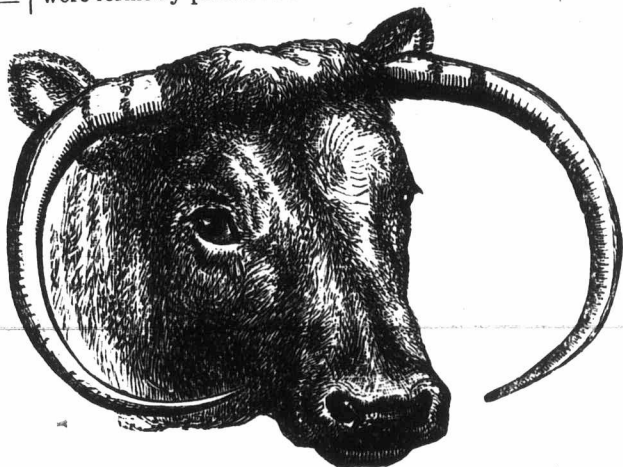
far more instructive and entertaining than any previous volume has been. Drops make the ocean; by punctual payments the *ADVOCATE* has been and will be greatly improved. Ready money enables us to make better terms for paper and for the work. Most of our readers require no hint to renew promptly, but there are some who through our kindness have fallen in arrears. To those we particularly now address ourselves. We cannot longer allow you to partake of the sweets that others labor for without your adding to the workers in the hive. Winter is now on us and drones must be expelled. With the present issue you will all receive an

envelope in which to enclose your payments. Be sure to write your name and your post office plain. Register your letter and you have a safe check on our books; we do not think we have ever lost a letter even if not registered. It is far safer for you to send the money direct to this office yourself than to trust to any one else. If you pay others it is at your own risk. Unauthorized persons have taken money that should have been sent here.

Head of Long-horned Cow "Rosebud."

The following engraving represents the head of the Long-horned cow "Rosebud," the property of J. H. Arkwright, exhibited at the Royal Agricultural Exhibition, Bristol, England.

This class of cattle we have not seen in America. They are admired by many in England, and are to be found in some of the beautiful parks surrounding the happy homes of England. This, we presume, was the class of cattle which produced the celebrated "Roast Beef of old England," as they were formerly preferred to the Shorthorns.



The Month.

The past month, November, is generally considered the duller month in the year. The low prices that have ruled on all our products have caused a strong desire to withhold crops from the market. This has tended to make trades people complain. Our most prosperous subscribers have paid all liabilities, or are ready to do so before Christmas. It is a duty that you owe to be square with the world once a year. Our prosperous farmers now have their stock in warm stables, or in a good shed, or protected barn-yard. Stock must be comfortable, and if you wish to make money from them see to the comforts of every living creature under your care. We well know that some have great difficulties to contend with. If you cannot accomplish all you desire, do your duty as well as you can. There is a time for all things. December is the season in which you should direct some little attention to pleasure. Give the young folks a few holidays. A little intercourse with your friends, a few presents at Christmas time, however small, add pleasure to you and to your surroundings.

On the Wing.

As previously stated, Canada made a good display at the Paris Exhibition. We think we are more indebted to individuals than to our Government officials for having the reputation of making a good display. This consisted of a high trophy, constructed something like a church-steeple, having balconies around it. It was made of pine and a turning stairway led one to the top. Of course we ascended, but with fear and trembling lest it should topple over, as it was always on a shake; we wonder that it did not fall. It was decorated with Indian relics, snow shoes, furs, &c., and a stuffed wolf, wild cat, bear skins and a lot of things fit to frighten any one from coming to Canada. At the foundation we saw some barrels of disgusting looking meat, old cheese-boxes and firkins. Some had old, torn, dirty bagging tied about them, and the scent was anything but inviting. One lady we have since seen in Canada was induced to taste the delicious cheese; she informed us that she could not get rid of the bad taste that day, and the remembrance of it haunts her still. We have often thought what a miserable mistake this affair was.

As an instance of private enterprise, Mr. Isaac Waterman, of London, Ont., made a display of paraffine and wax-work, among which was a large lion made of the wax that is produced from our petroleum. The display was much admired by every one. Many of our implement manufacturers made displays that did honor to our country, and our minerals were also well represented, particularly our copper.

Thank goodness, our Queen has better sense than our Paris trophy-builders and decorators, or it is not likely she would have allowed her daughter to come to our country.

In our Canadian establishment in London, England, we found other colonies better spoken of than the Dominion of Canada. It is our opinion that the sooner that establishment is closed the better it will be for Canada, or else a great change must take place.

At the Royal Agricultural Exhibition in Bristol we met an employee of our Government who appeared to be a real live man. He is endeavoring to have Canada fairly represented, and he expends large sums of money for our benefit from his own pocket. He watches every interest of Canadians in the mother country; he has aided our exporters and importers, and has done more good for Canada than all the emigration agents we have seen. Every one of the stockmen and dealers speak in the highest terms of this gentleman and of the extended good he might do if moderately encouraged or aided by our Government. His name is J. Dyke, Emigration Agent, Water Street, Liverpool. We hope the attention of our Government will now be called to the labors of this gentleman, to the good he has already done, and that which he might do.

Barley and Wheat.

In seasons such as the present, when the price of breadstuffs has fallen below remunerative figures, the enquiry naturally arises, "What grain crop pays the farmer best for his labor and expense?" It can never be answered definitely with any degree of certainty. There are so many circumstances connected with droughts and wet seasons which often bring about results contrary to what we found our estimates upon, and which stand in the way of our intended system, that we may be times, when we look for a fair profit, meet a disappointment.

The English farmers are quite disheartened from the present price. The importation from all points of the compass is increasing from year to year, and, though the supplies this year are greater than usual, on account of the greater yield of the vast wheat-fields of America, they cannot expect a decrease in the future. The fertile territories of Australia and Asia are, by railways and steamships, brought within easy access of the British markets. This harvest has given a greater yield to English farmers than they have had for some years past, but the prices are not remunerative, and, besides, the bad condition in which a large proportion of the wheat has been harvested has caused a glut of damp samples to flood the market that the millers will not buy, and it is disposed of at such rates as are commonly given for grinding barley and feeding stuffs. Large quantities of such wheat have been sold at 32s. to 34s. per qu.—96c. to \$1.12 per bushel. The *Agricultural Economist*, on behalf of the farmers, enters fully into the question. "Barley," it says, "sells much better, although the various samples of that grain have a more than ordinary range in value. Still, when it is considered that bright, prime lots for malting, command even higher figures than the best white wheat, and that malting barley not absolutely prime fully equals Red Wheat in value—anyone can perceive, without much reflection, which is the best value to make sale of now."

When wheat and barley command in the market almost, if not wholly the same price percental, the farmer cannot be wrong in making barley his main cereal, instead of wheat, were there any tolerable certainty that the season would be as favorable for the barley crop. 'Tis true the demand for barley is limited, that for wheat seems to be unlimited; but the area for the growing of No. 1 malting barley is also limited, whereas to the sources of the supply of wheat we can hardly allix limits. Let us compare the prices of both cereals:—

Prices in London, England, Nov. 1:—Wheat, White, per 100 lbs, £2.2s to £2.13s. Ditto Red, £2.2s to £2.8s. Barley, malting, £2.2s to £2.10s. Ditto, feeding, £1 to £1.2s. In the American markets the prices of wheat and barley show little difference. Wheat, per bush, \$1.03 to \$1.08. Barley, per bush., \$1.00 to \$1.05 for choice lots New York grown grain. Some choice No. 2 Canada sold at \$1.12 per bush.

For barley-growing the soil should be in good tilth, but it need not be in so high a condition as is required to produce a heavy wheat crop; barley is not so gross a feeder as wheat; too much rank manure in the soil is injurious to it, the crop runs too much to straw, and is apt to lie, and this makes the grain less adapted for malting purposes. Barley may well follow a wheat crop if the soil be in good tilth and condition. Barley might be better grown on light loam, or hilly and gravelly soils than it is at present; it should, however, be borne in mind that none but malting samples pay the farmer a handsome profit.

How Several Industries Build up Each Other.

The farmer tills his fields with all assiduity and care. He sows the tiny seeds of the clovers and grasses. He stocks it with sheep, and that animal returns to the soil far more than she takes from it. The woolen manufacturers purchase the wool, and hundreds of busy hands convert it into broadcloths and blankets, tweeds and cassimeres and carpets. These are purchased by the farmer, it may be by him on whose field the wool was grown; and gives in payment not only money, the representative of wealth, but the other products of his farm. Each one for himself and at the same time each one for many others. Thus is the wealth of the nation fostered. Take an instance. The carpet manufacturers of one American city, Philadelphia, supply 615 power-looms and 3,309 hand-looms. These looms have a capacity for producing annually twenty-five millions of yards of ingrain and venetian carpet. This information is furnished by a census taken by a leading establishment in that city, and shows the extent to which one branch has grown there, fostered and protected by the representatives of the people. The hands employed in these industries are the most profitable consumers of produce, purchasers of the most perishable and best paying products of the farm, such as fowl, eggs, fresh butter, milk, vegetables and other products. In this manner the industries of a country build up each other, and are, partly at least, dependent one upon the other. We require to have in "this Canada of ours" a more general putting into practice of this principle. We need home markets for our wool and other products. Our country abounds in natural resources. We have unlimited stores of undeveloped wealth. Let us put them to the best account.

The Canadian Farmer's Future.

The *Germantown Telegraph* gives to its readers some very good advice in a pithy and appropriate article on the future of the American farmer. It contains, it is true, nothing new, nothing more than the recommendation of what we have time and again urged upon our Canadian farmers, but those plain truths need to be brought repeatedly before us that they may be impressed on our minds and carried more fully into practice. The *Telegraph* addresses itself to the U. S. farmers, but we have only to substitute the word Canadian for the indefinite word American to make it applicable to us north of the dividing line. Referring to the great development in the varied resources and industries of the country, he says: "The farmer has learned to feel that he has a direct interest in all this because it gives him home markets that render it unnecessary for him to depend upon the foreign demand." We, in this Canada of ours, are yet in the beginning of the development of our country's resources. Our great lines of railway serve, as yet, in a great measure to carry the raw products of our mines and forests to a neighboring country, and to carry them back to us manufactured, we paying them handsomely for workmanship that our own skilled hands might have done.

"But," the *Telegraph* says, "he has not yet understood this because it is difficult for the scattered and isolated cultivators to learn these things; with the increased variety of manufacturers there come openings for more new crops than he can raise. Thus we are informed from time to time of new crops being grown and branches of industries till now unknown in the country being introduced in several districts." Well, we are beginning to be aware of our own resources.

"What is needed is that the farmer should not be content to merely follow in the beaten track, to do as his father did, to raise the same crops, and to depend upon the same markets. The times requires that he should consult his own interest according to his own best judgment; that he should read carefully, regularly, the best periodicals and publications, and especially be wide-awake for new methods, new crops, new machinery, &c. If this shall be neglected we shall see the old crops repeated, one market being over-loaded with fruit, another with grain; men casting away a crop of tomatoes as useless, &c."

What we need—what each farmer needs is a greater diversity in our agriculture, a greater variety of crops. By this, the failure of one crop, or the fall in the price of one commodity, will not be so much felt. And to this we may add, there will not be such deterioration of the fertility of our farms.

The writer well remarks that the principal error of American agriculture is that it lacks variety. Go into a new State like Iowa or Minnesota and everybody will be found raising grain. So it was in the newly settled lands of Canada. The consequence has been, the soil became wheat-sick; besides, as everyone went into the wheat-growing business, the supplies in the market increased to such an extent that the market fell below paying prices. And, even more than the increased quantity, the wretched quality of some products offered for sale have caused this downward tendency in the markets. Not only is this very low, but a positive loss to the producers; it also lowers, in a measure, the price of every sample brought to market, even though it be the very highest.

The Value of Straw.

Straw is frequently offered for sale in our markets at from three to six dollars per ton. It does not pay to sell straw at such prices. It is worth more for converting into manure, not by treading it under foot as is sometimes done, but by feeding it to stock. We do not think there is any greater waste on the farms throughout this Western continent than in this article. Straw is not equal in value to hay; yet, still, its value for feeding is not little. We have known store cattle wintered almost exclusively on the straw and turned out to pasture in fair condition. As it is not as valuable for feeding it is too often wasted, suffered, perhaps, to rot in a pile, or at best scattered in the yard. When cut before it is too ripe and well saved it is an excellent fodder. I used oat straw for many years, feeding it to stock from October to May. They were carefully fed three or four times in the twenty-four hours, not giving too much at a time, and had a feed of turnips, mangels or cabbage morning and evening. The result of this feeding was that my cattle were in a good, healthy condition when turned into the pasture on old May day. In feeding straw it is not well to put too much before them at a time, as more of it might be wasted than eaten; nor should the allowance of roots at one feed be large, as they would refuse to eat the straw, but they always eat a full share of sweet, well-harvested straw when they get a moderate allowance of roots. With such treatment we have even known fattening beasts to do well on straw and roots, and pay a good profit, but in order to finish them in prime condition, it is well to add some richer food, as cornmeal.

Animals do not eat the straw as clean as they would hay; the coarser part that they leave is profitable in the manure heap when mixed with the excreta of the animals. In this there is no waste, as there is of straw merely trodden in the farm yard. The decomposing excreta will thoroughly

decompose the straw and all will form one valuable mass. An old farmers' proverb says old hay, if well saved, is old gold; we may with equal truth say—well saved straw, judiciously used, is worth gold to the farmer in stock-feeding, and the refuse in the manure heap.

For other purposes besides feeding, straw has its value, and that no slight one. Colman in the Rural World, says: "Straw is an excellent thing for keeping out cold, as it is composed of long sealed tubes filled with air. A good, tight and quite durable roof may be made of thatch." To this we can bear testimony. Throughout the British Isles it is greatly used for that purpose in country places, and when put on properly by a good hand it looks well—quite in keeping with farm, farm-yard and farm buildings, and there is no roof gives greater protection from cold. A good coat of thatch will last, in good condition, for at least seven years. Colman further says:—"It is a little remarkable that more attention is not given to making thatch roofs in this country. In most European countries the roofs of cottages, as well as of stock-houses, are covered with thatch. Native farmers would do well to take lessons from foreign settlers in the construction of thatch. The Hollanders, especially, excel in making straw roofs." We have never seen a neater roof of thatch than that put on by an Irish farm labourer. They are, in fact, betimes ornamental, as well as useful, and we have known them to be good in wear for twelve years. The waste of straw is not the least of the leaks in the new world farming.

James Burnet, of Franham, Que., a butter shipper, has gone to Scotland to arrange for shipping Eastern township butter thither direct. This is doubtless a step in the right direction. He will use due precaution that the butter to be sent by him be of good quality and not a "mixty maxty queer hotch-potch" as is too often sent from country stores, till the very name of Canadian butter is enough to insure its rejection in the English markets.

Are we to have Canadian manufactures and home markets? A manufacturer from Milwaukee has been making enquiries about the inducements possible to be obtained for the establishment of a flax manufactory in Ottawa. Mr. Heale, of Utica, N. Y., has accepted the inducements offered, by the Ottawa corporation, viz.:—A lease of land for ninety-nine years, exemption from taxation for ten years, and a bonus of \$10,000, and is going to erect a woolen factory which will employ not less than 100 hands.

Mullein as a Weed and a Flower.

When I first saw the mullein in this country it was in undisturbed possession of a field not far from this city. The tall stems bearing their golden blossoms stood as near to each other as if they had been a regularly sown crop. The land being subjected to the old-time American mode of agriculture, wheat succeeded wheat, till the land was so exhausted that the proprietor left it untilled, a waste common. The mullein seed that had lain long in the soil, now sprang up in the neglected ground, and the tall, golden-blossomed stems seemed to occupy it solely. Again we saw it, growing in equal luxuriance in the city. In grading, a street was plowed in the fall and the next spring brought fourth an abundant crop of mullein-plants.

If the mullein be, as some say, a weed naturalized from Europe, it is strange that its seeds are dispersed with such profusion in the soil,

awaiting the first favorable circumstances to germinate. The grading of the street above mentioned was the first plowing up of a virgin soil. In this it diffused from the field; and here in the street, beneath the old, untilled soil, slept the seed.

I had been quite familiar with the mullein in Europe. It was sown annually in shrubberies as a flower, and was considered an exotic. It was thought quite ornamental, as its tall stems bore their dozen set of golden blossoms among the evergreen and flowering shrubs, in the borders of the back grounds. It is generally known there by the name of Golden-rod, a name very appropriate to its appearance. Of the many "weeds" and native plants that might well be brought into our gardens, and add fresh charms to their loveliness, the mullein is one, not for the flower ground, but as an adjunct to a screen of evergreens, with some of our showy, hardy perennials. M. T. B., in the Tribune, well says "it may be effective in lawn planting." The mullein was reputed to be of no little value for medicinal purposes.

Agricultural Societies.

Recently, while in Toronto, we made a call upon Prof. Buckland, whom we found busily engaged in preparing his reports, which he finds much increased on account of the neglect or carelessness of some of the Secretaries of Agricultural Societies in not making returns in a proper manner and at a proper time, a few of them not having yet completed their returns, which should have been in nine months ago. Mr. Buckland is now nearly eighty years' old; his eyes are becoming dim with age, and he finds it hard labor to perform what formerly was a pleasure to him. He has served the agricultural interest of our country for over forty years. The old gentleman now uses the strongest spectacles made, and they fail to strengthen his vision sufficiently. If any person is deserving, surely this gentleman's merits are worthy of appreciation. But our legislative halls are crowded with lawyers. Judges, registrars, custom-house officers, etc., etc., many of whom have been lawyers and most of whom have had good pay for many years, have a pension granted them. Has agriculture no claim? Who pays all, feeds all, clothes all?

THE ORIGIN OF OUR AGRICULTURAL SOCIETIES.

The Professor informed us that he was at the first Royal Agricultural Exhibition ever held in England. It was held in Oxford. At that time six ox-carts could have hauled everything that was exhibited. Oxen were generally in use at that time for agricultural purposes. [An uncle of the writer kept forty yoke. We well remember seeing many teams of five yoke of oxen on a wagon, although ox-carts were more generally used. We undertook in England, when a stripling, to drive a pair of large oxen; although the oxen were well broke, we drove them bang up against a gate-post, and we did not get our ears boxed for it either. When in England last summer we did not see an ox-team at work any where. What a change!]

Prof. Buckland was among the first to inaugurate Agricultural Exhibitions in our Dominion, and perhaps on this continent. The following are the gentlemen who first established the Provincial Exhibition over forty years ago, nearly all of whom are now gathered to their fathers: Col. Thompson, of Toronto; Adam Ferguson, of Hamilton; John Wetherall, of Waterloo; Sheriff Ruthen, of Cobourg; Col. Marks, of Kingston, and Prof. Buckland. There was no Government aid given to establish it. The gentlemen above named subscribed liberally. Captain Cameron, a Highland Scotchman, and Mr. Buckland went round with a subscription book to take up subscriptions

for it. Of course the Exhibition at that time was different to what it now is; for several years the Association subsidized a Rochester manufacturer to bring some plows and harrows from the States to show our manufacturers and farmers what good implements were. Canadian implements formerly consisted of rough wooden plows, with but little iron, and wooden harrows, some of which had only wooden teeth; also, the scythe, flail and sickle.

The first Exhibition was held on the ground now occupied by the Lieut.-Governor's residence in Toronto. It is a corner lot, and is now called "Ation Corner;" one portion is occupied by a Presbyterian church, one by the Governor's residence, one by a College, and one by a low hotel: thus salvation, legislation, education and education occupy the different corners, and hence the name "Ation Corner."

The first crystal palace was built at Kingston. The first Government grant to aid it was given in Baldwin's time; it was \$2,000. Our Government at that time had no money, but gave a note, which the Society got discounted.

Prof. Buckland is a man of thought and consideration, and a real gentleman; no one ever heard of him injuring another by word or deed. He is too modest and unassuming to force his way in the brow-beating manner too often followed by our place-seekers. If our offices were filled with more such gentlemen a much higher tone would be given to our Society, frauds and falsehoods would receive their just deserts, and confidence would take the place of mistrust. We know he would not wish us to publish this, but there is a duty we have to perform. We say that no legislator in Ontario should neglect his duty to agriculture, and if that gentleman must still hold office he should have an able assistant.

When in Toronto we went into Mr. Rennie's seed ware-room. That gentleman was as mad as a hatter because Canada had only carried off the Silver Medal for cereals at the Paris Exposition. He produced an Indiana paper in which that State was lauded as Americans know how to praise their conquests, because Indiana had gained the Gold Medal for the best display of cereals. Mr. Rennie said that the Canadian grain was superior to any exhibited by Indiana, except the winter wheat; that grain drew more attention than any spring grain. But he was quite sure the winter wheat was the ground on which the decision of the judges was based, and that the grain exhibited by Indiana was not raised in that State, but brought from California. If we had brought some of our winter wheat from British Columbia and exhibited it, he is quite sure that Indiana would have had to have taken a back seat instead of making such a crow.

Mr. J. A. Bruce, the Hamilton seedsman, inquires of us about the statement made in the September issue to the effect that some New Zealand farmers raised three thousand acres of turnips, and that a farmer sowed in one season twenty-five thousand dollars worth of grass seed. Our informants were a Mr. Drummond, a Scotchman, and Mr. Cable, an Englishman. They had farmed one hundred and sixty-five thousand acres; they were partners, and no one was more respected or better credited than these two gentlemen on the vessel of the steamship "Nevada." To be quite sure about the statements made in that issue, we inquired of the Bishop of New Zealand, who was a passenger on the vessel, and he said that we could place implicit reliance on the accounts received from the above-mentioned gentlemen. The quantity appears enormous to us, but we have no reason to doubt the truth of the statements made in Sept. issue.

Dairy.

Milking Machines.

BY L. B. ARNOLD, SECRETARY AMERICAN DAIRYMEN'S ASSOCIATION.

The blood vessels of animals are valves opening always in the direction in which the blood flows. Those in the arteries open away from the heart and toward the capillaries; those in the veins open toward the heart and away from the capillaries. The blood therefore must always move onward. Like water in a pump, it can never go backward. If, by some outside pressure, the walls of the blood vessels are pressed together, the blood will be pushed along in the direction it naturally flows and its motion hurried, and the moment the pressure is removed, the empty vessels will be instantly filled with blood from the opposite direction. Thus, the alternate opening and closing of the hand pushes the blood along, and, as it were, pumps more through it than would have passed if the hand had remained motionless. This increased flow of blood through the hand has the effect of furnishing a larger supply for assimilation, and thereby increasing its size and strength. A similar treatment applied to any other part of the body must produce a similar effect. The alternate contraction and relaxation of a muscle must always tend to an increased circulation of blood through it and promote its size and vigor. The unusual action in the foot and leg of the pedestrian, and in the hand and arm of the blacksmith, give to those organs unusual size and power. Use, by producing motion, is the basis of all bodily development and power, while disuse tends in an opposite direction—to feebleness and diminished proportions.

It is from an application of these well-known laws that the enormous development of the bovine udder has been effected. The manipulations in milking—the gentle pulling, rubbing and squeezing of the teats and udder, repeated again and again in the process of milking, are the most efficient means of hastening the circulation of the blood through the udder and thereby invigorating and developing all its parts and augmenting its secretions. From the increased tendency of blood to the udder from the manipulations in the process of milking, a much larger amount of milk is secreted while the milking is going on, than at any other time. The oftener and the more (within certain limits) the milk glands are emptied and manipulated, the more are they developed, the more milk will they secrete and the greater will be the tendency to continue the secretion because of the greater flow of blood invited to the udder during its handling.

No better treatment could be devised for promoting large secretions of milk and a large and vigorous udder than the manipulations of a skillful milker afford, and they are as well calculated to get the last drop from it—a necessary result to continued secretion—as they are to promote size and action.

Though the bunting of a hungry calf promotes a lively circulation in the udder, it is not equal to hand-milking. The extraordinary activity of the young bovine's nose is the result of hunger from separation from its mother. It is of short duration and does not occur to any great extent when the cow and calf are allowed to run together, and the effort of the calf in sucking, while it exhausts the milk very perfectly, does not develop the milk glands like the human hand.

Whenever, for a few generations, the calf is allowed to run with its dam, her bag diminishes in size and the amount of milk decreases.

The Texan cows afford a good example of this. The original stock, like all the so-called native

stock of the country, were fair milkers when subjected to hand milking, but since running at large and suckling their young, their milk product is quite inferior, although their food is abundant. A similar condition accompanies all native cattle. The buffalo, in its wild state, gives but little milk, but when domesticated and milked, its yield is far beyond what occurs in its native habits.

High feeding and breeding and care have contributed their quota toward developing the milking capacity of the domestic cow, but it is to the manipulation of the human hand chiefly, that we owe the extraordinary size and enormous secretions of her mammary glands.

Any device or mode of milking which should fall short of giving the teats and udder the treatment they now receive in hand-milking, would have an effect like putting a hand or arm in a sling—it would abate their supply of blood, diminish the size and power of the glands and consequently lessen the flow of milk. The rage for milking machines now occupying the attention of dairymen both in Europe and America, does not seem to look in the direction of improvement. If some inventive genius shall by means of atmospheric pressure—the only means possible—be successful in his aims at drawing the milk to the last drop while keeping the teats and udder in a comfortable, quiet and motionless condition, his success could hardly prove otherwise than an injury to dairymen. It would at once put a stop to further development of milking inclinations, and inaugurate a retrograde tendency.

Under some peculiar conditions such a machine might not only be convenient but useful. But looking through a physiological eye its general use in the dairy does not appear to be desired.

An International Dairy Congress.

The dairy and everything pertaining thereto are now, more than they ever were, subjects of great interest to Canadian farmers. This season, it is true, has not brought profit to the dairyman, but there are reverses in every business, and we must, nothing daunted, prepare for the ensuing season.

The Dairy Congresses of Europe and America will doubtless be heard of with interest by all concerned in the manufacture and the sale and purchase of dairy products. From the *American Dairyman* we reprint the following report of the Dairy Congress at Paris:—

An International Dairy Congress was held in Paris on the 16th, 17th and 18th of October. The attendance was large, and the discussions were interesting and instructive. From the reports of the proceedings in *L'Industrie Laitière* we condense the following: The first day's session was presided over by M. E. Gayot, member of the National Society of Agriculture, and Counsellor of the French Dairy Association. M. de Brevans delivered an address on the milk production of the Department of Jura, which has an annual value of 20,000,000 francs. M. Pouriau made a report on the quantity of cream required under certain stated circumstances for procuring 1 kilogram of butter, and on the proper temperature to be preserved. M. Gayot remarked that the irregular variation in graduation of thermometers caused great differences in the notation of temperature. Dr. Gerber expressed a wish that the French Centigrade thermometers might be exclusively used in conducting experiments of this sort. M. Pouriau enumerated briefly the advantages of the method of separating cream by centrifugal force. He also disputed the theory of butter-making with milk at a low temperature. Dr. Gerber, on the contrary, believed that cold preserves the aroma of butter, and that the causes of its loss were to be found in the defective process of manufacture.

The second day's session was presided over by Count Toustain, President of the Agricultural Society of Bayeux, and President of the French Dairy Association. The chairman informed the

meeting that Spain, desiring to take part in the Congress, had sent three representatives, Messrs. de Santos, Vincente Alonzo and Eduardo Navesco. Dr. Gerber described several different methods of analyzing milk, and exhibited a very simple and ingenious apparatus for the purpose of his own invention. A long discussion was held on the subject of the inferiority of the butter of Brittany as compared with that of Normandy. The principal reasons assigned for such inferiority were, defective manufacture, and the existence of oleomargarine factories in Brittany. It was determined to offer a prize for the invention of a practical method of detecting promptly the adulteration of butter with oleomargarine. On the motion of the chairman, it was also unanimously resolved, "that the attention of the Government be called to the existing trade in butter adulterated with oleomargarine, in order that such adulteration may be vigorously prosecuted in conformity to the law of 1851." M. Calvet made some inquiries relative to the milking qualities of Breton cows after removal to other districts. The third day's session was likewise presided over by Count Toustain. M. Chevalley delivered an address on the action of cold upon milk, in relation to the dairy manufacturers of the Tyrol valleys, where the old systems of manipulation have been abandoned in favor of the low temperature method. M. Delalonde, General Secretary of the Association, explained the nature of the effect of low temperature upon milk. M. Schmitz announced that an exhibition would shortly be given in Paris of the creamer worked by centrifugal force, invented by Messrs. Lefeldt & Lentsch, of Schoningen, in Brunswick, Germany. M. Evillard, delegate from Sarthe, made some interesting remarks on the general dairy interest of his department, on the process of raising cream, the methods of making butter, and the best breeds of dairy stock. He laid great stress upon the advantages offered by goats. He also urged the Association to encourage closer relations between producers and consumers, and concluded with the wish that the Association would provide for the education of women of Sarthe in dairy schools, where they might receive special instruction, and be treated with consideration. This terminated the proceedings, and the Congress was brought to a close by the President thanking, in the name of the Association, all who had taken part in the Congress, and the distinguished strangers who had attended; and expressing the feeling of grateful remembrance in which the occasion would always be treasured in his own memory. Similar courtesies were tendered and reciprocated at a grand banquet given the same week by the French Dairy Association.

Profits of Winter Dairying.

In the proceedings of the Eastern Pennsylvania Experimental Farm Club, Mr. Benjamin Swayne, as an experienced dairyman, stated that he was satisfied that the dairy interest or dairy department is the most profitable, and especially the winter dairy. He had kept a regular account of the money expended and received, and gave the figures of the proceeds of his (not large) dairy one year from the first of April, 1876, and he would take this opportunity to impress upon the members of his club the necessity of keeping a regular farm account. He started in the spring with seven cows, valued at \$336; afterwards purchased a heifer for \$40.50, and up to this time milking well. On the 13th of November purchased three cows more, making the total cost of cows \$556. He had fed 496 bushels of feed at a cost of 31 cents. He sold during the year one cow for \$25, ten calves for \$113, 1,853 pounds of butter at an average of 38 cents, ten cows on value at \$400. This gave him a profit of \$557.28 on the cows, not counting hay eaten or pasturage. He considered the manure increased in value to the amount of hay and grass eaten. He used a vault for his milk both winter and summer. He had not found it of any advantage to cut the hay or fodder. He fed both meal and hay, or fodder dry, and long feeding, about nine quarts of feed, one-third corn meal and the other two-thirds wheat bran. Many members of the club expressed their minds upon the subject of feeding cows and were of the opinion that there was a saving of at least one-third in the amount of hay or fodder by cutting or steaming.

Butter packed in kegs made from white fir staves is said to have imparted to it neither taste nor smell. It is extensively used in California.

Artificial Butter.

The wholesale butter dealers are beginning to complain of the inroads made upon their business by the growing traffic in the compound known as oleomargarine. It promised to be a formidable rival to both the farm product and that of the creamery. Mr. T. Mortimer Seaver, Secretary of the Butter and Cheese Exchange, who is evidently well posted as to the future prospects of the trade, in an address delivered before the Susquehanna Agricultural Society of the State of New York, on the manufacture and use of oleomargarine, said:—"As a product, it has already taken its place among the commodities of commerce, and is destined at no distant day to prove no mean competitor of a certain class of butter. It has not, as yet, risen to the rank of a first-class table product, though in many instances where it has been surreptitiously sold for butter, it has deceived hundreds who daily consume it. If, then, its abettors have managed to produce an article so clearly resembling butter that persons in the daily habit of eating butter do not perceive the difference, it needs no great stretch of imagination to foresee how formidable an opponent it may become, when by constant manipulation and improvement the defects which now enable good judges to detect it are eradicated, the prejudice of consumers removed, and the product given a fair opportunity, on its merits, which, until a very recent period has been denied it.

"Next to the dairy resources of the West, there is no competition from which New York State has so much to apprehend as oleomargarine; and it is even a greater competitor against the West, for the bulk of Western butter, outside of creamery, being an inferior grade, off color and flavor, compares very unfavorably with the bright, rosy, uniform color of oleomargarine, not to mention the fact that it can be produced at figures cheaper than ordinary Western, and fresh every day."

"In spite of the low prices that have ruled this summer, the oleomargarine factories have been constantly busy, and hundreds of tons of it shipped abroad and consumed at home. This is in the face of all the opposition that has been brought to bear against it. What, then, has the future in store for it when every commission house in the city shall open its doors to receive it, and, placing it alongside of your dairies, offer it for sale, advocating its merits whenever it promises a better profit than butter? And this is just what you may look forward to within another year."

Dairy Notes.

The habitues of stock yards, men who are thoroughly conversant with the sheep, hogs and cattle that come and go from one year's end to the other, express the opinion that the producer derives no benefit, makes no money by the ill-bred, low fleshed animals offered for sale. Time and again has it been exposed as one of the worst of the farmers' fallacies to permit animals to breed at will, and then "root hog or die" for a living until they arrive at a worse than scrub maturity in the expectation of making money out of them.—*Journal of Agriculture.*

Elmira, N. Y., is cursed, or was very lately, with a cow-milking machine. It had tubes, and all you had to do was to sing some sweet tune, or say "So, bossy," and then carry the pail to another cow. Yes, carry the pail to another cow; for the pail was not so full but that it would hold the milk of both. As a result, in one instance of a trial of the milker, a Mr. Fitch gives all whom it may concern fair warning of intention to "eject from his premises any man who should enter with the request that he take a patent cow-milker." This is one of the humbugs we have tried, and exposed in the *Scientific Farmer*, with the expression of opinion that no machine can succeed which does not give the udder the motion the calf gives in sucking, and which every good milker must imitate so far as he can.

A Brother in Burlington County, New Jersey, writes:—"Our Pomona Grange has made one shipment of sheep and cattle from the West this summer, and Brother James Lippincott starts soon for three car-loads of heifers and cows, by order of the Executive Committee of Pomona Grange. Said committee being composed of one from each grange, and each one charged with the wants and needs of their own grange, but of this committee is chosen a committee of five or six, called the Stock Committee."

Poultry Yard.**White China Geese.**

It is only of comparatively late date that geese-breeding has received much attention, more especially the raising of pure-bred ones; and even now there are many who would like to go into it but are afraid it will not prove profitable. Geese pay well on a farm where they have plenty of liberty and can get all the grass they can eat, which is considerable, but they cannot bear confinement and do not pay when kept in close quarters. A grain and grass farm under an ordinarily good system of management is just the place to make them pay, and those who live on such farms, and have not tried geese, should do so by all means.

There is one thing which makes many persons opposed to breeding geese, and that is their pugnacious disposition, for they are severe on other poultry. Full-grown birds (chickens) can easily get out of their way, but they will kill many a young chick if they get a chance to do so. The old gander is worse when his mate is setting, and that is generally the time most young chicks are out. A little care, however, will prevent any loss in this way.

In regard to varieties opinions differ naturally. The Toulouse geese are very highly esteemed, growing to an exceedingly large size, but in point of laying the White China are ahead of them. They are pure white in color, with a knob or excrescence at the base of their bills, giving them a very curious appearance.—[*Poultry Bulletin.*]

Hardiness of Fowls.

In view of the very severe losses of chicks this year by poultrymen generally all over the United States, it would seem that hardiness is one of the greatest essentials in fowls, and the subject worthy of a few lines.

My experience is that clumsy, sluggish fowls are not as healthy as quick, active ones; and also that feather-legged fowls are not as healthy as clear-legged ones.

First, it stands to reason that an active game or Leghorn fowl, that forages away off, and picks up many insects, etc., getting a great deal of exercise, should be healthier than any inactive, clumsy Cochinchina or Brahma, that has to be lifted off and on the roosts, and that sits around on the ground all the time.

Again, a clear-legged fowl has a better chance to travel and scratch than one whose legs are clogged by feathers, and also does not catch the filth and snow, etc., and is not so tender-footed.

My Leghorns are wide-awake creatures, and they scratch and lay and cackle right along, and keep my egg baskets full.

My Plymouth Rocks are fine, large, clean-legged birds, weighing eight to twelve pounds. They are much larger than the Leghorns, but not quite their equals in laying. They are up before me in the morning, are active and forage long ways off, and many of the chicks I do not see till they come home late, with their crops full. They are well-named Rocks, because so hardy and solid, and almost proof against disease. I never heard of one having cholera.

Give me the active, clear-legged fowls, and you may have all the balance. No cholera in mine, thank you.—*D. A. S., in Journal of Agriculture.*

Composition for Hen Roost.

Make a trough for the roost by nailing lath on both edges of a piece of scantling or board three inches wide, projecting upward half an inch or more. Fill this trough with mortar, into which has been put to one pail of mortar half a pound of sulphur, half a pint of crude carbolic acid (liquid) and half a pint of kerosene. If you want the mortar to set quickly, add one pound of calcined plaster, such as dentists use for casts. Mix thoroughly. The mortar can be knocked out easily, and removed once or twice a year. Have these roosts loose, so they may be turned over bottom side up in very cold weather, to guard against freezing the fowls' feet by contact with the cold mortar. Poultrymen will find this much more effective than patent eggs, etc., as the whole flock sit on the roost ten or twelve hours every day, instead of a part of them a few minutes, when they are laying. The above is neither expensive nor troublesome to make, and should be used by everybody who keeps fowls.

Veterinary.**Granular Growth in Wounds.**

To E. B., Elgin County.—That proud-flesh is the consequence of such a wound as you describe, and is to be expected unless proper precaution be taken. The case is so similar to one described in the *Country Gentleman* that we copy it as applicable to the case of your horse:

"Last fall one of our horses calked himself severely, so that for two months he was laid up. He did it again in the spring, and in July a third time in about the same place. He was laid up, but escaped and cut himself once more, and before these had healed he calked himself a fifth time, so now there is a lump larger than a half dollar standing out nearly half an inch. This does not seem to heal over, and we are afraid of proud-flesh getting in. Can you recommend any remedy for this, and a preventive for his calking? How would rubber shoes answer for this last? Have any of your readers had any experience with them?" "A. G. G."

The ulcerated surface must be pared off with a scalpel to a level with the surrounding parts, and after it has ceased bleeding, paint over with a strong solution of carbolic acid, and continue this every day for a week, or longer if necessary: Also apply the following powder twice a day for a few days, and as the sore dries diminish its use. Powdered calcium hydrate, 1 oz.; red precipitate, 2 dr.; mix. After a week or ten days smear the parts with a paste of white precipitate and Venice turpentine. If the growth begins again it must be pared off with the knife, and if the wound is at the junction of skin and hoof, the latter must be kept rasped thin under it to obviate pressure. If he calks himself in the stable, the feet should be protected by boots. If outside, then probably the Rodway shoe would be serviceable. The rubber shoe is not durable, but with careful driving you ought to be able to prevent much of this awkward action on his part. Still there are animals that, despite all contrivances, will cut themselves with calks.

The Digestion of the Horse.

BY COLVIN.

The horse's stomach has a capacity of only about 16 quarts, while that of the ox has 250. In the intestines this proportion is reversed, the horse having a capacity of 190 quarts against 100 of the ox. The ox and most other animals have a gall bladder for the retention of the bile secreted during digestion; the horse has none, and the bile flows into the intestine as fast as secreted. This construction of the digestive apparatus indicates that the horse was formed to eat slowly and digest continually bulky and innutritious food. When fed on hay it passes very rapidly through the stomach into the intestine. The horse can eat but about five pounds of hay in an hour, which is charged, during mastication, with four times its weight of saliva. Now the stomach, to digest it well, will contain but about 10 quarts, and when the animal eats one-third of his daily ration, or 7 pounds, in 1½ hours, he has swallowed at least two stomachs full of hay and saliva, one of these having passed to the intestine. Observation has shown that the food is passed to the intestine by the stomach in the order in which it is received. If we feed a horse six quarts of oats it will just fill his stomach, and if, as soon as he finishes this, we feed him the above ration of seven pounds of hay, he will eat sufficient in three-quarters of an hour to have forced the oats entirely out of the stomach into the intestine. As it is the office of the stomach to digest the nitrogenous parts of the feed, and as a stomachful of oats contains four or five times as much of these as the same amount of hay, it is certain that either the stomach must secrete the gastric juice five times as fast, which is hardly possible, or it must retain this food five times as long. By feeding the oats first it can only be retained long enough for the proper digestion of hay, consequently it seems logical, when feeding a concentrated food like oats, with a bulky one like hay, to feed the latter first, giving the grain the whole time between the repast to be digested.

Garden, Orchard and Forest.

Seasonable Hints—December.

BY HORIUS.

Old fruit-bearing trees require mulching every year with manure, ashes or any fertilizing material; if not done last month, do so now, if weather will permit. This is an attention which your trees demand, and which is essential to their future productiveness. During any mild spells of weather, pruning may be gone on with; also the old bark may be scraped off. All these should be attended to whenever opportunity offers. If left till spring the chances are they would not get done at all. After heavy snow falls the snow around young trees should be firmly tramped to prevent mice from destroying the bark. A good plan where mice are very troublesome, is to place at different points about the orchard or garden, little stacks of corn stalks or a few sheaves of oats. These serve as harbors for them, and amusement for the boys and dogs, once a week, to inspect the stacks for the vermin therein collected. Mark any trees bearing unprofitable fruit for to be top-grafted in spring with good varieties, and secure cions now so as to have ready and in proper condition for working. The borer is committing great ravages in many fine orchards, particularly in the northwestern part of Ontario. To save your trees will necessitate constant vigilance on your part to discover the enemy and destroy it. Covering the ground with a heavy coat of ashes, wood or coal, is recommended as a preventative. Where trees have become crowded it would be well to thin them out now, removing those that are sick and weakly. One good, vigorous tree, stocky and healthy, is worth a whole clump of poor ones. During this month any contemplated changes in the formation of the grounds, or approaches to the house, or the construction of a lawn or walks, and planting of hedges, may be planned out, and the necessary information and details collected, ready to place in operation as soon as practicable in spring. How many fine farm houses there are in the country that have execrable out-buildings and surroundings—no order and no taste—rubbishy corners where all the old tins and broken milk crocks, delapidated straw-cutters and broken rakes, find a resting place. In summer time the burdock grows up strong and vigorous and kindly spreads its broad leaves out to cover those scenes of neglect and carelessness. How a little labor would improve all this. How much better a clump of evergreens, or some fruit trees, would look, than the thickets of lilac and wild thorn we notice around so many places. Cellars will need care to prevent frost. Apples will require turning over, picking out decayed ones and assorting the early winter kinds to take to market. Look after any Dahlia roots and Gladiolus bulbs you may have—see that they are in a cool, dry place. Plants in the house require more care now than during any other time. Water should be given sparingly, and then only when ground is dry. Give more moisture and heat as the roots touch the edge of the pot, and frequently give the leaves a good syringing or washing to remove the dust.

American Grape-vines and Phylloxera.

M. Boutin, in an article in *Comptes Rendus*, finds that a resinous principle exists in American vines which have resisted the attacks of Phylloxera, especially in the bark of the roots; that it is present in about double the proportion in which it occurs in the French vines. He thinks the resisting power of the American vine due to this resinous substance. The puncture made by the

insect is cicatrized by the exudation of the resinous matter when this is present in sufficient quantity, and the escape of the nutritive juices of the plant is thus prevented.

The American vines are better able to resist the attacks of the Phylloxera than the vines of France or other parts of Europe. Nevertheless great damage is done to the American vine by this dreaded insect—to both leaf and root. The first step towards the restoration to health proceeds from the invalid knowing that he needs the healing skill of the physician; so is it well to have knowledge that our fruit-trees and vines are attacked by an enemy that often proves fatal. From an article in a former number of the *Horticulturist*, by T. J. Parker, we take the following extract:—

There has long been noticed certain unaccounted-for years of the immaturity of the wood of the vine, want of ripening at the usual period of its fruit, and in the winter or early part of the next season after, the death of the old canes of the vine. This immaturity of the fruit and buds, decay of leaves, we have too often ascribed to wet or dry, cold or hot fall weather, or some other apology of a season. The death of vines during the winter, and especially by the hot sunbeams of early spring, and the dryness and heat of later spring, we too often have ascribed to any cause except the injury done to the roots, and especially the rootlets of the vine, by an insect now known the world over as the *Phylloxera*. Perhaps it was certain French savans and German observers that first discovered this minute pest on their vines. But to Prof. Riley, the distinguished entomologist of Missouri, so far as I know, is due the first distinct public announcement, in a manner to attract attention in this country, that this insect here was also the cause of the injuries to vines usually credited to other causes.

If my ideas and observations are correct, one form of the Phylloxera is its appearance in mid-summer, on the leaves of the vine, and usually by punctures on the top of the leaf. These punctures are oftener open than closed. I have seen them in both forms. Where there grows a minute ball, or excrescence, and as it scientifically belongs to the same class of leaf growth as the nut "gall" and other "galls" or roundish growth of leaf or leaf stem, those in Europe call it a "gall."

The great damage is done to the root, the second form of its injury, which also in midsummer, and later, perhaps at other periods, it does by its feeding especially on the rootlets, where, also, it produces excrescences and other marks. But of this my own observation has not been accurate enough to fully describe it—a matter which has been now fully done by others. As it does its injury to the roots, the roots furnish diseased sap, and, as I have said, I believe it accounts for the want of ripening of the canes and fruit at the proper time in the fall. And often frost comes on the wood, leaves and fruit, yet but half matured. Hence the loads of half ripe grapes that deluge our markets of late years. Hence, too, the bearing wood for the next year enters the winter but poorly prepared for flowering and fruit bearing the next season.

As the question now stands, it seems probable that much of the irregular ripening, much of the killing of buds and canes; perhaps of all of the occasional loss of the upper portion of our American vines, and other unaccounted-for injuries, are to be charged to this insect, whose name as Phylloxera, or Pemphigus vitifolia, is scarcely yet known to the mass of vine growers. At any rate, it becomes us all to carefully observe, accurately note and describe its habits and our losses by it. I am favorable to all State and other entomologists, but do not consider it their duty to provide a remedy for every insect; as I believe, in all cases of a persistent insect, as the curculio, and, I fear, Phylloxera, nothing effectual can be done by any one, except on a scale too small to accomplish much.

THE JAPANESE CLIMBING FERN.—The *Lygodium scandens* (Japanese climbing fern) is a most graceful climbing plant, growing from one to fifty feet, as desired. It is quite as easy of culture as the smilax, and will, no doubt, be largely used for similar purposes in decorating. Although a climbing plant when supported by strings or wire, it can be used with equal advantage as a drooping plant for baskets or vases.

Quinces and their Cultivation.

Why is it that the quince, which is as hardy and as well adapted to our soil and climate as the apple, is comparatively scarce, and commands on the average three or four times as much in our markets? There is seldom, if ever, a "glut" in the market, and prices are uniformly remunerative, bringing the producers for handsome fruit from \$2 to \$4 a bushel in New York and Boston almost every season. The apple, in the fresh or dried state, enters into the annual supplies of almost every family, as cider, vinegar, jelly, sauce, and other preparations, and is also a profitable feed for our domestic animals, while not one family in ten knows anything of quince preserves and jellies. It is really one of the most appetizing and wholesome of the sweetmeats found among the stores of our housewives; and the cultivation of this fruit should be greatly extended. We know of no fruit that promises so good returns as this to the intelligent fruit-grower. If we look at the quince plantations, as we ordinarily find them, they are few and far between in the farming districts. The popular fancy is that the bush flourishes best in a damp soil, and if there be an undrained swale on the premises, we may safely look for the quince bushes there. More frequently than otherwise, they stand in the grass, receive no cultivation, and after a few brief years die, either from stagnant water or the attacks of the borer. Under such treatment the trees have no chance to bear fruit, and make themselves profitable. The quince wants a deep, rich, rather moist soil, but it should always be well drained. Good corn land, that will bear maximum crops of grain, will bear good quinces. No fruit pays better for thorough cultivation, and the ground should always be kept under the spade or plow, and should, if we want abundant fruit, receive a good dressing of manure every season. The bush, or tree, requires very little other care than the occasional thinning out of the branches if they crowd too closely. The thinning of the fruit, where it sits too abundantly, will increase the size and profitableness of the crop that remains. The fruit, as well as the flower, is quite ornamental, and an attractive feature in October and November. The "apple," or "orange quince," is by far the best variety. It ripens earlier, and brings the best price in the market. The quince is easily propagated from cuttings, and this is the simplest and best method of multiplying a desirable variety. Cuttings put down in the spring, in a moist, well drained soil, a little shaded, will root about as readily as the currant. In making a plantation the young trees should be set at least ten feet apart.

Consumption of Timber.

In pleading for the protection and perpetuation of forests, the *Lumberman's Gazette* gives some interesting particulars of the amount of timber consumed every year in this country. "We have now," it says, "about 90,000 miles of railroad; the annual consumption for ties or sleepers alone is 40,000,000, or thirty years' growth of 75,000 acres. To fence these these would require at least 130,000 miles of fence, which would cost \$45,000,000 to build, and take at least \$15,000,000 annually to keep in repair. We have 75,000 miles of wire, which requires in its putting up 800,000 trees, while the annual repairs must take 300,000 more. The little, insignificant lucifer match consumes annually in its manufacture 300,000 cubic feet of the finest pine. The bricks that are annually baked require 2,000,000 cords of wood, which would sweep the timber clean from 50,000 acres. Shoe-pegs are quite as important an article as matches or bricks, and to make the required annual supply consumes 100,000 cords of fine timber, while the manufacture of lasts and boot-trees takes 500,000 cords of maple, beech and birch, and about the same amount is required for plane-stocks and the handles of tools. The packing-boxes made in the United States in 1874 amounted to \$12,000,000, while the timber manufactured into agricultural implements, wagons, etc., is more than \$100,000,000. The farm and rural fences of the country consume an immense amount of lumber and timber annually, but as we grow older as a nation, this consumption may, and probably will, be reduced by the more general use of live fences or hedges. Our consumption of timber is not only daily on the increase, but our exportation of timber is also rapidly increasing. Our staves go by the million to France annually; walnut, oak, maple and pine to England, and spars and docking timber to China and Japan.

vation.

is as hardy... commands on much in our... a "glut" in... remunerations... some fruit... and Boston... the fresh or... supplies of... jelly, sauce... a profitable... one family... reserves and... appetizing... found among... cultivation... We... good returns... If we look... dinary find... the farming... at the bush... there be an... we may safely... are frequently... receive no... die, either... of the borer... no chance to... fitable. The... st soil, but it... od corn land... in, will bear... for thorough... ways be kept... if we want... of manure... requires very... thinnings out... closely. The... abundantly... ss of the crop... the flower, is... e feature in... or "orange... It ripens... the market... cuttings, and... of multiplying... down in the... soil, a little... the currant... es should be

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perpetuation... gives some in-... of timber con-... "We have... of railroad;... sleepers alone... with of 75,000... require at least... cost \$45,000... 100,000 annu-... 5,000 miles of... up 800,000... take 300,000... er match con-... 300,000 cubic... hat are annu-... wood, which... 50,000 acres... an article in... of the required... ds of fine tim-... and boot-trees... and birch, and... r plane-stocks... g-boxes made... to \$12,000... into agricul-... more than... fences of the... nt of lumber... row older as a... probably will... of live fences... er is not only... ation of tim-... r staves go by... t, oak, maple... docking tim-

Planting a Fern Case.

In planting fern shades made wholly of glass, it is a good plan to lie down a good depth of broken flower-pots, or clean cinders of the size of walnuts, and to supply at first enough water to fill up as high as these, so that when filled the water may be heard to rattle among the crocks if the pan is tilted on one side. By lifting off the glass every day for an hour, the exhalations are got rid of speedily, and the ferns are constantly supplied with what rises through the soil by capillary attraction. Success in these matters often turns on points of management that appear trifling, therefore it is well to set forth the mode of planting a fern case.

If the case be intended for a winter ornament, it should be planted in July or August, that the ferns may be established before the decline of the season; and if they are evergreen kinds, they will have plenty of time to throw up plenty of fine fronds, which the liberal supply of water from below, with regular ventilations, will render luxurious and beautiful; and before winter comes, the excess of moisture will be gone, but the soil will hold enough to render watering quite unnecessary until spring. In the case of a large pan, say six inches in depth, the planter should lay down two and a half inches of drainage, and the top stratum should consist of very small stuff, not larger than hazel nuts. On this should be laid a thin coating of half decayed moss or sphagnum. Fresh green moss is apt to go sour or breed fungi, and therefore it is preferable if it has been for some time exposed to the action of moisture. The next step is to fill up to the level of the rim with a mixture of turfy peat, leaf mould, small broken charcoal, and the siftings with plenty of silver sand. As it is well in the case of young beginners to be as exact as possible, the compost in which the ferns are to be planted should be pretty nearly as follows:—Peat three parts, leaf mould one part, silver sand one part, broken charcoal and crock siftings one part. The compost should be broken up and mixed with the hand, and should be in a free lumpy state. Ferns rarely prosper when the compost is sifted, as it becomes too closely set, and stiff; but a little of the finest of it should be put aside to dress the surface with, when the planting is completed. The new process is one strongly recommended, namely this:—Take a can of boiling water, and water the soil till enough is supplied to rise to the top of the drainage. The water should be poured into the centre first to warm the soil gradually; if poured against the glass suddenly it may shatter it. This should be done carefully, and with a little caution, there is no risk. The use of the boiling water is to destroy any insects that may have escaped the planter's eye when making up the compost. It will not only do that, but it will kill their eggs also, and equally make an end of the seeds of the weeds and the mycelium of fungi; all of which are enemies better got rid of at first than to be hunted for when their ravages become a source of alarm.

When the pan is nearly cold, the ferns may be planted, and the process of planting will consolidate the compost, so that it will, when all is finished, be an inch below the edge of the pan, as it ought to be; it may indeed go below that, and need filling up with some of the finest of the mixture, which should be sprinkled over as a finishing touch.—[Land and Water.

Saving Frosted Plants.

As the season of frost is approaching when tender plants are liable to be frozen, it is of advantage to know how to save them. Cold water will do it, but it must not be applied in the light. Cover them so they may be entirely dark and excluded from the air. After treated thus, all except very tender ones will come out all right. It is even better that they be not watered while frozen. The proper way is, when the frost has been partially drawn out of them, naturally, to drench them with cold water from a fine-rosed watering pot, and immediately cover again and let them so remain until they regain their natural color. When they are removed, clip off all such parts as are blackened. The better way, however, in the fall, is to remove all tender plants to the house or else carefully cover them when frost may be feared. Thus, dahlias, cannas and other herbaceous plants may be made to do duty in the West for a month longer than usual, since we often have a few frosty nights, and after that a long season of beautiful weather for weeks.

Governing Tree Growth.

I was glad to see your article on the effects of cultivation, the principles of which agree exactly with my experience, and are certainly of a good deal of importance. How many thrifty young trees, and only thrifty ones, do we see in the spring with dead points at leafing time! It is often the result of injudicious forcing by cultivation late in the season, pushing the growth beyond the natural growing time into the ripening period, and thus, tender and immature, the terminal buds are killed by the frost. The principle has reference only to the tips, the rest ripening in time, owing to its earlier growth. I think it matters little by what means the rapid growth is secured, whether by stirring the soil, manure applied, or the natural fertility of the land, so that it continues the growth too late to harden.

There was a small elm on my premises on very poor soil that made but two inches growth annually, varying a little with the seasons, and it formed its terminal bud the fore part of July. Two years ago I removed the soil and found a couple of slight thread-like roots with almost invisible rootlets arranged along them, which was the only support of the tree, which till recently had other support, being an offshoot from another tree. I mixed a little manure, ashes, and some broken bits of bone with the soil and returned it to its place. A new growth put out at the terminal buds and other places in a few weeks and pushed on quite rapidly, making some eight inches' growth, then forming its second terminal bud in time to secure it against the frost. It had exhausted the manure. Had the quantity been greater it would have run its growth, beyond doubt, into the face of the frost.

In cultivating young trees I am very careful not to allow the growth to extend beyond the prescribed limit, though sometimes the season gets the better of me, as is the case now, the rains and the warm weather combined for a number of weeks rushing the growth beyond its usual bounds, carrying terminal buds and all; and only a favorable fall will save from harm. Generally, however, there is no danger, having the ground rich enough for average growth, and relying upon surface work for the desired increase, such as cultivating, mulching (in a drouth) and manuring—liquid manure the most prompt—thus having the growth in hand to be checked or increased as desired. The great advantage here is with young trees, which admit of being pushed, fruit bearing trees less. I thus get an orchard sooner, and the trees are finer. But care must be taken to lessen the growth at the proper time in the season, about the middle, and this is done by stopping the surface work. But it cannot be done with all kinds of soil—only the shallow, where the roots are near the surface, as is the case usually with clay. In deep soil, manured and improved by drainage, the roots lie too deep to be readily reached.—[F. G., in N. Y. Tribune.

Small Evergreens for Transplanting.

The growth of small as compared with large evergreens, transplanted at the same time, produces some very curious results, which might puzzle those not sufficiently familiar with horticultural science. We have a good example at hand. An experienced horticulturist says:—“About twelve years ago a large evergreen was transplanted by a friend of ours into his garden. It was about twelve feet high and great care was taken of it. At the same time we set out a small one about eighteen inches in height. Now what do you think was the difference between the two trees at the present time? The large tree has grown about four feet. The small one is twenty feet high. The large one has become the small, and the small the large.

It is a good illustration of the imprudence of selecting too large trees. If we could plant seeds of the trees we desired in the place where we wanted them to form an orchard, such trees would be more healthy and much longer lived than transplanted trees can be; but this is a condition of things not easily attained. We should therefore adopt the nearest approach to it, and set out young thrifty plants, with all their fibrous roots untrimmed, that will, in the course of time, adapt themselves to the condition in which they are placed, and form a valuable orchard. Could we take up large trees with their roots, and a ball of earth with each tree, then such trees would not meet with a check, and a gain of time would be the result; but this is seldom the case, and the better course is to plant out small specimens.”

Why Pruning is Needed for Young Trees.

The first advantage is that you can form just such a top on your own trees as you wish, by cutting away such limbs as you don't want and shortening those that are getting too long, making them spread more and thinning out where they grow too thick and training up those that are inclined to droop and hang too low. But in order to do this successfully, you want to study the nature of the tree. To illustrate, I will give some examples of familiar trees.

Take a yellow Newton Pippin apple tree. When it is young and thrifty it is inclined to shoot up very tall, with the branches close together, and, when the tree gets in full bearing, the top will be bent and twisted all out of shape by the weight of the fruit and frequently the tree will be broken down and spoiled. Or if it be not broken, the long limbs will remain bent over and throw out a great many shoots from the upper sides of the limbs, and thus make a thick and very ugly top. Now, by proper pruning at the right time, we may avoid this, and this is the way to do it:—Cut off all your limbs and top of your trees when setting out, and then prune every year, so as to keep the top in good shape, by cutting back those shoots that are growing too tall and thus make them spread out more, and thin out where they get too thick, and never suffer a tree to fork. When you see two or more branches of equal size growing out from the main stem, cut off all but one and that from the main tree. Let the branches grow up out from the sides, at proper distances from each other, so they will have plenty of room to bear and mature fruit, and, if properly shortened in, they will bear their crop of fruit well without breaking or bending out of shape.

The yellow Bellefleur is of the opposite class of trees, and needs a different treatment in some respects. Such trees are inclined to form a very thick top, which grows low and spreading, and hangs too low if not trained upward. Such trees need a good deal of thinning out among small branches, and in such a way as to encourage the branches to grow upward.

Now, if you commence pruning your trees while young and follow it up every year (as you should), in a proper way, you can form just such a top as you want. If your tree needs spreading out, cut the young shoots off just above a bud on the outside of the shoot, and if you want to train the tree upward, leave a bud on the upper side of the limb where you cut it off. These rules will apply to all kinds of fruit and ornamental trees and shrubbery.

Protecting by Fresh Straw-manure.

Many persons have remarked, that after having, as they supposed, protected roses and other tender plants with straw for the winter, that they have come out from under the cover in many cases worse than those entirely exposed; and it is common to hear people with this experience say that protection is an injury. But in many cases the injury is not from the protection, but from the salt it contains. Fresh strawy matter from stable-yards is one thing, and fresh straw from the barn another; and while straw is a benefit, rank fresh manure is an evil. For small things dry leaves with a little earth thrown over is excellent. Where the crowns of the plants are hard and woody, the earth itself drawn over a few inches is good; for larger things straw or even corn-fodder protects admirably, but should not be too bulky or twined round too tightly, or it may smother. But always beware of fresh strawy litter from the barnyard. Thousands of young plants, especially young evergreens have been destroyed by it.—[Germantown Telegraph.

New Life for Old Pear Trees.

That the pear is a long-lived tree is shown by the cases of the famous Endicott and Stuyvesant pear trees, which lived to be more than two hundred years old, and experiments show that many of the mossy and fruitless trees, which at thirty or forty years of age are apparently worthless, may be given new life and vigor, and made productive again by stirring the soil around them as far as the roots extend, manuring them liberally, cutting out the dead limbs, and grafting a new top. Three seasons should be taken in which to put on a new top. Grafting the top limbs the first year, and working down wood ashes, is one of the best fertilizers. Old bones well buried are good, and the contents of cess-pools and privy vaults exceedingly so. In stirring the soil do not break the roots. [New Bedford Mercury.

The Dominion Picture.

The accompanying picture represents in an imperfect manner a large handsome lithograph, twenty-two by twenty-eight inches in size, which has been engraved expressly for the ADVOCATE. In the border which surrounds the portraits our productions are to be seen—cereals, fruit, flowers, vegetables, etc. In the centre of the foundation is an agricultural scene, flanked on one side by representations of lumbering, mining and manufactories; on the other by commerce and fisheries, also the "Sarmatian," the vessel that brought our new Governor and his illustrious wife to Halifax. Our national flag under the British crown surmounts the whole, flanked on one side by the Marquis' coat-of-arms and on the other by the Princess' coat-of-arms. The rose, shamrock, thistle, and maple leaves

will afford much amusement, as not one in ten will be able to find out all that is in the picture.

This picture is produced in Canada, and is pronounced unsurpassed in workmanship and design by any thing yet produced in the Dominion.

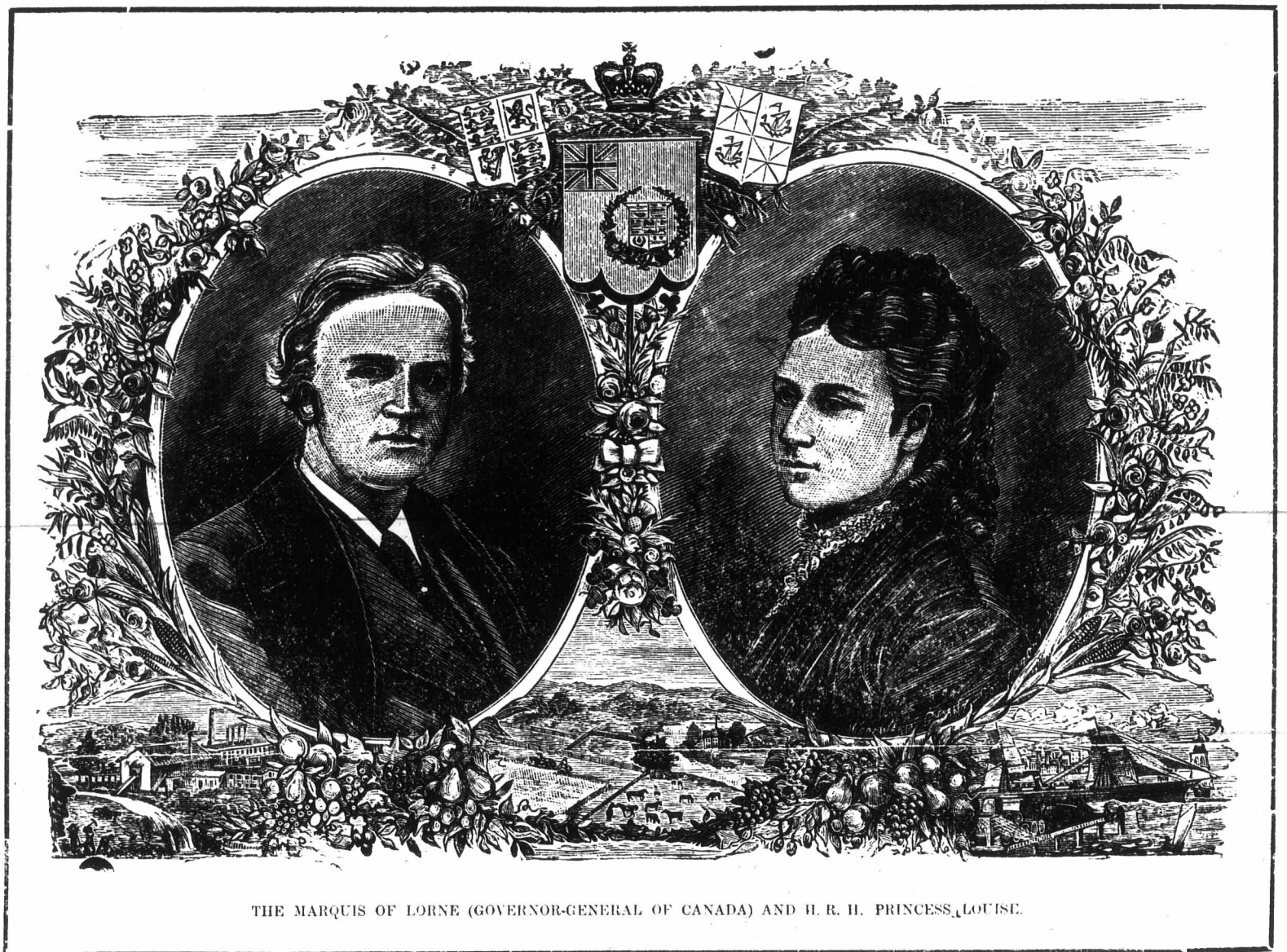
HOW TO PROCURE THE DOMINION PICTURE.

The great expense in connection with this prevents us from being able to give one to every subscriber, but we intend to place them at such a low price that every one of you can get one; and as the picture has been procured expressly for the subscribers to the FARMER'S ADVOCATE, none but subscribers can obtain them. It is our design and property, and the subscribers shall monopolize it. We have copyrighted it, and thus prevent its reproduction

present to anyone, and it will give great amusement and pleasure to the young and old.

The Sarmatian (the above mentioned vessel) has already played a conspicuous part as a Government transport ship. It was this vessel which conveyed the 42nd Highlanders to the West Coast of Africa during the Ashantee war. She brought homewards, too, the despatch which gave the first intelligence of the fall of Coomassie. Captain Aird, the commander, relates with much pride the circumstance, which seemed to him no less amusing than it was important, of being hurriedly handed a small letter containing the despatch, which he was ordered at once to carry to Gibraltar at full speed, a distance of three thousand miles, as the sole cargo of his big ship.

Old Father Neptune is no respecter of persons. He stormed and roared so much that Princess



THE MARQUIS OF LORNE (GOVERNOR-GENERAL OF CANADA) AND H. R. H. PRINCESS LOUISE.

are shown between the space that separates the two portraits. At the first view you may probably consider this the best picture which has been published in Canada; it is a handsome ornament for the best house in the Dominion, and one that will be admired when the present generation has passed away. In addition to the first attractions, there is ingeniously concealed among the fruit, flowers, etc., the portrait of our Queen. This portrait was only taken four months ago. The portraits of Prince Albert, the Prince of Wales, Sir John A. Macdonald and Hon. A. Mackenzie are also to be found by keen eyes. Animals of various kinds and other objects are also to be found, and from an opening bud a little child may be seen just making its appearance. These will

by other persons. For the terms on which this handsome engraving can be procured by our subscribers see advertising columns. The price of this fine work of art is \$2—said to be worth \$10. The FARMER'S ADVOCATE will be sent for one year to every one that sends us \$2 for it. Thus, the FARMER'S ADVOCATE and the picture are \$2. The FARMER'S ADVOCATE AND HOME MAGAZINE alone is only \$1 per annum. If you do not wish to send the extra dollar for the picture, be the first in your neighborhood to send two new subscribers with the payment for them, and you will have the picture for your trouble. We guarantee satisfaction to every one of you that procures this picture, and if you are not quite satisfied when you get it, send it back and we will refund the money.

This picture will make a handsome Christmas

Louise would not get up once to look at him from the time she left Britain till she came in sight of America. But the good ship Sarmatian behaved well and brought her safe to land despite Neptune's anger.

Port Hope.

FAREWELL BANQUET—FARMERS FOR MANITOBA.
The East Durham and Hope Agricultural Societies entertained their President, Mr. Thomas Harrison, at a complimentary dinner on Tuesday evening, Nov. 19, in the St. Lawrence Hall, Port Hope. One hundred sat down to dinner, and enjoyed a very pleasant evening. Mr. Harrison leaves for Manitoba in a few days to take possession of a large tract of land purchased last June. A large number of farmers from this locality will follow him next spring.

Agriculture.

The Royal Agricultural Society of England.

The Prince of Wales presided at the first meeting of the Council after the autumn recess, held at 12, Hanover-square. His Royal Highness said:—It is my painful duty to announce to you the death of Mr. T. C. Booth, who has for ten years been on the council of this society, during which time he has been one of its most active members. He is well known to us in regard to the untiring and unceasing efforts for the passing of a measure for the prevention of diseases in animals.

The several committees reported on the arrangements that they had already made with reference to the approaching Metropolitan Agricultural Exhibition at Kilburn, especially with regard to the prizes and medals to be offered by the Society and the Mansion House Committee for English and foreign live stock, butter, cheese, wool, hams, bacon, fresh meat, new implements, etc., which will be finally settled at the next meeting of the council.

A proposition made by the Seeds and Plant

Ontario Manufacturers' Association.

The seventh annual convention of the Association opened at the Hall, 116 King Street West, Toronto, on the 13th inst. The attendance of members was large, and there was present a delegation of members from Montreal. The President, Mr. W. H. Howland, presided. The manufacturers of engines and machinery and of agricultural implements were well represented. The President and other members addressed the meeting. The tariff was the subject principally under consideration. The chairman, in the course of his remarks, said he considered they had as much right to express their firm and solid belief in the principle of protection as any thing else. They believed protection was all they said it was, and that it would be for the benefit of the country. They would be satisfied with just what would protect the industries of the country, and they did not want a hair's breadth more. They appointed a tariff committee of members representing the several industries of the country.

An Agricultural Paper.

So clearly and palpably have the journals of this class demonstrated their value, that it is often possible in passing through a rural district to discover, by unmistakable signs, the farms at which such papers are taken and where they have found a welcome home, and it is easy to see that in the presence of these sheets of useful knowledge the whole aspect of the farm is changed and all the results improved. Manures and fertilizers are more efficient, as well as more abundant, the latest and best methods are adopted, a new impulse is given to vegetation, the very roots of the crop strike deeper and spread wider than before, and even the meadows assume a brighter shade of green, and the cereal grains a deeper tinge of gold. And finally, as a crowning evidence of what is here claimed for the influence of the press, along with this new vigor of vegetation and more abundant yield, we find also a reduction of cost that is even more important than all the rest. Single passages



Windsor Castle.

We deem it suitable at the present time to reproduce the above representation of the residence of our Queen and birth-place of Princess Louise. In future issues we hope to give you illustrations of the native place of the Marquis of Lorne and of Rideau Hall, their Canadian home.

The Castle is situated in Berkshire, twenty-three miles from London, the buildings covering twelve acres of ground. On three sides of it is a terrace, 2,500 feet long, the whole being situated in a park four miles in circumference. Connected to this is a larger park, about eighteen miles around, which is again connected with Windsor Park, about fifty-six miles in circumference. All nations of the world yield their richest gems to beautify and adorn this, the principal residence of our Queen.

Fruit will keep best in the cellars from which the light is excluded where the temperature ranges from 35° to 40°. The cellar should be well ventilated by holes in the chimney stack, or wall ventilators leading to the garret.

could be referred to in various journals, in which the facts comprised in a few lines are worth more to an intelligent, practical man than a ton of guano or an acre of land, for the acre of land is confined to one unchanging spot, and the ton of guano admits of only one application. On the contrary, they are developed by use and grow by repetition. They spread and multiply from farm to farm and from year to year, until a continent is made richer by them and posterity hails them as a treasure. The timidity shown by many in applying a sum so ridiculous as \$2 or \$3 to obtain the priceless knowledge on which depends the whole value and final profit of their business is more than surprising. The trifling sum often lavished without a thought on objects of comparatively no value, if applied to such a purpose as this, would be sufficient to supply a variety of journals and valuable books that would at once create a new atmosphere of thought in the house, and while thus rounding out the education of the family, would also enlarge the yield and the profit of harvests to come.—[Mr. Conrad Wilson before an American Farmers Club.]

Disease Committee to offer prizes for the best existing and newer varieties of wheat was agreed to.

The Exhibition will commence on Monday, June 30th, and close on Monday evening, July 7th. Provision will be made for putting in motion reaping and other automatic machines, and traction engines. The Secretary was instructed to endeavor to arrange for laying down lines of tramways in the exhibition, for the conveyance of the public to and from different points, at a moderate charge.

The Duke of Bedford, chairman of the Education Committee, reported that six schools had entered twenty-nine candidates for the approaching examinations for the society's junior scholarships.

[Canadians may profit by some of the above hints, particularly in regard to cereals and education. It is a disgrace that our Provincial Association should award special prizes to the worst spring wheat we have, while the names of our best varieties are not noticed by them. We have called the attention of the Board to this previously and personally, but the fact is there are two few agriculturists on the Board and too many producers. The hint on education might profitably receive the attention of the Board; but in regard to the time of holding the exhibition, we believe England might copy from us, and open and close in one week.]

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Additional Facts for Sugar Making.

Not a few of our farmers remember the time when they relied not on the Muscovado so much as on the sugar bush for the sugar for all the purposes of the table. Times are much changed since then, yet many agriculturists say that we may in every part of North America grow and refine every pound of sugar we need, and that the time is fast approaching when we shall do so. Beet-grown sugar is a staple product of countries not better adapted to beet culture than this Canada of ours, and the attempts that are being made for that purpose here will, we hope, be successful. But these experiments are not limited to the beet. It is thought that the expressed juice from corn and sorghum can be profitably made into sugar. We clip from the New York *World* an interesting article on the subject:—

"Can sugar be profitably made from corn and sorghum?" is a question that is just now agitating the public mind. Professor Collier, the chemist, who was present at recent experiments set forth at the National Agricultural Department in Washington for the solving of this problem, says that, as a practical question, he is by no means assured that there is enough in it to make farmers go to work with it at a profit. The matter requires another season's experience before definite results can be obtained. There are many practical points, such as at what time the corn should be cut, and at what time used, which can only be settled by the experience and observation of cultivators. Of one thing Professor Collier expresses himself certain—that if under the circumstances in which these experiments have been made sugar can be produced at merely a bare profit, it will be a most profitable business when undertaken under favorable circumstances. He felt confident in predicting 50 per cent. better results than were shown by the experiments at the department conducted under adverse circumstances.

A number of samples of sugar sent to the department and made from the new kind of amber sorghum now being experimented with to a considerable extent in Minnesota, has the appearance and taste of the best refined white sugars. Kenney & Miller, successful producers, claim that they are able to realize from \$50 to \$100 per acre in the cultivation of the new kind of amber sorghum for sugar. They have been manufacturing sugar for two years and have succeeded in obtaining 13½ pounds of dense syrup to the gallon, and from this 13½ pounds a yield of granulated sugar of 7 pounds is gained, the residue being a fine syrup.

This amber cane is a variety of the Imphee, and has been mainly cultivated in Minnesota, where the soil and climate appear to induce its greatest development. Its history is not without interest. According to Commissioner Le Duc it originated in a single seed among sorghum raised in Indiana. One season one stalk ripened several weeks in advance of the other. The juice from this stalk was of an amber color, hence the name "early amber." From this early amber seed came the cane which is now engrossing so much interest in Minnesota. The characteristics marking it as a superior cane to other kinds for sugar are that the stalks contain more juice and that the juice granulates more rapidly. Numerous correspondents agree in stating that thus far all sugar made from the amber cane in Minnesota has been manufactured without the use of dry chemicals.

In the growing of this variety of cane it has been found that a high clay loam of a rather loose or sandy texture is best. The application of barnyard manure is said to dilute and injure the juice. New land is regarded as preferable to old land for the perfection of this variety. The ground is usually plowed immediately before planting and thoroughly pulverized with the harrow. In Minnesota the seed is planted about the middle of May, and either drilled in rows four feet apart or in hills with from seven to ten seeds in each, the hills three feet six to ten inches each way. The seed should be covered with half an inch of soil if the earth is moist, or one inch if it is dry.

The beet sugar works at Isleton, Cal., are said to be working night and day, and using about 70 tons of beets in 24 hours.

There is only half a crop of potatoes in Central New York. The leading variety planted was the Early Rose, and they were killed by frost in July.

About Small Farms.

The question of small or large farms is one of the many subjects debated on often but never decided. The immense area of some farms sown by some wealthy men in the United States has brought the question more forcibly before the people. We give beneath a paper on Small Farms that was read at the weekly meeting of the Farmers' Club of the American Institute, New York, Oct. 29:—

"The permanency of the homes of a people is an element of incalculable importance as a factor of national wealth and strength. It is not less so as a factor of moral than of material power. The political economist, the patriot and the Christian statesman are therefore all interested in the study of the elements promotive of permanency. Security and thrift are indispensable to a permanent condition. In a very great majority of cases large farms produce the reverse of security and thrift. They cost too much for purchase, improvement and expense of carrying them on.

"Mortgages and taxes on the debtor side of the balance sheet, and meagre receipts on the credit side, do their normal work. So, instead of a farm being the home of a family for generations, as in the Old World, a single generation has often occupied several farms, and perhaps in as many different States. Permanency of rural homes is important to individuals, to families, to the several States and to the nation. One of the results of the reverse of permanency is the gravitation of double the number of young men and women from the country to the cities than can make the change to either pecuniary or moral profit to themselves or others concerned. Hundreds of thousands have thus changed purity and competence for want and crime.

"Developments of the subject of small farms would help hundreds of thousands out of the cities, and back into the peaceful freedom of life in the country. It would also show how many a farm of an hundred or more acres is room enough not only 'for all the boys,' but for them and their children's children. Thus the permanence of homes would be promoted, and the permanence of the ideas as well as the institutions of our country insured. We have only to turn our eyes across the ocean for positive proof that this is not chimerical. It is especially significant also that of about 5,500,000 farms in France more than 5,000,000 are less than six acres in extent.

"The soiling system, whereby an acre will keep seven times as many cattle and sheep as can be done by pasturing, is understood and practised there. Trenching as well as draining land, as they do, very largely increases its productive power. Instead of throwing away hundreds of millions of dollars' worth of fertilizers annually in the matter of human excrement alone, as we do, they save this and other wastes of plant foods. In economies of solar heat alone, there is a field for almost indefinite multiplication in productiveness of rural industry, and so supplanting large farms with small farms.

"Model small farms, instead of large ones, may well engage the attention of agricultural societies and departments of moral reformers, and also of political economists. Over-extension of our national domain is a major factor in the 'big farm mania, which is depleting the vigor of our national life. With approximately the same number of people as either France or Germany, we have many times as much territory as both of them combined.

"European statesmen recognize the present attitude of Germany in standing aloof from territorial aggrandizement to be wise and far sighted. She is not so stupid and insane as not to see that more territory than can be thoroughly cared for is an element of weakness with a nation as well as with an individual. Tens of thousands of acres in New England, where were once happy and thrifty rural homesteads, are now so deserted that the very location of the old hearthstone is obliterated and forgotten.

"This is a condition typical of the great republic a century or so in the future, unless the 'small farm' idea obtains vigorously in respect to buying or robbing more land from neighboring nations: unless more of the farmers in the country make it the means to enable them and their sons to stay there; unless it is made the means of giving relief to our over growing town and cities. The 'small farm' idea, to change the figure, is the key to unlock vast treasures of physical, financial and moral wealth for millions of men in both town and country; the key to unlock the same element, therefore, for the nation."

Fertilizers on Wheat.

Mr. W. W. Reid, Erie, Pa., states the results of some experiments by him the past season with different fertilizers on a field of 14½ acres, sown to Lancaster red wheat in the fall of 1877. The field was divided into six sections, five of a little over two acres each, and one of about four acres—the last alone being without fertilizers, with the exception of a little lime, while on the other five were respectively applied the following:—

No.	Fertilizer.	Cost per acre.	Yield, bu.
1.	Salt, 1 bbl per acre.....	\$1 00	29.6
2.	Guano, 400 lbs per acre.....	4 50	29.3
3.	Phosphate, 810 lbs per acre.....	7 28	37.5
4.	Bone dust, 590 lbs per acre.....	5 16	37.7
5.	Ground lime, 800 lbs per acre.....	1 20	35.7
6.	No fertilizer.....		14.3

These yields are by thresher's measure, and as the wheat weighs 65 pounds per bushel, are less than the actual quantity. Mr. Reid says:—

This ground was carefully measured and staked off, and the different sections harvested and threshed separately, and every precaution taken to secure accurate results. The field is a clay soil mixed with some gravel, and has been thoroughly underdrained. It was sown to barley the spring before the wheat was sown, and yielded 18 bushels per acre. Before the wheat was harvested, the sections on which salt and guano were used looked equally as well as these sections treated with phosphate, bone dust and ground limestone, and if they had not been threshed separately, it would not have been possible from the appearance of the wheat to determine which was the best. This fact has convinced me that the only way to arrive at accurate results is to thresh separately, as in this case sections yielded 37 bushels per acre looked no better than those yielding 29 bushels per acre. I think it is not improbable that fertilizers have been condemned as useless, in many cases, when, if the grain had been threshed separately, they would have shown favorable results.

In this case the ground limestone proved to be the most economical fertilizer, showing a profit over bone dust of \$1.96 per acre; over phosphate of \$4.28 per acre; over guano of \$9.70 per acre, and over salt of \$5.90 per acre. I am using the ground limestone on about 70 acres of wheat this fall, and hope I may not have occasion to change the opinion formed from the foregoing tests, that in proportion to cost it is the best fertilizer for wheat. The field on which the above tests were made is being again sown to wheat, with a uniform dressing of 100 pounds of bone dust and 300 of ground limestone to the acre, and will be again harvested and threshed separately, to ascertain the yield of the different sections the second year.

The Aborigines under British Sway.**THE SIX NATIONS' PLOWING MATCH.**

These annual matches, under the auspices of the Six Nations Agricultural Society, were held on the Reserve of Tuscarora, near the Council House, recently, and were attended by several spectators. The day was clear and fine, and twenty-four Indians competed for several suitable prizes. It was a pleasing and interesting sight to see so many teams, with keen drivers, for some hours handling the plow with more or less skill, while the many visitors scattered around enlivened the scene. The Superintendent twice visited the ground and drove around the large field viewing the work. The plowing was excellent, proving the Indian the equal of the white man in such work. The judges were Messrs. Edward McLean, John Duncan and Robert Hunter.

Clover as a Human Food.

According to Hon. J. Stanton Gould, clover has been used as human food for generations by the Indians of the plains. The Digger Indians of California eat it raw, and also cook it by placing a thick layer of green clover between stones that had been previously heated. When young onions or chives and grasshoppers are mingled with the clover, the dish is considered as a great luxury. The Apaches mingle together clover, pigweed, and dandelions in a vessel, which is then filled with water. Stones that have been heated in the fire are then thrown in, and when they have imparted their surplus heat to the water they are taken out and replaced by hotter ones, until the mass is sufficiently cooked.

Farmers' Clubs.

HOW ORGANIZED AND MANAGED.

The following remarks by Mr. Alexander Hyde to the *Country Gentleman* are deserving of attention:—When men associate for any purpose, the first thing is to draw up articles of agreement—that is, a constitution—by which they consent to be governed. In case of a farmers' club, these articles should state, simply and concisely, the object of the association, its officers, and a few rules—the fewer the better—for the guidance of its affairs. The constitution of an animal is an important and complicated matter. Life and energy are dependent upon it. Not so in an association. The life of a club depends upon its members, and its vitality is measured, not by the length of its constitution, but by their ability and zeal. A long and complicated constitution, going into all the petty details of club management, is nothing but a botheration. It is a positive hindrance to progress and success. When farmers associate for mutual benefit, it is not expected that party, or ism, or personal condition will put in an appearance, and they want a constitution, which, while holding them together, is so elastic as to give free play to thought and action.

The officers should be few. A president, secretary and treasurer are quite sufficient, and these should constitute the executive, and have the general management of affairs. The more responsibility is divided, the less it presses upon the individual. If the president is absent at any meeting, his place can be supplied, *pro tem.*, by nomination. The government of one man is the best government, provided the monarch is capable and faithful. If there are no vice-presidents, the president feels that he must be on hand at each meeting, and if the head is punctually present, the body is likely to be there. It does not require more than half a dozen men to give success to a club. If these—three officers and three privates—make it a matter of duty to be present at every regular muster, and come armed and equipped with the ammunition of fact and thought, the club will conquer a success, and no mistake; it will make an impression on the agriculture and social culture of the community in which it is located. There is great power in an oligarchy, but these few must work with a will.

Officers should be elected annually. Some clubs elect monthly, and others quarterly, but these frequent elections occupy valuable time, and what is more, cheapen the office. There is little dignity and less honor in an office which holds only for a month. If the president is elected for a year, he feels more responsibility than when his term expires with the old moon. I have heard many a president-elect say:—"Well, I shall try not to have the club run down this year." It is a maxim in politics that the office should seek the man, and not the man the office, but in a club it is desirable that the office should be considered so honorable as at least to be gratefully received by every member who may be thought worthy of it. At the same time the presidency should not be continuous in one person. If there is honor and advantage in the position, it is right that others should share, and if there is responsibility and labor, certainly these should be distributed. A society run by one man continuously is apt to get in the ruts and require a good deal of "blowing", to make it run well. We might specify a noted agricultural society as an example of this, but the principle is obvious without examples.

MEETINGS OF THE CLUB.

As to the frequency of the meetings of a club, no general rule can be laid down adapted to all localities. If other social gatherings are not abundant, it may be well to hold the club meeting each week during the winter, and once a month in the summer. It is desirable that they should be held so often as not to be forgotten, and not so frequently as to be a tax on the time of members. The club with which I am connected, and which has been in successful operation for nearly a score of years, meets once a fortnight from October to April, and as occasion may demand, at other times.

A more important matter is the place of meeting, whether at the houses of members, or at some fixed and convenient place. Our club has tried both

ways, and we are satisfied that the latter is the better method. If the meetings are held at private houses they are apt to become too social and festival in their character, the refreshments occupy too much time, and as the hostess is ambitious to do as well as her neighbors, the festivities finally become burdensome. Besides, some members are so situated that they cannot well entertain the club, and then feel delicately about partaking of hospitality and not reciprocating it; and so fall out of the society. It is more democratic, and on the whole more profitable, that the regular meetings should be held in some central place, and if any member desires a more social gathering, let him invite the club to an extra meeting at his house. In these extra meetings the ladies are always expected to be present—for we thoroughly believe in the co-education of the sexes—and some subject should be selected for discussion in which they feel a special interest. At other times some questions may be before the club, to a free discussion of which the presence of ladies would be a hindrance.

In the busy season of summer the meetings may be wholly intermitted, or held occasionally as field meetings or picnics on some farm for the inspection of crops and stock, and a good time generally. These field meetings of farmers take the place of what the gentry call lawn parties, and can be made occasions of great enjoyment and profit, not only socially, but agriculturally. There is nothing like object-teaching to impress ideas on the mind, and when we visit a neighbor who has good Durhams or Jerseys, South-Downs or Cotswolds, Yorkshires or Suffolks, a good strawberry-bed, or a fine crop of any sort, the sight of the eyes affects the mind more than much talk. The effect is stimulating both to the host and his guests. A slovenly farmer never invites his neighbors to inspect his premises, and if any sloven comes to a field meeting, he goes home a convert to thorough farming.

One other little point in club management, and it is not so little either. Let no sharp personalities or rough behavior disturb the peace and propriety of the meetings. Farmers have sometimes been sneeringly called "men in the the rough," "cowhide gentry," and other similar appellations. They are as gentle at heart as any other class of men, though sometimes a little rough in speech and manners. The club is the place to show that they can be gentlemen.

Pickly Comfrey—Failure and Success.

Having been the first in this country to describe and figure prickly comfrey, we should have been glad to record its complete success. Our first knowledge of failure came from our own experience. As already stated, the plant grew and reproduced abundantly, but the cows would not eat it at all, and the horses, which accepted it at first, refused it after they had been once or twice at pasture. Similar complaints came from others, while some correspondents wrote of it in high terms. The case seems to stand at present thus: The plant, so far as heard from, is hardy, produces abundantly, starts early in spring, and soon gives a cutting, withstands the droughts, and is not injured by moderate frosts, but gives fresh feed quite late in the season. On the other hand, animals, in the case of cows, probably the majority, will not eat it, but by taking a little pains to make them acquainted with it, they soon acquire a taste for, and consume it readily, and it appears to be a nutritious food. The question seems to be: are its good qualities sufficiently marked to make it worth while to be at the trouble of teaching animals to eat it? As an aid to a decision we give the experience of two correspondents, both of whom at first met with failure:—

Mr. Frank Spencer, Oakland county, Michigan, some two months ago wrote complaining of the Comfrey as a humbug; he has since written that he has decided too hastily, "having had better experience since then." At first, not having an abundance, he would "occasionally place a handful of leaves on the ground in the yard, the cows would drag it around, the pigs eating it all. (as I supposed); but since it got more plentiful, I one evening placed a good armful on a high platform, where the cows could reach it, but the pigs could not. The first night I could not see that any had been eaten, but it was dragged about the yard; the next evening another armful was given, and nearly all eaten. The third night another lot was eaten entirely; since then we have been feeding regularly, each evening, about 50 lbs. per cow, the cows being in pasture during the day."

Mr. G. A. Wilcox, Gasport, N. Y., experimented with a quarter of an acre, and while the plants were a fine sight none of his animals, save pigs, would eat it. Being determined to ascertain whether the plant was an-out-and-out humbug, or if it were not the strangeness of appearance and smell that caused them to refuse it, Mr. W. went systematically to work, and met with most gratifying success. As there are no doubt others who have the plant and cannot utilize it, we give Mr. W.'s method:—

"To teach stock to eat it they should be confined, and after they have fasted over night, give them the comfrey prepared as follows: Run some leaves through a cutting machine, or cut them up with a butcher-knife; wet the cut leaves and mix bran or meal and a little salt with them; feed this, and when it is eaten, give hay, then again some of the comfrey and so on, but gradually increase the comfrey and decrease the ground feed and hay. In three or four days comfrey may be fed exclusively, and stock will become more fond of it daily. Cows will take to it readily in the spring before going to grass; when they once acquire a taste for it they do not forget it. It will improve the yield and flavor of milk very much. Comfrey and water will grow pigs fast. Sheep will fill themselves so full that they look bloated, but not the first time it is offered to them. I have 2,000 plants in a ravine, fenced in; they were making a rapid growth, and when they were three months old the cattle broke in, and before they were discovered had eaten every leaf and spear; as they left good pasture for this it does not look much like forcing."

Mr. Wilcox sends us testimonials from the President of the Niagara County Farmer's Club, and other citizens, to the effect that they selected three plants of comfrey in his field, cut the tops, and weighed them; on the 1st of July following they cut the same plants again; total amount of the two cuttings 61½ lbs. They also testify to the readiness with which it was eaten by his animals. At this rate the yield up to July 1st was more than 49 tons of green fodder to the acre.

Mr. Ashburner, of Va., writes that the leaves should be treated in the same manner as clover; but that, if very succulent, they will take a few hours longer to cure. He suggests sprinkling a little salt over it when stacking the cured leaves.—[American Agriculturist.

Straw Culture of Potatoes.

We made an experiment this year, trying to "kill two birds with one stone." The baby's nut grove was a mass of tough sod and grass. It was a big job to spade it all over and keep it clean. The young trees needed to have the grass subdued, and we wanted to get rid of so much manual labor. An old mow of straw had been in a refuge for rats long enough, so putting this and that together, we got an idea to plant potatoes on the grass and cover them with straw. The potatoes were cut into small pieces and dropped right into the grass about a foot apart. The straw was carted out and spread all over the patch as near six inches deep as we could get. In due time the potatoes came up and rapidly spread out until the vines covered the surface. Here and there a tuft of grass would show itself early in the season, but that spot was easily hood by placing on it a small forkful of new straw. A few thistles forced themselves up through the straw, and they were pulled up by the roots. This was all the care the crop had, except to sprinkle it twice with Paris-green. We had the nicest crop of potatoes in the neighborhood. It was fun to rake off the straw and uncover the little bunches of potatoes all in a heap and as clean as if washed. The sod is all dead and the ground is as clean as if it had been summer-fallowed. We used mostly oat straw, but on a portion buckwheat straw was put. The potatoes came up equally well through both and yielded as well under one as the other. We shall raise another crop with straw culture on the same ground next year, but it will not require more than half the thickness of straw, as the grass is all dead. Rye straw is the best, and can be evenly distributed. It will pack down more readily than oat, and need not be placed so thickly. We have several stubborn places around the grounds we shall treat with potatoes and straw. The quince orchard is very weedy and grassy, and this treatment will cure both effectually. We shall surely try it. It is the best purgative we know of.—[F. D. Curtis, N. Y. Tribune.

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An Experiment with Pearl Millet.

BY PETER HENDERSON.

Pearl Millet has been cultivated for some years as a forage plant in some of the Southern States, as "African Cane," "Egyptian Millet," "Japan Millet," and in some places as "Horse Millet," but little was known of it at the North before last year, and then only in such small quantities as to hardly allow of a fair trial. From what we saw of it in 1877, we determined to give it a thorough trial this season. A piece of good strong loamy ground was prepared as if for a beet or turnip crop, by manuring with stable-manure at the rate of ten tons to the acre, plowing ten inches deep, and thoroughly harrowing. The millet was then sown in drills 18 inches apart, at the rate of 8 quarts to the acre. We sowed on the 15th of May, about the date that we plant corn; in 12 days the plants were up so that a cultivator could be run between the rows, after which no further culture was necessary, for the growth became so rapid and luxuriant as to crowd down every weed that attempted to get a foothold. The first cutting was made July 1st—45 days after sowing; it was then 7 feet high, covering the whole ground, and the crop, cut 3 inches above the ground, weighed, green, at the rate of 30 tons per acre; this, when dried, gave 6½ tons per acre as hay. After cutting, a second growth started, and was cut August 15th—45 days from the time of the first cutting—its height was 9 feet; it weighed this time at the rate of 55 tons to the acre, green, and 8 tons dried. The third crop started as rapidly as the second, but the cool September nights lessened its tropical luxuriance, so that this crop, which was cut on October 1st, only weighed 10 tons green, and 1½ tons dried. The growth was simply enormous, thus: 1st crop in 45 days, gave 30 tons green, or 6½ tons dry. 2nd crop in 45 days, gave 55 tons green, or 8 tons dry. 3rd crop in 45 days, gave 10 tons green, or 1½ tons dry. The aggregate weight being 95 tons of green fodder in 135 days from date of sowing, and 16 tons when dried to hay. This exceeds the clover meadows of Mid-Lothian, which, when irrigated by the sewerage from the city of Edinburgh, and cut every four weeks, gave an aggregate of 75 tons of green clover per acre. There is little doubt that Pearl Millet is equally as nutritious as corn-fodder, which it resembles even more than it does any of the other millets. We found that all our horses and cattle ate it greedily, whether green or dry. If sowing in drills is not practicable, it may be sown broadcast, using double the quantity of seed—say 16 quarts per acre. The ground should be smoothed by the harrow, and again lightly harrowed after sowing; if rolled after harrowing, all the better. I know of no farm crop that will better repay high manuring, but so great is its luxuriance that it will produce a better crop without manure than any other plant I know of. In those parts of the Southern States where hay cannot be raised this is a substitute of the easiest culture, and being of tropical origin, it will luxuriate in their long hot summers; even though our Northern seasons may be too short to mature the seeds, our experiments in New Jersey this summer show what abundant crops may be expected if the similar conditions are secured. Pearl Millet as a fodder-plant presents a new feature in our agriculture, and I feel sure that within ten years we shall wonder how we ever got on without it.—American Agriculturist.

Deterioration of Soil.

The following article by M. B. Bateham, on the deterioration of Ohio soils, is so applicable to the soils of Canada, as to that South of our border, that we reprint from the *Prairie Farmer*—

"When first cleared of the forest these clay lands were rich in vegetable matter from the decayed leaves, etc., and the mineral elements of the surface soil were readily available for plant growth. So well suited was the soil for grass, that red-top, blue grass, and white clover came in spontaneously, after a year or two, without any seeding; though, of course, it was better to sow the seed and harrow or brush it in, when it was desirable to save time. But a large portion of the pastures have been seeded or plowed. When seeding was practiced it was by sowing timothy, and in a few years this gave place to the grasses above named, which came in of themselves. For some years these pastures were quite productive; the vegetable matter at the surface, and decaying roots of trees beneath, keeping the soil porous and

fertile. But gradually this organic matter was all decomposed, dissipated, by the winds, or absorbed by the grass roots in the form of carbonic acid gas. Then the clay soil began to harden by the saturation of rains, and the treading of cattle while wet, rendering it difficult for grass roots to penetrate to any depth, and there being no organic matter below the surface, no fertilizing gasses were found there, and none could enter from the atmosphere. As this hardening process went on, the grass roots could only grow on the surface, and hence were often injured or destroyed by the summer drouths, and also by the heaving and freezing in winter. Hence we hear the farmers complaining that drouths are more frequent and injurious of late years than formerly, and the winters more severe and destructive. If the surface is undulating, the water from summer rains runs off at once, instead of entering the soil where it is wanted; and if at all flat, the water in rainy times stands in many places, and this brings in sedges and other worthless weeds in place of useful grasses.

"Too close feeding is another prominent cause of deterioration. Most of the dairy farmers admit that they have all the time kept more cows than was for their interest in the long run; but some present emergency is made the excuse. As a consequence, they have been obliged to turn their stock out to pasture before the grass had made a good start in the spring and it was kept fed off closely during the drouths of summer, and until several frosts came on in the fall. Every farmer should know that no plants can thrive or make healthy roots without being allowed to make leaves. Even Canada thistles and quack grass are killed by keeping the leaves cut off, or fed closely with sheep; and the owners of suburban residences have found out that the sod of their nice lawns can be ruined by the too frequent use of the lawnmower. Such close feeding as has been practiced by many of the dairy farmers, along with the other causes, could not fail to prove destructive to the finer grasses. This is sufficient, also, to explain why it is that "poverty grass" (*Danthonia*) and other weeds which cattle will not eat, seem to thrive where the useful grasses die out. Not being cropped off like the rest, they, of course, have full chance to grow."

The writer also thinks the lack of some mineral elements is another cause of deterioration in the old pasture soils. How to recuperate claims a large share of his attention. First he believes it can be done with "more brains," more muscle, a greater variety of products, the plowing up of old pastures, pulverizing the soil, plowing in green crops as manure, the use of common manure, top-dressing with manure, the use of fertilizers, rotation of crops, draining, mixing grasses, etc. On the important subject of drainage, Mr. Bateham says:—

"Of course under-draining would prove the most effective and enduring means of improving these clay lands, if the expense could be afforded, but for pasturage mainly few men would think it could pay. Some old worn-out pasture fields near Hudson, in Summit County, have been under-drained at a cost of about \$60 per acre, and then used for hay and grain crops, with such complete success that the owners assured me the investment for drainage paid not less than 12 per cent. annual interest, and more than doubled the value of the crops. Where under-draining cannot be afforded, enough surface drains should be made to carry off all standing water, and prevent, if possible, that saturation during winter which leaves the soil lifeless and solid in the spring—all air having been expelled, and the process of cohesion filling its place."

In concluding his observations on recuperation, Mr. Bateham says regarding grass mixtures:—

"Using a mixture of grasses, instead of timothy alone, or with blue grass, when seeding for pasture, I have no doubt will be found of much advantage on these dairy farms. Five or six kinds will yield more herbage and endure much longer than one or two. English farmers understand this, and use a mixture of six or eight kinds for permanent pastures and half as many for meadow. Of course, where it is necessary to bring the land under the plow often, by means of a short rotation, timothy alone may do as well. Of the grasses that are known to flourish on clay lands and make good pasture, I would name the following six as forming a desirable mixture:—Timothy, blue grass, red-top, orchard grass, rye grass, meadow fescue. The seeds of rye grass and fescue are not often saved in this country, but are annually imported,

and can be had at reasonable prices from the leading seedsmen. The meadow fescue grass has been gradually coming into the northern parts of the State, in some way, for a number of years past, and flourishes finely along the roadsides on clay soils where a little moist. It is highly esteemed in England as a pasture grass, though cattle do not seem quite as fond of it as of timothy and blue grass.

Premiums for Farms.

The *Grange Bulletin* says:—We are in favor of giving a premium for the best conducted farm in each township. Heretofore premiums for the best managed farms have been awarded in most cases by State Agricultural Societies to large farms, the owners of whom had ample funds at command and could thus put their farms in excellent order previous to the visit of the committee to inspect it. If our country organizations would offer liberal premiums for the best managed farms in each township, it would beget a spirited rivalry, which would be of the most beneficial character. While great credit is due to the farmer who has unlimited means at his command to make a model farm, much more is really due the one, who, with limited means at his disposal, produces results that attract the attention of the neighbors. Such a farmer above all others should be entitled to a liberal premium.

The advantages that would result to the farming community by awakening competition from the offer of a premium by our county fair associations for the best conducted farm in the township of each, would be almost incalculable. The lesson such teaching would convey would be of permanent value to the farming community. The competitors for the premium should be required to keep an accurate account of the expenses and total receipts. That is to say, the cost of labor, the amount of work expended on each field, time of performing operations, plowing, sowing, cultivating and harvesting, amount of crops, prices at which sales were made, etc.

An important feature in such a record of facts as would be presented in the report of the committee, would be that they could be incorporated in the annual reports of the State Agricultural Society, and thus be made of value to farmers in other portions of the State. In this way many a modest but model farmer who would not otherwise be brought out from his retirement, would become widely known for his tact and ability. We fully believe that all our County Agricultural Societies could scarcely do a better thing than to appoint a competent committee made up of farmers from adjoining townships, whose duty it should be to visit the farms of those in other townships than their own, that may have been reported to the secretary of the fair association as competing ones for a premium.

This committee should report mutually everything pertaining to the farm, as enumerated in printed blanks, which the State Agricultural Society might very properly furnish to County Fair Associations.

They should report as to the kind of soil, system of rotation, buildings, fences, etc. A premium awarded for actual merit would be a step in the right direction. Now is the time to agitate this matter before the premium lists are printed. Let generous premiums be offered for the best managed farms, and we believe that those who are really deserving will get them, and that within a very short time a marked improvement will be seen in all counties where the plan is adopted.

Movable Wire Fence.

A novelty in wire fences was exhibited in England, at Auchintoul farm, the invention of the "Master of Blantyre." This gentleman would seem to be one who not only looked after his own affairs (albeit he is the nephew of a duke) but knows how to improve what is crude. The improvement is thus described by the *North British Agriculturist*:—

"By lifting a bolt at the end, the fence falls over in tension, so that by using precautions for its protection from the wheels, carts may enter the field from any point. The arrangement is also a convenient one for allowing free play to the wire ropes of the steam plough, in the event of the engine being stationed outside of the field. Mr. Greig said the fence admirably answered the purposes for which it was invented; and as it had excited much attention among many gentlemen from the south, it was likely soon to come into general use."

Stock.

"Keeping up the Flow of Milk."

BY PROF. MANLY MILES, LANSING, MICH.

In the June number of this paper Mr. L. B. Arnold has argued in a forcible manner the importance of securing in the dairy cow a full flow of milk throughout the season by a liberal and judicious system of feeding.

His argument, however, has reference to the immediate and direct profits of the season, and does not include the influence of this system of management upon the future usefulness of the cow in the production of milk and as a breeder, which are matters of quite as much importance.

The abundant secretion of milk is the result of an artificial habit of the system that has been developed by the conditions to which the animal has been subjected in the state of domestication.

Wild cattle are not good milkers, as the habit of milk secretion is limited to the wants of their offspring.

In our domestic breeds, when the practice prevails of allowing the calf to run with its dam, the same habit of the system is developed, and a moderate degree of activity in the milk secreting function becomes an established characteristic of the breed.

If dairy cows are not provided with a sufficient supply of feed to keep up the maximum secretion of milk through the season, and the udder is not completely relieved of its burden at regular intervals, a habit of "drying off" early will be formed and fixed as a constitutional characteristic of the animal, and transmitted to its offspring as an hereditary peculiarity of the family.

When such a habit is fully established as a family character, the inherited tendency to a shrinkage of the milk, after a given period, will prevail, notwithstanding an attempt may be made to counteract it by liberal feeding, the surplus of food, over what may be required for the repair of waste tissues, being in such cases used in the formation of fat or some other purposes than the secretion of milk. The loss involved in the shrinkage of milk from a scanty supply of feed in the middle of the season, if frequently repeated, will not therefore be limited to the immediate results of the year, but extends also through a constitutional habit of the system to subsequent seasons and future generations.

The inheritance of habits has an important influence upon the value of all farm stock; but there is perhaps no class of animals in which this law of the organization is so readily recognized as it is in the dairy cow.

An inherited aptitude to secrete milk in abundance for an extended period can only be secured by keeping up the activity of the functions in breeding stock as a habit of the system, and the best results from full feeding cannot otherwise be obtained.

Stock Breeding.

In estimating the value of animals, the return obtained in the form of beef, milk, butter, or cheese, for food consumed, is of the first importance. Success in the breeding of live stock, as in all other departments of farm husbandry, must be measured by the actual value of the products, and the relative profits that may be derived from them. Live stock must be regarded as machines for converting grass, grain and roots into animal products, and only those machines that do the work economically and profitably are worthy of breeding or keeping. The cotton manufacturer could not sustain himself a single year in the use of spindles and looms more wasteful in the raw material than those employed by his competitors. The levelling influences of market values soon sifts out those

who employ inferior machinery, defective tools or incompetent assistants. So with the stock breeder, or cattle feeder; he will be distanced in the race for success who rears or feeds unprofitable beef machines, or whose dairy is composed of inferior milkers.

In stock raising, pedigree breeding is a business for the few, requiring special conditions to render success even probable, but every one who breeds, whatever the class of animals he selects, should aim at quality, by which is to be understood the qualification to mature at the earliest possible period, and to accumulate the maximum weight from a given quantity of food. The animal which converts the largest amount of food into animal products of the best quality, with the least possible waste of material, is the most valuable. Animals that eat but little are not the most profitable. A certain amount of food is necessary to furnish the required motive power, and to sustain the animal functions, and if the steer is capable of digesting only what is required for this purpose, it would be comparatively worthless, since a profit can only be obtained from the food assimilated in excess of this amount. As a rule, the influence of the male preponderates, consequently whilst careful in the selection of females, neither time, nor a moderate expenditure of money, should be spared in selecting the right sort of bull. If milking stock is required, not only should heifers of promise be selected, but a sire must be sought that comes of a good milking stock, as these qualities are to a great extent hereditary. Animals of the best quality, that are adapted to the conditions of the farm, and the particular purpose demanded by the system of management proposed, will yield profitable returns for the feed consumed, besides furnishing the best means of enriching the soil for the growing of grain.—[From the Cultivator.]

Devon Cattle.

There will be on exhibition at the St. Louis fair and offered for sale, after the awards, two or more herds of Devon cattle, one of which is bred by Gen. L. F. Ross, of Avon, Fulton County, Ill. There is not enough known of this breed of cattle by the majority of farmers. Having a life experience with all breeds of cattle, I am induced to believe that for the majority of the farmers, for town people who keep cows, and for many who breed for beef, they can not be excelled if they can be equaled. The cows are the most even milkers I have ever known. Starting out with a fair quantity they will hold out with little loss for six or eight months (if fed for milk.) Cows are machines for making milk and must have the right kind of food and enough of it if they are to do well. No better milk for general purposes can be had. It is good for butter, good for cheese, and good for table use. If kindly treated no animal is more tractable, but you can raise a quarrel very easy. They will resent abuse at all times. They can be petted equal to any cattle that grow. As work oxen they excel all. The beef is first-class, and can be produced fully as cheap as the Short-horn, but require generally one year more growth. Farmers wanting small herds and superior cattle had better pay some attention to the Devon exhibition at St. Louis. Once started in Devon stock the owner seldom changes for another.—V. P. R., in *Prairie Farmer*.

Sand for Bedding Cattle.

Sand, if not the best, is one of the best articles in use for bedding cattle. It is a good deodorizer, and keeps the stable sweet. As the cattle work it back into the trench under their feet it mixes with the manure, and thus divides it and makes it more suitable for the use of plants. If the distance to haul it is not too far, its very cheapness ought to recommend its use. In barns that have no cellars, where it is used freely, it would absorb a large amount of urine that is now wasted. Soil and muck are dirty things to use in a stable, but sand is clean. Then, too, it is a nice thing to use under hen roosts to receive the droppings, which can be easily raked off and kept in barrels, and in the spring mixed with fine cow manure—one part of the former to two of the latter. This being shovelled over thoroughly two or three times makes a mass of rich manure. A large handful of this in the hill will set corn to growing finely. Flowers, too, grow and blossom far better in a soil that has an admixture of sand. So clayey and peaty soils are benefited by its combination with them, and *vice versa*. When spread on heavy soils in grass it produces more effect than any chemical manure.

Thorough-bred Sheep for Mutton in England.

An English tenant farmer writes as follows on this subject to the *National Live Stock Journal*:

A correspondent complains that the produce of his ewes have not proved hardy when crossed with long-wooled rams. It is an established fact in this country that certain breeds are best adapted for certain districts. This is so thoroughly acknowledged that I can travel for many miles without seeing more than one class of sheep. It fell to my lot, some ten years ago, to shift my quarters about twenty miles further south, and in only that distance have I come into a district where nothing but the Hampshire Downs are kept; for the greater part of three or four counties to the south and east of me these are the only breed. To the west of me, and again to the north-east, one would find another class, which now pass as a district breed, called the Oxfordshire Down. I hope the breeders will forgive me when I say this is entirely a new class, produced by crossing the Cotswold with the Hampshire Down, and occasionally, according to the fancy of the breeder, with a slight mixture of Leicester or Southdown. This breed has been entirely established within the last twenty years; and although I consider them first-class animals, their produce would, when crossed with Merinos or any other breed of long standing, possess no characteristic type nor similarity in my opinion. After this digression, showing that certain kinds of sheep are best suited for certain localities, I will go straight to the point, and strongly recommend your correspondent to try two or three rams of the Hampshire Down breed; if the other cross did not pay, the chances are these will. They possess a wonderfully robust, vigorous constitution, with immense depth and width of fore-quarters, capital necks, are wide across the loins, and especially muscular and good about the thighs, or legs of mutton. I know of no breed so capable of traveling over a barren down for food, when they are to be kept in a store or breeding condition; and none can excel them, in favored localities and with liberal treatment, as mutton producers. I have seen them sold at our local fairs, at ten months, weighing from 75 to 80 lbs. when dressed.

The wool and mutton are classed with Southdowns, as regards quality, but the weight of carcass would be at least 15 lbs. in favor of the Hampshire at twelve months old. I only know the Southdowns as being kept in the fancy parks of our nobility for home consumption. In your March number "L. N. J." advises a trial of the Southdown; he may be right, and as he writes as a person of some experience in your country, I should be wrong to dispute his judgment; I can only say that in this country there is no comparison between the two breeds of Downs, the Hampshires possessing a vast deal stronger constitution, and being capable either of living under rougher treatment or of making a better return in a given time under the most favorable circumstances. I will say no more on the subject, but I hope I shall not annoy any breeders or importers of other breeds.

When I entered on my present occupation, I bought of my predecessor 600 ewes of this breed; but though I flatter myself I have improved them, I do not consider them nearly up to the standard required for exportation, therefore I hope none of your readers will think I am desirous of getting a sale for my own stock. July or August is the usual time for selling these rams, and lambs are used rather more than the older ages; but for exportation I should recommend two-tooths (yearlings). Three of these rams would do as much work as five Cotswolds. I once heard of one of these sheep getting amongst a flock of ewes some days before the owner wished to have them served; he stayed with them only one night, and 100 lambs was the result. I cannot vouch for the accuracy of this statement, but from my knowledge of the sheep I think it may not be very wide of the truth. Three of them would suffice for 400 ewes at any rate. Such sheep in this country might be bought at from \$45 to \$75 each. Possibly I may have already said sufficient to give annoyance in some quarters, so, for the present, I will conclude. I can only say, my opinion respecting sheep is honestly given, hoping it may lead some persons into a profitable way of making mutton where they have hitherto found a difficulty.—[Agricultural Gazette, Eng.]

Value of Pedigree Stock.

The Duke of Devonshire's Shorthorn cattle realized rather astonishing prices on the 18th of last month at Holker, on the shore of Morecambe Bay. One young cow made 2,660 guineas, and a second 2,100 guineas, while the entire eighteen females which were disposed of averaged £797 6s., and the twelve bulls £468 7s. 9d., the entire proceeds of the sale, for only thirty animals, reaching to £19,923 4s. This auction seems worthy of making particular allusion to, as it is no doubt the crack cattle sale of the year, while it affords striking evidence of the astounding difference which displays itself in the respective values of even the best approved tribes of pedigree stock. The animals which made highest prices at this sale were chiefly of one strain of breeding. Holker has long been distinguished for its Oxfords, which, next to the Duchesses, form the most fashionable tribe of Shorthorn cattle in existence. Those well versed in herd-book lore do not require to be informed that the late Mr. Bates took a strong liking in 1833 to a beautiful white cow which was called after her sire Matchern, and which, after being adapted into the Kirklevington herd, produced to Duke of Cleveland a remarkably shapely and handsome heifer, who, from taking first prize at the Royal Show at Oxford in 1839, was called Oxford premium cow. From this female the Oxford tribe has descended, of which, up to the year 1849, Mr. Bates himself bred fourteen females. At the Kirklevington sale in 1850 ten females and three bulls of the family averaged £313 each. Like the Duchesses, they became distributed henceforth, and not a few found their way to America, but the late Earl Ducie, who preserved, until his decease, most of the choicest Bates material, adopted several, and at the Tortworth sale, by which his valuable herd was scattered, on the 24th of August, 1853, the Earl of Burlington, now Duke of Devonshire, secured Oxford 15th, who was destined to form the matron of a long line of distinguished Grand Duchesses and Dukes of Oxford. At the sale last month nine animals of the Oxford tribe were disposed of, and they realized the handsome sum of 14,025 guineas, which is over 1,558 guineas a piece. All of these except one are descendants of the Tortworth heifer mentioned above, and this one would seem to be of a still more valuable branch of the family, as she yielded the tip-top figure of the sale, namely, 2,660 guineas. The animal in question is styled Baroness Oxford 5th; she is granddaughter of Lady Oxford 5th, a cow of great celebrity, and through her traces to Oxford 13th instead of to Oxford 15th.

These extraordinary prices are likely enough to set many mouths watering. The cows and bulls that are so valuable cost no more to feed than animals worth only from £20 to £30 each. Not a few farmers will perhaps then be inclined to say, let us find the herds of more valuable material, so that we may get higher prices for what we have to sell. Certainly the game is open to one and all alike. A plebeian, no less than a patrician, if he has about three thousand pounds to spare, may invest in an Oxford cow and an Oxford bull if he happens to stumble over any offered in the market, and they are just as likely to do well on John Smith's land as on the Ducal pastures at Holker; care and attention, with good natural food, being the all-important essentials to insure the well-being of cattle belonging to every tribe. But should John Smith be desirous of investing in this precious commodity, he would find it so very scarce and difficult to be procured, that probably even his entry into the limited market for purchase might have the effect of raising the price some hundreds of pounds for every animal to be sold. There are scores of men just at the present moment waiting and longing to secure any Duchess which may be offered for sale, but there is no probability of one being offered. They are far more scarce than even Oxfords, the entire number in existence throughout the United Kingdom being only about a score. Col. Gunter has only five at Wetherby, although he bought his first Duchess a quarter of a century ago; and Lords Dunmore and Bective, Mr. T. Holford, and two or three other leading breeders, may have about a dozen others, but they all take care to keep their Duchess heifers when they get any, only offering to the outside public the much coveted progeny when it happens to be of the male sex. The rarity of Duchesses and Oxfords of course is just what makes the figures they command so high; if they were more plentiful

their prices would no doubt come down. Although their scarcity is consequently an absolute advantage to the fortunate owners, they one and all view it as a misfortune, and do their utmost to prevent it. The Duke of Devonshire appears to be the most successful of all fashionable breeders in getting his valuable animals to sustain their fruitfulness to quite as great an extent as the commonest grade cows of the farm, and this seems wholly attributable to the skill and good judgment of his Grace's manager, Mr. Drewry, who, by common consent, is a very Ahitophel, as far as cattle-breeding is concerned. The chief reason why Duchesses and Oxfords in other hands have proved so infertile, seems to be close breeding to line; the blood is considered so very precious that it must not be intermixed with a single drop of baser material, but Mr. Drewry has been nothing like so particular, and although he has wielded the materials very skillfully, into both branches of his Oxford family have been infused from time to time considerable fresh blood. If this be not the cause of the fecundity of the Holker Oxfords, it must be feeding them on natural food. The show-yard has much to answer for in despoiling valuable animals of their fruitfulness. Col. Gunter's Duchesses bred fast enough until in an evil hour he determined on bringing them out for show-yard honours. He conquered everything at Lee's, but alas, his triumphs were worse than a defeat, for his herd got half ruined subsequently, and he has been known to admit that he is many thousand pounds the worse for exhibiting at shows. The late Richard Booth is well known to have completely sacrificed several of the most valuable of his tribe in the same way, and not a few breeders, when almost too late, have seen the folly of feeding young stock artificially to get them in form for exhibition, whereby they derive an indisposition to breed and become fruitless.

The Marquis of Hartington touched the very core of this subject some little time since in a speech he delivered at Skipton, wherein he stated that although no animal might be worth anything like the sum paid for some cattle merely as graziers and milk producers, the immense demand for high class bulls throughout the country requires that herds of rare pedigree and the most valuable blood should be maintained as manufactories of the article required; without calling in question the truth of this in the slightest degree, it may still be remarked that the same necessity for this exists in the propagation of other breeds of cattle besides the Shorthorn; still we never find Herefords, Devons, Sussex, Galloways, or Welsh making such extraordinary high prices as a few rare families of the red, white and roan &c. All alike require improvement, and for that purpose nurseries for the propagation of the rarest and best approved specimens seem indispensable, that grafts may be taken therefrom and transferred to commoner stocks. Devon cattle produce primer meat than Shorthorns, yet the most celebrated strains of the west country Rubies seldom reach above a hundred guineas, touching two hundred rarely indeed. About two years ago it was stated that the Hereford bull Horace had been sold for five hundred pounds, but one swallow does not make a summer, and it is extremely rare to find the best strains of the white faces appraised any higher than those of the Rubies.

Experience in Feeding.

Practical results always speak with greater authority than mere theory. Practical farmers ourselves and writing for practical men, we know the great value of lessons taught by experience. "Experience in feeding," which we reprint from the *New York Tribune*, is an instance of which we refer to.

At the recent field-meeting on the farm of the Sturtevant Brothers, Mr. A. W. Cheever, who soils a held of upward of twenty, gave his testimony in favor of rye for early green fodder. Mr. Wolcott soils over eighty, and spoke very strongly to the same effect, and the owners of a number of smaller herds all contributed evidence of the value of the crop for this purpose. Some gentlemen soil through the summer with hay; I do not for the reason that green fodder is the natural food of cattle, and I endeavor to give all the green food I can, and therefore I sow winter rye, so that the cows can have their spring begin nearly a month earlier than if they had to wait for grass in the pasture. For the similar reason I am opposed to the meal feeding of Mr. Millar; the cow is a ruminant, and nature has provided her with

stomachs for this purpose, and when she ceases to chew her cud she is sick, and though nature will submit to irregularities, yet when practised to any great extent it is at the expense of some of the functions of the animal. When my cows are dry I want to keep them in as healthy a state as possible, so that they may transmit well developed organs to their offspring, so I feed the bulkiest food I have; and for the same reason I do not keep my dry cows in the barn in summer, but turn them out into a pasture that they may have the benefit of exercise. Some one in the *Tribune* a short time ago asked my opinion about giving course bulky food to the pig in order to distend its stomach. Now a cow with a large abdomen, has one of the evidences of a good milker; it shows her to be a good feeder, one that can store away a large amount of course bulky fodder, then lie down and chew the cud at pleasure. But the pig is required for food, and we want it to digest and assimilate food rapidly. The best proportioned animal does this most successfully; feed coarse, bulky food to a pig and it becomes out of proportion; it is distended and it is popularly called "pot-bellied," a condition never liked by a judge of pigs. I prefer to feed small quantities to my pigs and feed often; a pig will do best fed three or four times a day, provided the quantity each time is not too large.—[Thomas Whitaker, Hillside Farm, Mass.]

Partial Paralysis.

A correspondent of New York writes as follows to the *Tribune*:

"A hog cannot stand longer than five minutes at a time. After rising he frequently shifts his hind feet, then his hind quarters tremble and he falls. The fore legs seem also to be weak, as he often falls on his knees first. Appetite good."

Without further indications than those of muscular weakness or partial paralysis it is impossible to state the true nature of the disease. It may be simple disorder of the digestive organs, to be remedied by two drachms of jalap given in the food; it may be due to the *cystic worm* found in *measly pork* having ensconced itself in the brain or spinal cord, in which case time alone can cure; it may be due to one of two round worms (*Stephanurus and eustrongylus*) in the kidney or liver, which can be affected with the greatest difficulty; it may depend on rheumatism from damp or exposure, to be treated by a warm, dry bed, warm food, friction along the back with oil of turpentine, and twenty-grain doses of salicylic acid; it may be due to wasting of the muscles and fatty degeneration, a condition which will obstinately resist treatment; or it may attend on imperfect nourishment and softening of the bones. This last condition will be most benefited by open-air exercise, nourishing food, and a course of tonics, but unless your pig is a valuable one it will not pay for the attention.—On the whole, in the absence of any more definite symptoms, I would advise a dose of jalap accompanied by a teaspoonful of oil of turpentine in milk, and half the quantity of turpentine daily for several days.—*Professor Jas. Law.*

Diversifying Products for Success.

Some principal reasons why a system of mixed farming, which includes the raising of stock largely, is surer and at the same time more profitable, is that thus the farm is kept up to its original fertility, and, often, to increased fertility. These farmers never made an entire failure in crops, however bad the season. His fat stock gives him cash returns twice a year if necessary, once in the spring from winter feeding and again in the autumn from pasturage. In the case of sheep, this gain is added to by the wool sold in the summer. His dairy and poultry yard will furnish no small sum during the spring, summer and autumn. The milk, butter and cheese, and a well kept vegetable garden will furnish one-half the living for the family. These rules, as stated, are general ones. They will apply to all sections of the country, north, south, east and west, being modified only by climatic conditions and the adaptation of certain animals and plants to the climate. The rule will apply always. The farmer who raises the greatest variety of crops or animals which his soil is capable of sustaining is, all things considered, the best and most successful.—[Prairie Farmer.]



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.

Manitoba—The Other Side of the Question.

SIR,—I notice in your last issue of the *Advocate* a letter from Manitoba. Now, if you will allow me space in your valuable paper to correct that gentleman in some questions which I deem incorrect, I will do so. In the first place he says there are just as good parts in Ontario as there are in Manitoba. Well, I should think there ought to be. We will compare the age of both and see which, Ontario or Manitoba, has the greatest advantages for a poor man; and, as for the quality of the soil, we may compare Ontario's richest gardens with the common prairies of Manitoba, and the latter will be far superior in strength. And again he says that they do not have such crops. What right has any man to take upon himself to contradict those who have made Manitoba their home for years, and are just as capable of telling the truth as this gentleman. And he also says he does not believe they have over twenty bushels to an acre of spring wheat. Well, we will suppose we only have twenty bushels to an acre, in Manitoba. That is just double as much as they have in Ontario. I have lived in Manitoba for the last two years, and can truthfully say that the average amount of wheat grown per acre in Manitoba is thirty bushels—and defy contradiction. And again he says we have to haul our grain from one to two hundred miles. There must be some mistake somewhere, for it is just ninety-two miles from Winnipeg to the western boundary line. I never heard of anyone hauling their grain more than forty miles. There is just as good a market ninety miles west of Winnipeg as there is in Winnipeg. A good show of our surplus grain is shipped to the prairie westward, to the Mounted Police Stations and also a great quantity to the Indian Territory, (which the Government supplies them yearly) and to Battleford and all points west to the Rocky Mountains. There is an immense amount of flour consumed in that section of the country and there is also a navigable stream running from Winnipeg westward—the Assiniboine. There are two steamboats running as far west as the Portage La Prairie.

He also says that twenty bushels of wheat is a good load for a heavy span of horses. Now common sense teaches any man better than that. Twenty bushels of wheat is not an uncommon load for one ox on a cart; one of our native horses will haul that quantity. The roads are good. For the last six months I have been engaged in hauling freight west; I drove four oxen and fifty hundred weight was my load over all kinds of roads.

Again, he says that we dare not stir out in winter, and if we were as easily frightened as this gentleman we might not stir out. Now, I do not pretend to say that we do not have colder weather and harder frost, but at the same time I do say that we have better winters than in Ontario. Firstly, we have not got to be roving about in two feet of snow as you have in Ontario; we seldom have over twelve inches of snow, and the air is so dry and clear that we do not feel the cold. We are not half our time wet and the other half freezing as you are in Ontario, but when our winter comes on we have bright and clear weather; of course we have some storms, and had ones too, but not any worse than I have seen in Ontario. This gentleman says there is danger of men freezing to death. There have been men frozen to death here some years ago, when the houses were some ten to twenty miles apart, having been caught out

in some of those bad storms. But at the present day there is no danger of freezing, as the country is more densely settled, and we have plenty of horse-teams. I would like to ask this gentleman if there were ever any frozen to death in Ontario. He says that there is more comfort in Ontario than there is here. I will leave it with you whether it would be more comfortable to be working yourself to death in Ontario for ten or fifteen dollars per month, and just live, than to emigrate to Manitoba and pay the sum of ten dollars and procure 160 acres of land. All you have to do is to procure a yoke of oxen, which you can get for one hundred dollars, and a plow, twenty-five dollars, and go to work to break up. A man can raise his own living the first year and he will be on a farm of his own, where he can take comfort. This gentleman does not think of the time when the poor emigrants came into Ontario first, and how they suffered. Some of them had to carry their flour five or six miles on their back. He does not look at the comfort we have, with mills at our doors, and we can take our teams and drive anywhere. We have splendid roads and everything comfortable.

I think this gentleman must have been very feeble and thought a few miles a long way. He says we had to draw our timber for building twenty-five miles; I defy any man to show any instance where timber had to be drawn over six or eight miles at the most; generally from one to three miles is the distance we draw our timber, and in many cases we can get it on our own farms. This gentleman takes upon himself to say there have been some false reports about this country. The editor of the *Manitoba Free Press* is quite as capable of telling the truth as any gentleman coming here to criticize our Prairie Province. He also tries to discourage poor men when he says they need not come unless they bring \$1,000. Well, if they were like this gentleman they would need \$1,000 to start; but let any man come here to go to work and be industrious, with enough money to buy himself a team and plow, and he can get along all right. I would earnestly advise any young man who has not a bright prospect in view for himself in life, to come to Manitoba and get a home, and also the poorest of all men who are paying such heavy rent on their farms, and who by selling would have some money left, to sell and come and see our country before going elsewhere.

Seeing this gentleman's letter in your paper, and, knowing it to be incorrect, I wrote this in reply. I am stopping in Ontario this winter on business, and if you would allow this letter space in your columns it would much oblige.

W. W., Trowbridge P. O.

Crop Report.

SIR,—I have been a subscriber for the past year to the *FARMER'S ADVOCATE*, and like it very much, and would recommend it to our farmers. You give us the experience of our best farmers on agriculture, also a variety of useful knowledge on other subjects, all of which is very useful and entertaining; and the beauty of it is, your space is not taken up in criticizing the man that dares show himself in print. The wheat your two friends brought on here last fall did remarkably well, some heads yielding sixty plump grains. The oat crop here was a large one, but the grains were not so well filled as they are some years. The barley was a good crop, but not so much of it sown as there are some years—owing to the poor price last year. The potatoes were an average crop—some new kinds recently introduced giving a large yield. There was a large supply of fruit grown this summer. J. McC., Brackley Point Road, P. E. I.

SIR,—In your last issue I noticed an account of a large citron, raised by Geo. A. Tucker; he wants to know if any one out West can beat it. Sir, this season I planted two hills of citrons with nothing but a little common barn-yard manure under them; each had six plants in them; I raised sixty citrons, of which the smallest would weigh twenty lbs.; over half of them would weigh thirty-five lbs. each, and one that I showed at the Union Fair, Strathroy, which only took the second prize, measured in length 28 inches and 34 round, and weighed 47 lbs. This is not exaggerated a fraction. I also raised a hill of squash in the same way—seven or eight in number—the largest weighing 146 lbs. J. D., Metcalf, Ont.

Weeds and Wire-Worms.

SIR,—The greatest enemies we farmers have to contend with here are insects and weeds; and both are increasing throughout the country. The longer our ground is tilled after clearing, they increase the more. How are we to exterminate them? Cut-worms have been very destructive this year. AN OLD FARMER, Toronto.

[Nothing less than constant care, and taking the very first opportunity to stamp them out, can free your ground from weeds and insects. We are not, however, without means to do it. The wire-worm may be altogether destroyed by salting and the use of a roller. The slug which we have heard of in some localities may also be destroyed by salt. Salt is also a powerful destroyer of many common weeds; it has been known to eradicate weeds that had resisted every other means.

An English farmer applied salt to his arable lands with a view of exterminating the many kinds of weeds that cost him so much labor. In autumn he plowed up the fields for fallow, and gave them a heavy dressing of salt. One field was infested with the most troublesome form of couch grass and after its treatment with salt it was soon cleaned; nor was this all; the land produced heavier crops of mangolds, and after mangolds, of barley, than they had ever produced before. Generally speaking, salt is a powerful agent for killing weeds; however, if used carelessly, it may also kill cultivated plants. Although essential to annual life, it destroys many of the smaller forms of animal life, such as many of the insects that are now, more than ever, the pests of the farm. Mr. Mechi, no mean authority on agriculture, says on this subject:—"Six bushels or about three cwt. of salt thrown broadcast stopped the depredations of the wire-worm on the light soil, and two cwt. did the same on the heavy land. The use of the Crosshill clod-crusher and salt are, in my opinion, a certain cure for wire-worms." The fact is that in some extreme cases we must resort to the old-time summer fallow to exterminate weeds, and in doing so we will find it very valuable, at least as an auxiliary. A good fall plowing does much service in destroying many insects.]

SIR,—Now that the harvest is past, as well as most of other farm work for this season, I would like to say a word about times here. Our crop here, as far as I am aware, is one-third short of our usual crop, and everything being so low makes up-hill work for the farmers. Wheat brings about 86c.; pork from \$3 to \$5; butter 12c. Now, Mr. Editor, with these low prices I am sure you will not be surprised at so many emigrating to the North-west, although in your last month's number a communication, signed W. S., gives it a hard name. I would like to know if W. S. is W. Story, as he was a neighbor of mine. J. M. F., Panmure, Ont.

(Names of correspondents that we receive in confidence are not revealed.)

SIR,—Having read your opinion of the Oxford Down Sheep in the *Advocate* so often, and as it corresponds with my own, prompts me to ask you a few questions. I have been on the lookout for some of the sheep for some time, but do not see them advertised in Canada or on exhibition, excepting, I think, the Model Farm, at Guelph, advertised some at their sale. I started for the sale but missed my train, and, of course, did not see them.

Had I better send to England for some, or are good ones to be had on this Continent, and where? Who is the best person, or persons, I could engage to ship them from England?

If you could inform me what they are likely to cost I would have a better idea how many to send for.

I am a young man, been raised among thorough-breds, and know how to care for them, and therefore you will confer a favor by answering.

J. L., Carrville, Ont.

[There was only one lamb sold of the Oxford class at Guelph. They have but very few there. You cannot obtain any in Canada and only a few in the States. I should commend you writing direct to the breeders in England, or even going personally and bringing them if prepared to go into the business right. They would cost you in England from \$30 to \$120 each, and \$4 per head per steamer in crossing the Atlantic.]

Butter and Wool Industries.

SIR,—The butter question is now occupying the attention of the farming public and the agricultural and monetary press to a very great extent, and if any good results from the earnest and animated discussion it will be well for the country. Ontario is fast becoming a butter and cheese making Province, but the fact that Canadian butter is looked upon with suspicion and meets with a poor sale at losing prices in foreign markets has very much tended to discourage farmers who intended to keep more stock. The cause of this is the notorious fact that vast quantities of inferior butter are made in Ontario and exported to foreign markets packed with the good. If the Government would establish competent and trustworthy inspectors at all the seaport towns with authority to mark all butter, bad, good or superior, the consequences would be felt at once. Farmers would be obliged to improve their butter if they hoped to sell, and merchants would not dare to send inferior make for export. The Americans have been in the habit of stamping all poor make "Canadian butter," and the result has been very injurious. The stamping should be done here, and sent direct to the English markets.

There is another evil together with the above which the ADVOCATE might battle with. At the present state of affairs wool-growers are at the mercy of the buyers. The grower brings his wool to the warehouse, and there it is culled by the buyer, the seller standing helplessly by. He has no remedy and has to submit. Why not have an inspector as in the case of hides, who would mark each lot quality 1, 2, or 3, as the case might be?

Wishing continued prosperity to your valuable paper, which is read extensively in the neighborhood,
I remain, etc.,
R. K. K., Rockton, Ont.

Threshing.

SIR,—Being a subscriber for the ADVOCATE, I take the liberty of writing to you. I wish to know if steam-power is more profitable than horses for threshing; and how much wood or coal it would take to run a ten horse-power for twelve hours.

I also want to know which firm gets up the best steam-power, the Waterous Company, of Brantford, or Leonard & Son, of London.

By answering the above you will confer a favor on
G. N. B., Canifton, Ont.

[We consider it much cheaper to thresh by steam than by horse-power; you get more work done and have less waste. One-half a cord of wood will run a 10-horse power engine 12 hours, and one barrel of water will be wanted every hour.

Each engine and boiler maker claims some advantage. We have yet to learn if there are any better made than those that have been advertised in this journal. Read what they say themselves. We can not act as judge and condemn in ignorance what we have not sufficiently examined. We believe that all our engine makers strive to turn out the best, and that either will be found efficient, except a cast-iron one we have seen; this we should not like to risk.]

SIR,—You will much oblige by giving me some information on the following subjects, viz.:

1. What is the charge per hog by the car-load for sending hogs to England?
2. I can make a hog under favorable circumstances (right kind of breed, clover, roots, etc., in winter, and cooked feed) weigh 300 lbs. at a total cost of about \$10.
3. What is the largest breed that I can obtain to fatten to advantage?
4. If I could make it pay, as I could obtain large quantities of corn by the car load, I should like the business in connection with my farm.

Do you know the names of any commission merchants in Liverpool or London with whom I might correspond?
A SUBSCRIBER.

[You would have to arrange a through rate of freight per 100 lbs. from the point of shipment to Liverpool or any other English port that a regular line of steamers are running to. This rate varies very much according to the point of shipment in Canada, and can be obtained through the various freight agents throughout the country.

With regard to the best breed, we do not think it would be desirable to have a large breed. We think the Berkshire, or any other medium sized hog, the most desirable and profitable, from the fact that the demand is largely for small hogs.

With regard to making it pay, we do not think Canada can ever compete successfully with the Western States in raising hogs, where they can raise corn for 10c. to 20c. per bushel. The Western farmer, by turning his corn into pork and beef, can in that way get his products to the seaboard much cheaper than in the raw state. We think well-bred and well-fed sheep and cattle would pay much better than hogs.

We would not advise farmers shipping their own produce direct to Liverpool or London houses. There are so many preliminaries and little things that require close attention and looking after that it requires a man or house who understands the business to compete successfully. The shipping and commission business, as well as every other line of trade, is very closely cut, and a farmer had better give his whole attention to his farm, or sell his farm and go into the business.]

SIR,—I have some live stock I wish to insure. They are pure bred. Will you kindly in the next issue of the FARMERS' ADVOCATE give me the information of a reliable company who insure live stock, and their rates, and greatly oblige.

CONSTANT READER, Newburgh, Ont.

[There is not at present any company doing business in Canada for the insurance of live stock from death by disease or accident, unless by lightning. Several attempts have been made both here and in the United States to establish such companies, but the effort has been a failure, chiefly, we believe, from the fact of these companies taking risks of too hazardous a nature, such as horses employed on canals, railways, and heavy work in cities; and as regards cattle, in large milk dairies near town and cities. We are of opinion that one insurance company for live stock, established and controlled by our stock-raisers in Canada, on the "mutual principal," might be made to work. The officers of our agricultural societies could lend efficient assistance in acting as agents. We would be glad to see some intelligent person take hold of the question.]

SIR,—Will you be kind enough to let me know through your paper what remedy I am to take to relieve a horse that is thick-winded. He blows greatly when he goes quickly up hill or with a heavy load. Especially after a full meal he blows and wheezes much if worked for some time. He blows more since this heavy, old country weather has set in than he did in the clear, bracing weather we are used to here. He was a very valuable animal for general purposes, but the ailment is a great detriment to him.

A SUBSCRIBER, Dunwich Tp.

[This ailment is by no means an uncommon one, and if not relieved in its earlier stage is incurable. It proceeds from the stomach, and is brought on by overloading the stomach and by eating food difficult of digestion. There is nothing more apt to cause it than musty hay. It may, however, be so far held in check that the animal may be able to perform moderate work by strict attention to diet. Food should not be given in large quantities, so as to overload the stomach; it should mainly consist of oats. It should be of good quality, and if fed bruised and mixed with chaff, so much the better. Damp it when put in the manger. This damping the food aids digestion and lessens the quantity of water that the animal drinks. Thick-winded horses should have their drink in small quantities. At night he may have a full supply, but only a moderate quantity in the morning, and this even a couple of hours before the working hour. Clover hay, especially if new, is unsuitable for them; and fresh, well saved oat straw is generally found better than hay. See that his bowels are at all times in a proper state. This is a most important matter. A bran mash once a week with a little salt and nitre is given with good effect. Bulky food, such as would overload the stomach, is unsuitable, but a few slices of raw swedes for an evening meal are not hurtful. In the old country we knew bruised furze to be fed with great advantage for thick-wind in horses, as well as for worms in the intestines, but here we have no furze.]

SIR,—Permit me to call your attention, and that of your numerous readers, to the article headed "Firm Butter" in your number last month, page 254, in which you give for "cream expected to make 20 pounds of butter, one teacupful of carbonate of soda and one teaspoonful of powdered alum mixed together."

I fear it will be found by any who may try the quantity of soda above stated that a grave error will be committed.

In my dairy we have used with success, instead of the above:—"One teaspoonful of carbonate of soda and one teaspoonful of powdered alum."

The error is surely in copying, calling erroneously one teacup of carbonate of soda instead, as it should be, one teaspoonful.

A SUBSCRIBER, Dunham, Que.

[The error referred to in the above was in copying. The article was merely a reprint, and the error was overlooked in reading the proof. Thanks to our "Subscriber" for directing our attention to it.]

SIR,—I have a mare greatly troubled with warts. They grow on her neck, shoulders and legs, and are quite raw and sore. Will you please publish a cure for them in the next number of the FARMER'S ADVOCATE?

R. C., St. Helens, Oregon, U. S. A.

[If they are warts they may be removed by a solution of arnica. We should rather suppose your animal is a gray one, and that she has melenotic tumors; if so, they should be removed with the knife. Let us know whether your mare is gray or not.]

SIR,—Can you inform me through the columns of your paper the weight of the roots exhibited by Mr. Simpson Rennie at the Toronto Exhibition, and which received the 1st prize.

By doing so your will confer a favor on
T. R. H., Cote des Neiges, Que.

[The red mangles weighed 40 lbs. Mr. Rennie says they would have weighed about 60 lbs. if left till November.]

SIR,—I have a great idea of selling out here and going to Manitoba to cattle-farm, raise sheep, etc. What do you think of it? Say I took up or bought 1,000 acres—broken very little—and raised stock entirely. If I was only sure of a market in a few years I think I could do well. I could have half a dozen friends from home if I said "come along, I will go!" Tell me if the winter kills all the profits of summer? Have you ever been there? Give me all the reliable information you can? Is it a good sheep country? Is it true that you can cut all the hay that you choose on the prairie?

G. H., Dunnville, Ont.

[We have not been to Manitoba, but hope to see that land of promise some time. We have seen many who have been there, and the best indications are that most of them stay there, and those who return are intending to go there again. All we have seen who have visited Manitoba give good accounts of the country. There are some parts much preferable to others. If you make a judicious selection, you can cut what prairie grass you require and can make stock-raising profitable. We hear that Messrs. Ogilvy, of Montreal, very extensively engaged in milling, have purchased 10,000 acres on which they intend to raise wheat. Several parties are forming to make settlements; a company in Hamilton is about to make a settlement near Parry Sound. It is our impression that our Western prairies are destined to surpass all other parts of this continent in the production of wheat. We would say to our young men who wish to make a home—Go to our far west territory. If you have a comfortable home in Ontario and a wife and family, we would not advise you to sell out without first going and examining the country, and selecting and securing a site for a new home. It takes time to make a judicious selection. From the reports we have heard, we should prefer going to Manitoba than to the Southern or Western States.]

SIR,—I think Mr. Vennor is a little astray. Wild geese flying north is something strange; bears still ranging around; farmers are plowing this time in November, and the weather is mild.

W. H. S., Perth.

Commercial.

FARMER'S ADVOCATE OFFICE, } London, Dec. 1, 1878. }

Business the past month has been quiet with little change to note. Damp, dull weather and bad roads have been the order of the day the past two or three weeks.

WHEAT.

Wheat has been quiet but steady, with a slight upward tendency, which has been maintained by the light deliveries and low freights. The continental demand continues steady, and is relieving America of a large portion of her surplus wheat.

PEAS

have been in better request, and with low freights ruling to Glasgow, there is some improvement in the price. We would again urge upon farmers to find a home market for their poor peas, especially the buggy ones.

BARLEY.

This article keeps much the same, with little or nothing to note except that every man we meet in the trade is complaining of his losses or expected losses on barley.

BUTTER.

In some sections really fine is scarce and wanted, but from the general abundance of this article all over any temporary scarcity is soon filled.

CHEESE

has, we think, touched bottom, although with the present heavy stocks, we do not see any chance of improvement this winter. The only enquiry is for strictly fine fall made cheese.

PORK.

The weather has been so soft and unfavorable for handling that the season has not really opened. With an abundant crop of both corn and hogs in the Western States we can see no chance for any improvement over last season's prices.

Ingersoll Cheese Market.

Eighteen factories registered 12,565 boxes. About 6,000 represented not registered. One factory sold August, September and October make at 7c. Four factories were offered 8c for September and October make, and refused.

London Markets.

London, Nov. 28, 1878.

GRAIN.

Table listing grain prices: Deihl Wheat, Treadwell, Clawson, Red, Spring, Barley, Peas, Oats, Rye, Buckwheat, Corn, Beans.

POULTRY.

Table listing poultry prices: Chickens, Geese, Ducks, Turkeys.

PRODUCE.

Table listing produce prices: Eggs, Roll butter, Tub butter, Cordwood, Straw, Turnips, Potatoes, Onions, Tallow, Lard, Cheese, Clover seed, Timothy, Hay.

FRUIT.

Table listing fruit prices: Apples, Hides, Calf-skins, Sheep-skins.

HIDES.

Table listing hide prices: Hides, No 1, No 2, Lamb-skins.

MEATS.

Table listing meat prices: Beef, Lamb, Mutton, Dressed hogs, O r d i n a r y mixed pork, C u r s l. w. per 100 lbs.

FLOUR AND MILL FEED.

Table listing flour and mill feed prices: Fall Wheat Flour, Mixed, Spring, Bran, Coarse Shorts, Fine, Corn, Cornmeal, Fine Oatmeal, Coarse.

Toronto Markets.

Toronto, Nov. 28.

Table listing Toronto market prices: Barley, Springwheat, R. Winter, Treadwell, Deihl, Oats, Peas, Wool, Hogs, Flour, Spring, Extra, Superior.

Montreal Markets.

Montreal, Nov. 27.

Flour.—Market quiet and prices steady. Demand light. Quotations are as follows:—Superior, \$4.30 to \$4.35; extras, \$4.20 to \$4.25; superfine, \$3.65 to \$3.75; strong bakers, \$4.20 to \$4.40; fine, \$3.10 to \$3.20; middlings, \$2.75 to \$2.85; pollards, \$2.50 to \$2.60; Ontario bags, \$2.00; city do, \$2.10 to \$2.15. Sales 50 barrels superior extra at \$4.35 to \$4.50; 50 barrels spring extra at \$4 to \$4.40; strong bakers, \$4.15.

Liverpool Markets.

Liverpool, Nov. 26, 5.00 p.m.

Table listing Liverpool market prices: Flour, Wheat, R. Winter, White, Club, Corn, Oats, Peas, Barley, Pork, Lard, Bacon, Cheese, Tallow, Beef.

Flour, 19s to 22s; spring wheat, 7s 9d to 6s 6d; red winter, 8s 10d to 9s 1d; white, 9s 6d to 9s 10d; club, 9s 10d to 10s 2d; corn, 23s 9d to 24s 0d; oats, 2s 6d; peas, 23s 6d to 00s 0d; barley, 3s 2d; pork, 42s 0d; lard, 33s 0d; bacon, 25s 6d to 28s 6d; beef, 67s 9d; tallow, 37 0d.

Montreal Cattle Market.

Montreal, Nov. 25.

The arrival of live stock by rail at Point St. Charles during the past week were 9 car-loads of cattle, 190 hogs, and one double-decked car-load of sheep, being much the smallest number that arrived during any week of this season. Business was curtailed on account of dealers taking advantage of the temporary scarcity of beef cattle and demanding higher figures.

Stock Notes.

Chicago Fat Stock Show.

The Exhibition of Fat Cattle, under the auspices of the Illinois State Board of Agriculture, is to be held at Chicago during the week opening Dec. 2d. S. D. Fisher, Secretary, Springfield, Ill., will supply all desired information.

The Short-horn Breeders' Association.

The Annual Meeting of this Association, which was to have taken place at Nashville, Tenn., Oct. 30th, has been postponed until further notice, on account of the prevalence of yellow fever in the South.

Messrs. W. R. Robinson and Baldwin, of Indiana, U. S., shipped from Galt lately 400 sheep. They are nearly all pure breed Leicesters and Cotswolds, and are destined for breeding purposes in that State.

Chas. W. Pierce, of Stanstead, Que., has imported some fine Percheron horses from Normandy, France. They comprise two stallions and two mares, one of them with a bay stallion colt by her side now six months old and weighing 630 lbs.

The 18th Duchess of Oneida, purchased at the New York Mills sale by the Earl of Bective for \$15,300, but now the property of Mr. Alsopp, dropped, September 8th, a roan heifer calf by Lord of the Isles, a son of Red Rose of the Isles, the highest priced cow at the Dunmore Sale of 1875.

The Toronto Cattle Exporting Company have recently received large orders from England for cattle to be supplied during the winter months. It is reported that there is an unlimited demand for good grade cattle, weighing 1,200 lbs. each, and upwards, and the building up of this trade in Canada depends very largely upon the farmers and stock raisers.

Mr. P. H. Foster, Nurseryman of Babylon, Long Island, N. Y., advertises 33 varieties of Russian apple trees for sale. We have not yet seen the fruit. There may be some varieties that will suit some parts of our northern country better than the varieties we have here.

Mr. John Watson, of Ayr, will accept our thanks for the kind invitation to the grand dinner that took place in Ayr in honor of the Gold Medal earned by that gentleman at the Paris Exposition. Three hundred guests were present and a pleasant time was spent.

The Wheeler & Wilson Manufacturing Company were awarded, for their new sewing machine, one of the special grand prizes at the Paris Exposition, the only one awarded for sewing machines, with over eighty competitors.

Parties wishing to borrow money without the expense of mortgaging, can do so by applying to T. Blakeney, London.

N. B.—Notice should be sent to this office by the 20th of each month by any one who has not received the ADVOCATE for that month.

N. B.—We have now the bound volume of the FARMER'S ADVOCATE for 1878. Price, \$1.50; mailed to any address in the Dominion.



The Family Circle.

"Home, Sweet Home."

Helen.

Miss Laureston was standing at her study window in brown-study. She was an elderly lady of some forty years, with handsome, severe features, and a figure so straight that it seemed never to have unbent since the days of babyhood. The room, with its sombre tints, was handsome and dignified like its owner, its floor soft with dark Smyrna carpets, and its walls imposing with row upon row of soberly bound volumes. The distant fire-light executed a sort of witches' dance over the dark foreground and the motionless figure at the window. It was Christmas night through the world, and a robin's snow was falling softly outside.

Miss Laureston watched the snow-flakes dropping silently into the circle of faint light, until the gathering darkness changed the glass to a mirror which showed her nothing but a tall ghostly form answering to her own. She looked at this form curiously at first, and then uneasily. Even as it stood between her and the outer world, and set before her eyes the room that lay behind her, so it seemed to stand between her and the onward-coming life, and to set before her thoughts the life that lay behind her.

It was a large, lonely house she lived in, with no friends, no guests, no Christmas cheer. She remembered another house, many miles away, that used to be lighted from top to bottom when Christmas came round. And on dark winter nights the glass used to throw back another figure beside her own—a delicate girlish figure that was sometimes merry, sometimes reproachful, but in all its myriad moods never other than loving and innocent—the figure of her young sister. And in all the world no stranger was less likely to know of its present abiding-place than she herself of this Christmas night.

Camilla—Milly—Milly Laureston. The name was in her thoughts oftener to-night than it had been on her lips for twelve long years. One picture came back very brightly: the old homestead, with its quaint sloping roof, from whose highest window one could see the spire of the village church, and hear the noon bell when the day was still. It was on one of those still days that she had taken the little one from the arms that folded it so quietly, and carried it to her own room, knowing that she at ten and Milly at two were both alone in the world.

Alone, except for an old uncle, who, hearing of his sister-in-law's death, came back to settle himself at the homestead, and to give to the two children a care more affectionate than wise during the few remaining years of his life.

From the first, Agnes was his favorite. He was an infirm man, withdrawn from all the active affairs of life, and with something of an old alchemist's spirit in his blood; most happy when left undisturbed to his library and his laboratory. Miss Laureston remembered as if it were but yesterday that weird room fitted up under the sloping eaves, with the pale blue light from the spirit-lamps shining over retorts and mysterious bottles. The curious noises and explosions never terrified her as they did her sister. While Milly would throw her apron over her head, and hide in the farthest corner of the house, she would creep up to the attic stairs, and, with her face pressed close to the laboratory door, would listen in breathless expectation for the next developments from within. One day her uncle found her there, and after

that the mysterious room was made free to her, though prohibited to the rest of the household. She never disarranged his implements or meddled with his dangerous reagents. No mouse could be quieter than she was, or more unlike a child. With her noiseless ways, her love of books, her dislike of everything that was not decorous and quiet, her hatred of weakness and demonstration, she grew into the old man's life just in proportion as she grew farther away from her sister's.

Milly was a little hoiden, laughing, pouting, crying, caressing, all in one breath. As a child she could not be trusted in the neighborhood of anything that was breakable; and her pranks were as countless as they were troublesome to her grave elder sister and uncle. As a maiden, she was full of caprice, hated gloominess, and filled the house with young companions after her own sunshiny heart. Agnes was patient with her, but it was the patience of a superior being for an inferior. Mr. Laureston was kind to both his nieces, but he treated Milly as a troublesome child, Agnes as a valued confidante. The years that lessened the practical difference in the ages of the two girls only increased this unconscious difference of treatment. He died when Milly was fifteen, and never guessed what a silent, uncomplaining, though childish, longing for love was springing up in the heart of his younger niece with her growing womanhood.

Agnes was at that time twenty-three, and considering the difference in the ages of the two sisters, as well as his own limited knowledge of the character of one of them, he was perhaps justified in leaving his property as he did. Almost everything was given over into the hands of Agnes. She was made the guardian of her young sister. A small sum was to belong unconditionally to Milly when she became of age. The remainder of the large estate was settled upon Agnes, leaving it to her judgment and generosity what part of it her sister was to inherit.

Miss Laureston thought of all this, walking restlessly up and down the room, and struggling with the dumb pain that filled her heart. She knew that she had fulfilled that trust conscientiously. She had at once resolved to give Milly half the property on her majority, and had devoted her life to the fitting of her sister for the responsible station she was to occupy.

Never was a kitten more unwilling to be trained than was Milly Laureston. She would not study; she could not be made to walk sedately or to behave herself properly at home or abroad. When she was scolded, she would cry like a baby; when she was petted, she would flush and brighten, and some new piece of mischief would dance into her eyes. Everything frightened her, from a mouse to a ghost, and grave talk only made her hide her face and run away.

Agnes was strong, calm and self-repressed. A caress from her was a sign of the deepest emotion, and when Milly begged for them constantly, and told her with tears that she did not love her because of the want of them, she only smiled and tried to have patience with her sister's weakness. In all this she was ignorant of the pain she was giving, or of the childish heart that was longing so passionately to be loved in its own way.

She was ignorant of this Christmas night, and did not know why the look that used often to be on Milly's face, like that of a child in pain, should haunt her so bitterly. The lonely room, the lonely house, the lonely life, out of which that face with its shining hair had gone twelve years ago—these were all that remained to her to-night.

Milly had left her, and run away from home, leaving no clue by which to trace her. They afterward ascertained that she was married to a strolling actor, Paul Gressner, whom Miss Laureston would have disdained to receive among her servants—a disreputable foreigner who had found his way to Milly's heart by a handsome face and a soft, caressing manner.

Agnes took up her life again as best she could, sternly resolving that it should not be broken by the fault of another. She sold the old homestead, and looked around for another home. A cousin who had been an old school friend, and was married now, wrote from a distant town begging her to make her home with them. This she would not do; but feeling even in her self-isolation some need of human friendship, she bought the house she now occupied, and which was only a short distance from her cousin's, and moved there in less than a month after her sister's marriage. Here she had live for twelve years, and here she was growing old.

Her cousin had two children—a boy of five, and a little girl younger still; but the baby face of the little one bore some shadowy resemblance to her sister's, and she shrunk from seeing it. Harry was more of a favorite, and soon contrived to make himself very much at home in aunt Agnes's sombre house.

As Miss Laureston brought her thoughts down to this point, she remembered that to-morrow was Christmas, and that this young gentleman probably had unlimited expectations from her liberality on that occasion. Breaking away from her thoughts, she sent for the old nurse, who had come with her to her new home, and had never been absent from her a week at a time since her babyhood.

"Nurse, has anything been done for Harry? I forgot all about him, and he will be disappointed if he does not get something to-morrow."

"He won't be disappointed, Miss Agnes," said the old woman, a comical look flitting over her rugged face—"leastwise, not unless he's very unreasonable. If you'll just have lights, so as to make it a bit more cheerful for you, I'll show you some little things out here in the hall closet."

Miss Laureston rang for the lights, and then stepped out into the hall and peered curiously into the dim closet in search of the "little things."

She held up her hands in dismay. It was a perfect store-room of child's play-things, all jumbled together in utter confusion. Sleds, kites, hoops, balls, toy villages, diminutive fire-engines, picture-books, trumpets suggestive of sounds, and bright jackknives suggestive of still direr results—play-things with and without name, enough to supply a regiment of children, met her astonished eyes.

"Nurse, nurse," she exclaimed, "what are we going to do with all these things? Why, there will be nothing left to give him all the rest of his days! Kites and hoops in winter! And there—yes, that is certainly a doll and a doll's house!"

"For Master Harry's little sister these things are," interposed the old woman.

Miss Laureston stopped short in sudden confusion; she had forgotten the existence of the little girl.

"To be sure," she said, hurriedly; "you were quite right, nurse. I have been too much occupied to think about it. But Harry cannot have all these things. Here are enough to fill a toy-shop."

"No, Miss Agnes; but I thought, perhaps, after you'd taken all you wanted for the children, you'd like to send the others to those Caxtons that live down near the village. They are as poor as poor can be, and the house is just packed with children. I don't expect that they even know what Christmas means."

For the second time Miss Laureston blushed with self-reproach.

"What a selfish, unfeeling person I am!" she mentally ejaculated. "My very servants have more thought for the poor than I."

She turned slowly back to the library, saying, "Yes, nurse; send them anything you please. And put in a chicken or two with the other things."

The fire-light and lamp-light together made the room look very cheerful as she closed the door behind her and shut out the world. But Miss Laureston's thoughts were anything but cheerful.

"A lonely old woman," she was saying to herself, "forgetting everybody, and forgotten by everybody. That is what I shall be soon. Not a soul the better or happier because I am in the world. I wonder," she thought, confusedly, "whether I have not made a mistake somewhere? There must be a way to people's hearts, but I don't know how to take it; I don't remember that I ever cared to know."

"Did she care now?" she asked herself, with a vague uneasiness growing out of her thoughts about her sister. She was not quite sure, but she remembered that Milly used to care. Milly used to be fond of children too. Perhaps if she were to take a little child home— But at this point she roused herself, and tried to shake off her fancies. What love of children had she, or understanding of them, to fit her for such a responsibility? "The child would fear me," she thought, drearily, "just as Milly used to. I must even go my own way till I am old."

(To be Continued.)

The Fireside.

How Harry Flotee Got the School at Cranberry Gulch.

"Mister, no doubt you have all the larnin' that's required in a school teacher, but it wants more than larnin' to make a man able to teach school in Cranberry Gulch. You'll soon find that out if you try. We've had three who tried it on. One lays there in the graveyard; another lost his eye and left before noon time for the benefit of his health. He hasn't been back since. Now you're a slender build, and all your larnin' will only make it worse, for all our young folks are roughs and don't stand no nonsense!"

This was what one of the trustees of the district said to my friend Harry Flotee, when he made application for the vacant position of teacher.

"Let me try. I know I am slender, but I am tough and I have a strong will," said Harry.

"Just as you like. There's the school house, and I'll have notice given if you want it done," said the trustee.

"I do," said Harry, "and I'll open next Monday at 9 a. m."

The notice was given, and there was a good deal of excitement in the gulch and along the Yuba flats. More than fifty young people of both sexes made an excuse to drop into the tavern to get a sight at the fellow who thought he could keep school in that district, and many a contemptuous glance fell on the slender form and youthful face of the would-be teacher.

Eight o'clock on Monday morning came, and Harry Flotee went down to the school house with a key in one hand and a valise in the other.

"Ready to slope, if we're too much for him," said a cross-eyed broad shouldered fellow of eighteen.

The school house was unlocked and the new teacher went to the desk. Some of the young folks went to see what he was going to do, though school was not called.

Harry opened his valise and took out a large belt. Then, after buckling it around his waist, he put three Colt's navy revolvers there, each of six barrels, and a bowie knife eighteen inches in the blade.

"Thunder! He means business!" muttered the cross-eyed chap.

The new teacher now took out a square card about four inches each way, walked to the other end of the school house and tacked it up against the wall. Returning to his desk, he drew a revolver from his belt and quick as thought sent ball after ball into the card till there was six balls in a spot not much larger than a silver dollar.

By this time the school house was half full of large boys and girls. The little ones were afraid to come.

Then the teacher walked half way down the room with the bowie knife in his hand, and threw it with so true a hand that it stuck quivering in the very center of the card.

He left it there and put two more knives of the same kind in his belt and quietly reloaded his yet smoking pistol.

"Ring the bell; I am about to open school."

He spoke to the cross-eyed boy, the bully of the crowd, and the boy rung the bell without a word.

"The scholars will take their seats; I open this school with prayer," he said sternly, five minutes later.

The scholars sat down silent, almost breathless.

After the prayer the teacher cocked a revolver and walked down on the floor.

"We shall arrange the classes," he said, "all who can read, write and spell will rise. Of them we will form the first class."

Only six got up. He escorted them to upper seats, and then he began to examine the rest. A whisper was heard behind him. In a second he wheeled revolver in hand.

"No whispering allowed here!" he thundered, and for an instant his revolver lay on a level with the cross-eyed boy's head.

"I'll not do so any more," gasped the bully.

"See you do not. I never give a second warning," said the teacher, and the revolver fell.

It took two hours to organize the classes, but, when done, they were well organized. Then came recess. The teacher went out, too, for the room was crowded and hot. A hawk was circling overhead high in the air. The teacher drew a revolver, and the next second the hawk came tumbling down among the wondering scholars.

From that day on Harry kept school for two years in Cranberry Gulch, his salary doubled after the first quarter, and his pupils learned to love, as well as respect him, and the revolvers went out of sight within a month.

They had found a man at last who could keep school. This is a fact.—San Francisco Chronicle.

Shirking.

The poorest of all ways for a farmer, or anybody else, to try to get rid of trouble is to shirk it. The man who faces the music with the most promptitude—who "takes Time by the forelock," and "never puts-off till to-morrow what ought to be done to-day"—is the man who will be the most successful, have the most leisure, the least worry, the most comfort, and make the most money. Those who see nothing but obstacles when a big job of work rises before them, and cower down instead of springing up, are not those who will make farming pay. It is as important for the farmer as for the sailor to "keep a good look-out ahead." No man's plans should be more far-reaching than the farmer's. No man should more carefully consider the alternatives of the situation, or be more ready to "bout ship" when the suddenly-occurring changes take place, or to substitute one course for another as circumstances demand.

Wild Babies.

A touch of nature makes the whole world kin, so we have chosen a trite illustration of the truth of this statement, and venture to exhibit it by showing to our parents the manner in which certain savage people treat their offspring, because a pleasant and envious notion is entertained here and in other civilized precincts that young Indians grow—just grow—as Topsy thought she did. But it is not so; they have sore eyes and bad tempers; they wake up in the night with lusty yells and the colic; they have fits; they raise riots when cutting their teeth; and they are just as much petted and just as mischievous as our own.

The mothers of Pocahontas and Red Jacket worried over them with just as much earnestness as, perhaps, did the maternal progenitors of Mrs. Hemans and George Washington, while quite as much paternal supervision was given doubtless to one as to the other. When the question of love and tenderness alone is mooted, then should it be said without hesitation that the baby born to-day in the shadow and smoke of savage life is as carefully cherished as the little stranger that may appear here, simultaneously with it, amid all the surroundings of civilized wealth; and the difference between them does not commence to show itself until they have reached that age where the mind begins to feed and reason upon what it sees, hears, feels and tastes; then the gulf yawns between our baby and the Indian's; the latter stands still, while the former is ever moving onward and upward.

The love of an Indian mother for her child is made plain to us by the care and labor which she often expends upon the cradle; the choicest production of her skill in grass and woolen weaving, the neatest needle-work, and the richest bead embroidery that she can devise and bestow are lavished upon the quaint-looking cribs which savage mothers nurse and carry their little ones around in. This cradle, though varying in minor details with each tribe, is essentially the same thing, no matter where it is found, between the Indians of Alaska and those far to the south in Mexico. The Esquimaux are the exception, however, for they use no cradle whatever, carrying their infants snugly ensconced in the hoods to their parkies and otter-fur jumpers. The governing principle of a papoose cradle is an unyielding board upon which the baby can be firmly lashed at full length on its back.

This board is usually covered by softly-dressed buckskin, with flaps and pouches in which to envelop the baby; other tribes, not rich or fortunate enough to procure this material, have recourse to a neat combination of shrub-wood poles, reed splints, grass matting, and the soft and fragrant ribbons of the bass or linden-tree bark. Sweet grass is used here as a bed for the youngster's tender back, or else clean dry moss plucked from the bended limbs of the swamp firs; then, with buckskin thongs or cords of plaited grass, the baby is bound down tight and secure, for any and all disposition that its mother may see fit to make of it for the next day or two.

Indian babies, as a rule, are not kept in their cradles more than twenty or twenty-four consecutive hours at any one time; they are usually unlimbered for an hour or two every day, and allowed to roll and tumble at will on the blanket, or in the grass and sand if the sun shines warm and bright. But this liberty is always conditional upon their good behavior when free; for the moment a baby begins to fret or whimper the mother claps it back into its cradle, where it rests with emphasis, for it can there move nothing save its head; but so far from disliking those rigid couches, the babies actually sleep better in them than when free, and positively cry to be returned to them when neglected and left longer than usual at liberty. This fact is certainly an amusing instance of the force of habit.

When the papoose is put away in its cradle, the mother has little or no more concern with it, other than to keep within sight or hearing. If she is engaged about the wigwam or in the village, she stands it up in the lodge corner or hangs it to some convenient tree, taking it down at irregular intervals to nurse. When she retires at night the baby is brought and suspended at some point by her side or she sits up all night with it in the most orthodox fashion. When the women leave the village on any errand, such as going to the mountains for berries or to the river canon for fish, the cradles with the babies therein are slung upon

the mothers' backs, and carried, no matter how far, how rough the road, or how dismal the weather.

Indian babies are born subject to all the ills that baby flesh is heir to, but with this great difference between them and ours—when sick they are either killed or cured without delay. This does not happen, however, from sinister motives; and it is not due to avoid the irksome care of a sickly, puny child; it is not the result of lack of natural love for offspring—nor any or all of these; it is due to their wonderful "medicine," their fearful system of incantation.

A papoose becomes ill; it refuses to eat or to be comforted; and after several days and nights of anxious, tender endeavor to relieve her child, the mother begins to fear the worst, and growing thoroughly alarmed, she at last sends for the "shaman," or a doctress of the tribe, and surrenders her baby to his or her merciless hands. This shaman at once sets up over the wretched youngster a steady howling, and then anon a whispering conjuration, shaking a hideous rattle or burning whisks of grass around the cradle. This is kept up night and day until the baby rallies or dies, one doctor relieving the other until the end is attained, and the result is death nine times out of ten.—HENRY W. ELLIOTT, in Harper's Magazine for November.

Shetland Ponies.

Among the ponies we saw on our visit to the Shetland Islands, were some little wee fellows, hardly larger than Newfoundland dogs. When we saw them scampering about so free from care, we couldn't help wondering how long it would be before they would be carrying some little lady up and down Rotten Row or about New York Central Park. The case is not unlikely, for a great many of them each year are sent away from their island home to England.

But a pony in the Shetland Islands, even, has often hard work to perform. If a poor person is possessed of a pony, then, indeed, he feels rich. Now on certain days of the week, there are market days at Lerwick. From all about the people come bringing things to sell. Some walk to the town, some sail, and others come riding on their ponies. Just inside of the Lerwick is a narrow path leading over the hills. I have often seen, coming along this narrow way, a long line of ponies and women. And such a curious appearance they present! The ponies seem only legs. They have no bridle, only a cord about the neck, and each follows the one in front. You can't make them go at the side of one another.

Shetland ponies are very sure-footed. They will walk along the very edge of a high cliff, and before putting a foot down will carefully feel if the ground is firm or not. Some of them are driven by their riders down steep passes where one mistep would send both pony and rider down to the depth below. Ponies of Shetland, too, are not always very well behaved. Near our cottage was an old lady's garden, filled with cabbages. One day her pony walked into it, and enjoyed himself feasting on the forbidden fruit. We never asked him, but should imagine the beating he received when discovered would help him to digest his stolen dinner. Then a Shetland pony on his native heath is extremely wild. If they dislike a rider they will spare no pains to unseat him. I rode one once who expended a great deal of unnecessary strength in this manner: He would sit down suddenly and rise up more so. He would bite, shake himself and roll over if allowed. As he was almost small enough to be carried by his rider, these antics were not very dangerous.—[Wide Awake for November.

TOIL AND BE HAPPY.—Ruskin never said a truer thing than this. "If you want knowledge, you must toil for it; and if pleasure, you must toil for it." Toil is the law. Pleasure comes through toil, and not by self-indulgence and indolence. When one gets to love work, his life is a happy one.

Animals that depend chiefly upon the eye, and especially if they be feeders in the night, or in places to which little light can come, invariably have the eyes very large. This is the case with owls and other nocturnal birds. The same law is observed even in connection with the inhabitants of the sea. The surface fishes usually have the eyes small, and they get gradually larger till, when we come to those which inhabit the depths, and yet are active, feeding upon other fishes, their eyes are very large.

The Foreclosure of the Mortgage.

MRS. E. T. CORBETT.

Walk right in the settin'-room, Deacon; it's all in a muddle, you see, but I hadn't no heart to right it, so I've just let everything be.

Besides, I'm a-goin' to-morrer—I calk'late to start with the dawn—

And the house won't seem so home-like if its all upshot and forlorn.

I sent off the children this mornin'; they both on 'em begged to stay,

But I thought 'twould be easier, mebber, if I was alone to-day.

For this was the very day, Deacon, jest twenty years ago,

That Caleb and me moved in; so I couldn't forget it, you know.

We was so busy and happy!—we'd been married a month before—

And Caleb would clear the table and brush up the kitchen floor.

He said I was tired, and he'd help me; but, law! that was always his way—

Always handy, and helpful, and kind, to the very last day.

Don't you remember, Deacon, that winter I broke my arm?

Why, Caleb skursely left me, not even to 'tend to the farm.

There night and mornin' I saw him, a-settin' so close to my bed,

And I knew him in spite of the fever that made me so wild in my head.

He never did nothin' to grieve me, until he left me behind—

Yes, I know, there's no use in talkin', but somehow it eases my mind.

And he sot such store by you, Deacon, I needn't tell you now,

But unless he had your judgment, he never would buy a cow.

Well, our cows is gone, and the horse, too—poor Caleb was fond of Jack—

And I cried like a fool this mornin' when I looked at the empty rack.

I hope he'll be kindly treated; 'twould worry poor Caleb so

If them Joneses should whip the cretur—but I s'pose he ain't like to know.

I've been thinkin' it over lately, that when Mary sickened and died,

Her father's sperrit was broken, for she was allus his pride,

He wasn't never so cheery; he'd smile, but the smile wa'n't bright,

And he didn't care for the cattle, though once they'd ben his delight.

The neighbors all said he was aillin', and they tried to hint it to me;

They talked of a church-yard cough; but, oh! the blind are those who won't see.

I never believed he was goin' till I saw him a-lyin' here dead—

There, there! don't be anxious, Deacon, I haven't no tears to shed.

I've tried to keep things together—I've ben slavin' early and late—

But I couldn't get the int'rest, nor git the farm-work straight.

So, of course, I've gone behindhand, and if the farm should sell

For enough to pay the mortgage, I s'pose 'twill be doin' well.

I've prayed ag'inst all hard feelin's, and to walk as a Christian ought,

But it's hard to see Caleb's children turned out of the place he bought;

And readin' that text in the Bible 'bout widows and orphans, you know,

I can't think the folks will prosper who are willin' to see us go.

But there! I'm a keepin' you, Deacon, and it's high your time for tea.

"Won't I come over?" No, thank you; I feel better alone, you see.

Besides, I couldn't eat nothin'; whenever I've tried it to-day

There's somethin' here that chokes me. I'm nervous, I s'pose you'll say.

"I've worked hard to-day?" No, I haven't. Why, it's work that keeps me strong;

If I sot here thinkin', I'm sartin my heart would break before long.

Not that I care about livin'. I'd rather be laid away

In the place I've marked beside Caleb, to rest till the judgment-day.

But there's the children to think of—that makes my duty clear,

And I'll try to foller it, Deacon, though I'm tired of this earthly speer.

Good-bye, then. I sha'n't forgit you, nor all the kindness you've showed;

'Twill help to cheer me to-morrer, as I go on my lonely road,

For—What are you sayin', Deacon? I needn't—I needn't go?

You've bought the mortgage, and I can stay? Stop! say it over slow.

Jest wait now—jest wait a minute—I'll take it in bimeby

That I can stay. Why, Deacon, I don't know what makes me cry!

I haven't no words to thank you. Ef Caleb was only here—

He'd such a head for speakin'—he'd make my feelin's clear.

There's a picture in our old Bible of an angel from the skies,

And though he hasn't no great-coat, and no spectacles on his eyes,

He looks jest like you, Deacon, with your smile so good and trew,

And when ever I see that picter, 'twill make me think of you.

The children will be so happy! Why, Debby will most go wild;

She fretted so much at leavin' her garden behind, poor child!

And, law! I'm as glad as Debby, ef only for jest one thing—

Now I can tend the posies I planted there last spring

On Caleb's grave; he loved the flowers, and it seems as ef he'll know

They're a-bloomin' all around him while he's sleepin' there below.

The Lion in his Native Wilds.

Those who have only seen the "king of beasts" immured in a cage, after years of harassing and emaciating captivity, and half paralysed by confinement and want of exercise, can form no conception of his majestic appearance as he bounds along in his own native wilds conscious of his own strength and prowess. There he is indeed a monarch, for, dreaded by all, he has nothing to fear from any living creature, save when by chance some solitary hunter, aided by his death-dealing arms, wages unequal war against him. I have lived in his domains for months and months together, and have encountered him at all times and under all circumstances; and the more I have studied his character and his habits, when in a state of nature, the more am I convinced of his right to royal precedence amongst beasts. His strength is unsurpassed by any animal in creation, not even excepting the tiger, for I have known him to break the spine of an ox with a single blow of his tremendous fore paw; I have seen him stop a horse in its full career, and throw him back on his haunches; I have witnessed the skull of a living man crushed to pieces as if it were an egg-shell, by a lion already in its death-throes; and at night I have heard a marauder leap over the wall of a cattle-kraal, seven feet high, taking with him a bullock, which he carried off as easily as a cat would do a mouse. Add to this terrible strength, the fearful grip of his flesh-rendering fangs; his peculiar faculty of being able to see in the dark; the noiselessness with which he is enabled to approach, and the distance from which he can spring upon his prey; and it must be confessed that in the darker hours of night a hunter, however experienced and well armed he may be, stands but a poor chance against such a formidable antagonist. In the daylight the chances of the contest are all in favor of the man; the lion's superior powers of attack vanish; his faculties become deadened; his self-possession at times leaves him, and his gigantic strength is of no avail against the deadly grooved-bore of the hunter.

Smyth spent two whole days and nights in considered an answer to the conundrum, "Why is an egg underdone like an egg overdone?" He would suffer no one to tell him, and at last hit upon the solution—because both are hardly done.

"Prisoner at the bar," said the judge, "is there anything you wish to say before the sentence is passed upon you?" The prisoner looked wistfully toward the door, and remarked that he would like to say "good evening," if it would be agreeable to the company.

Sitting for your Portrait.

How comes it that a photograph, which ought to present the sitter in a thoroughly easy and natural pose, often exhibits him in a constrained and awkward attitude? This is generally the fault of the photographer, who, with very vague notions of effect and art, usually places his subject, doubtless with the best intentions, in a most uncomfortable position. The head is fixed against an iron stand, the hands disposed in any but an ordinary way; the body is, so to speak, distorted, the eyes are directed in a stolid gaze, and then elaborate instructions are issued—all ending in the discomfort of the sitter, who is nevertheless requested to "look pleasant." Dr. Thomas Buzard suggests a remedy by which the painfully strained appearance that frequently follows from the photographer's instructions to look at a certain spot might be got rid of. His method is to take a piece of paper and to draw upon it a circle of, say, four inches diameter, on which he places at the equal intervals the Roman figures of a clock-dial. The paper is to be nailed to a post, and when the sitting begins the eyes are fixed upon the figure XII., then upon I., II., III., and so on, the gaze moving leisurely from one figure to another. In this way great relief is obtained, and a subject can sit for a considerable time without any sense of fatigue. For children, a disk with a single aperture towards its edge may be made to revolve in the direction of the hands of a clock in front of another disk prepared with pictures, one picture being displayed at a time, and each in turn. This hint will, no doubt be found useful, though it is only fair to state that the high-class excellence of several photographers' work shows that they, at any rate, have nothing to learn in taking a portrait.

Papers on Window Gardens.

Of all standard and climbing plants for window and house decoration, the large-leaved hardy Ivy is undoubtedly the best. It stands cold and heat, seems insensible to draughts and breezes playing round the loose sashes; is accommodating in its habits, when, while the weather grows warm, all you have to do is to shift it from the pot to the garden near a wall or support, water it in dry weather, give it as shady a spot as possible, and it will grow and thrive until frost. I have now a large plant climbing to the top of a high old-fashioned window, every here and there fastened to the wood-work with tacks and a strip of white morocco. Every day that is not storming I open the window for an hour or so, a good way to harden plants that have not been kept at too high a hot-house temperature. Occasionally (for few housekeepers, especially those with little folks to look after, can spare time for more than occasional ablutions) the leaves should be carefully washed on both sides. It is perfectly free from vermin or blight; rejoices in strong soil, enriched by guano, and kept moist. It is less sensitive to changes of light than any plant, nor does it require much heat.

Several summers ago I had a large one twined round the window of my parlor; I went out of the city nearly every morning and did not return until night. But the plant would not have been safe in the garden, nor could I well have it in any room except the parlor, the shutters of which were kept closed and were of the old-fashioned style, formed of a large solid piece of wood, admitting no light and exceedingly little air. When doors and shutters were closed the air came to the ivy only through an open fire-place, and except early in the morning, at night, and on the Sabbath, it had no light. The heat, too, of the room thus shut was quite oppressive. The vine of course did not flourish as it would have done under favorable circumstances, but it lived and bore this unnatural treatment, as many neglected children do, for some time. In early fall I did what I could to make up for past ill usage.

A lady with whom I boarded had carried a plant from place to place for seven years, and as she had the popular prejudice against air and sunlight in the parlor, the ivy grew behind heavy curtains at the side of the window. Of course it was stunted, while its mistress treated it to waterings of ammonia, much the same as stupid parents have been known to run from one doctor to another, having iron prescribed by one and something else by another, when the poor children were insufficiently fed with fresh pure air, wholesome food, and unsuitably dressed; when windows were closed, the blinds down and the inmates pale and sickly.

Now the ivy belongs to the old vigorous generation which is dying out, but modern plants generally, like modern constitutions, will not always bear what did not seem to disagree with their fathers.

If a small vial of water is placed behind a picture frame, a young plant of ivy can be grown in it if the bottle is kept full of water, and sweetened now and then by a few bits of charcoal. It roots early, and a piece thus grown round a statuette, concealed in the rear of corner of a bracket, or round an engraving, is very graceful and effective, for no touch should be overlooked or despised that will make home more attractive to husband, wife, parent and child.

J. B. M. B.

Active Women.

The precepts we would inculcate concerning active women are these:—Let their active energies be properly directed—neither allowed to run to waste, nor to be exercised out of their proper sphere. As a general rule noisy women do much less than they seem to do, and very much less than they believe; and quiet women often do more. But it does not follow that all quiet women are active; on the contrary, six out of ten are indolent and work only on compulsion. Indolent women have their good points, and one of the most valuable of these is their quietness; it is a great luxury in domestic life; but, perhaps, it is a luxury which is too expensive for a poor man, unless he can get it combined with activity. The wife of a poor man, no matter what his profession or position, ought to be active in the best sense of the word. She ought to rule her house with diligence, but make no boast of it. Her managing powers ought to be confined to her own house, and never be sent out to interfere with her neighbors. Her activity should be kept healthy by being exercised upon important matters chiefly, though the trifles must not be disregarded. A woman who will make herself unhappy because her usual custom of cleaning the house on Friday is, on a particular occasion, inevitably infringed, is inadequate to perceive the difference between the lesser and the greater. Some active women, who pride themselves on their housekeeping, seem to forget that the object of keeping a house is, that human beings may be accommodated in it; their sole idea seems to be this, that the object of keeping a house is that the house may be kept in a certain form and order, and to the maintenance of this form and order they sacrifice the comfort of those whose comfort the house was established to secure. Some active women are pests to society, because they want sense to direct and control their energies.

A NEW CALIFORNIA EXPORT.—A new way of shipping grain to foreign countries is described in the *Commercial Herald*, a San Francisco paper, as being practiced in California, and which resulted in a despatch by cable to a commission house in that city from the owner in Bordeaux, France, not to make a charter for carrying wheat thence. This was followed by a letter to the effect that there were then in the harbor of Bordeaux two or three California wheat laden vessels that were under seizure for having wheat cargoes on board that were fraudulently packed, the bags containing "sand, earth and squirrels."

Wednesday, Oct. 30, 1878, will be memorable in the annals of this State, for on that day and in the presence of Governor Connor, the Main Beet Sugar Company, of Portland, turned out over 12,000 pounds of granulated sugar, the first ever made in the United States from beets grown in America. Several establishments have, it is true, made small quantities of raw sugar of excellent quality, but regular boiling of refined sugar made from raw beet sugar produced in the United States has never before been attempted in the Atlantic States.—[Maine State Press.]

Dog-seller:—"That 'ere hanimal's the real stock, mum, and dog cheap at five pounds." Young widow:—"It's a sweet, pretty darling, black and white; but in my present state of bereavement you procure me one entirely black. This will do very well for half-morning in about six months."

Necessity has no law.—Parson (sternly):—"How could you come to church to be married to a man in such a state as this?" Bride (weeping):—"It was not my fault, sir. I never can get him to come when he is sober!"

A Scotch Effort with the Long-Bow.

Concerning the long-bow, no American effort can surpass one that comes to us from Scotland:—

"It was told that Colonel Andrew McDowall, when he returned from the war, was one day walking along The Myrock, when he came on an old man sitting greetin' on a muckle stain at the roadside. When he came up, the old man rose and took off his bonnet, and said,

"Ye're welcome hame again, laird."

"Thank you," said the Colonel; adding, after a pause, "I should surely know your face. Aren't you Nathan McCulloch?"

"Ye're richt, 'deed," says Nathan; "it's just me, laird."

"You must be a good age, now, Nathan," says the colonel.

"I'm no verra aul' yet, laird," was the reply: "I'm just turnt a hunner."

"A hundred?" says the colonel, musing; "well, you must be all that. But the idea of a man of a hundred sitting blubbering that way! What ever could you get to cry about?"

"It was my father lashed me, sir," said Nathan, blubbering again; "an' he put me oot' so he did."

"Your father!" said the colonel; "is your father alive yet?"

"Leevin' ay," replied Nathan; "I ken that the day tae my sorrow."

"Where is he?" says the colonel. "What an age he must be! I would like to see him."

"Oh, he's up in the barn there," says Nathan; "an' no in a horrid gude humor the noo, aither."

"They went up to the barn together, and found the farther busy threshing the barley with the big flail and tearing on fearful. Seeing Nathan and the laird coming in, he stopped and saluted the colonel, who, after inquiring how he was, asked him what he had struck Nathan for."

"The young rascal!" says the father, "there's nae dooin' wi' him; he's never oot' a mischief. I had tae lick him this mornin' for throwin' stanes at his gran'father!"—[Harper's Magazine for December.]

Scandal.

How much mischief might be avoided if men and women would divest themselves of the practice of meddling with other people's affairs, instead of attending to their own? In the first place, they have no right to do so; and in the second, they should consider the many consequences which may result from it, and which they themselves would not like, were they placed in a similar position.

The Butter Trade in Canada.

LET US HAVE CREAMERIES.

While Canadian cheese has come up to a high standard, and has got a character as to quality abroad of a valuable kind, our butter is on the whole lamentably otherwise. At this moment, one prominent cause of the business depression in the country is that butter, to a great extent made and now on hand, is almost unsaleable. There must be either a change or ruin, as far as this important interest of the country is concerned. But the indications point strongly in the way of the establishment of butter factories, or creameries as they are called, by which the product will become uniformly of a good character, and be disposed of promptly. There are lots on lots of butter held just now, for which there is absolutely, it is said, no market. Butter costing or valued at 13c to 16c by holders is really getting down to a market price of, say 5c to 8c, or 10c at the outside, while for really choice a fair price is obtainable, and such is wanted. The butter trade of Canada is very important, and anything that would improve it would be really for the country's interest largely. Country traders also, as things are, have to meet with special difficulties in this respect. Butter buyers and agents go round the country, picking out in many places from the farmers their choicest butter, and the refuse of stale or inferior is left to pay accounts with the storekeeper. All this wants change, and the country trader here needs real protection.

The Jerusalem Artichoke.

As regards the soil and planting, they require the same treatment as the potato the first year, although they will grow on much poorer land than the other. The exception in treatment the second year, therefore, is that they do not need planting anew, as there will be seed enough left in the ground, no matter how thoroughly they are dug. For this reason they are difficult to exterminate and should be confined to the same piece of land. As the frost does not injure them in the least, they can be left in the earth and dug in the winter or spring, as wanted, saving cost of storage, as in case of turnips or potatoes. In the spring they are juicy and fresh, and are very valuable for new milch cows, causing a large supply of very rich milk. Horses, old and young, cattle, sheep and swine, all eat them with voracity. Horses fed with them need but little grain. They are as nutritious as potatoes, and contain more saccharine matter than even the sugar beet. Cooked in spring the same as vegetable oyster or salsify, they form a delicious dish.

The foregoing refers, of course, to the tubers. We will now notice the stalks. They grow from four to eight feet high and make an immense amount of fodder. Horses, sheep and cattle consume them, and if not fed in too large quantities, will eat the last particle, and that, too, in preference to first-class corn fodder. The stalks, when dry, may be used for fuel, especially for heating baking ovens. They can be cut the same as corn; or, if not too heavy, a cradle can be used to advantage. If left in large shocks and well topped, they can stand in the field and be hauled away as wanted, without injury from the weather. After the first year the growth will probably spread so as to prevent cultivation, and the third year quantities can be pulled during the summer for soiling purposes. The plot should be manured every fourth year at the most, and oftener if convenient. They yield from one-half more to double as much as potatoes, and never rot. They should have a dry soil.

The reason for planting in the fall is that they start earlier in the spring, and the longer the season the larger the crop they mature. It might be advisable, however, to defer planting till spring on extremely heavy soil.

DIRECTIONS FOR PLANTING.

The Jerusalem artichoke (Tobinamour, in German), is very similar—that is, the tuber—to the potato. Plow deeply and drag well. Furrow drills three feet apart and four inches deep. Drop the tubers fifteen to twenty inches apart and cover with plow. After the young plants show themselves, run through with the cultivator and deeply loosen up the soil. Cultivate as often as needed to kill weeds. In digging, a plow can be used, so that the entire work of planting and harvesting is comparatively small in amount. The best time to plant is in October and November, but mild days in winter or early spring will do, but not as well. Of course, if one cannot plant till spring, do so then, rather than wait for another fall.—[Witch Hazel, in the Fruit Recorder.]

[We have been in the habit of planting them in the spring.—Ed.]

The value of fruit crops in the United States is estimated by the government statistics at \$140,000,000 annually, or about half the value of the wheat crop. The value of the annual crop of Michigan is put down at \$4,000,000. California has 60,000 acres of vineyards, producing 10,000,000 gallons of wine annually, besides vinegar, raisins, brandy and fresh grapes. The other States produce 5,000,000 gallons of wine annually. The single port of Norfolk, Va., reported 3,000,000 quarts of strawberries this year. Illinois, a prairie state, whose fruit growing is of recent origin, now has 320,000 acres of orchards.—[Western Rural.]

Protect the Teas, Bengals and Bourbon roses as soon as possible. Cut out the dead and surplus wood, and drive a stake beside the stems; tie the vines to this snugly. Set enough rye straw around so that it will be from two to three inches in thickness. Fasten the twine and finish the job by throwing some fine soil about the lower ends of the straw.

Root cuttings are the roots of the new and choice varieties of blackberries and raspberries cut in short pieces two or three inches long. They are usually put away in a box in sand or dry earth, and placed in the cellar until spring.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—I heartily wish each and all of you a "Merry Christmas" and a "Happy New Year." I imagine you very busy these days preparing gifts for good St. Nicholas to distribute, and dreaming of what you will find on Christmas morn. How delightful it would be to take a peep into each of your homes, and with you look over the plump stockings and the loaded trees; and look into your dear faces, brightened and beautified by the double delight of giving and receiving tokens of love. Though, probably "Santa Claus," like many another philanthropist, feels the effect of the hard times, so you be wise and do not expect so many presents as you have been accustomed to. I hope, however, that your reasonable wishes will be gratified, and also that each member of our circle will give to it, that at least one child who would otherwise go giftless may be gladdened by some simple reminder of Christmas cheer. If you will look over your stock of playthings, I fancy you will find toys that you have grown tired of, and yet would seem like treasures to a less favored child. Your holidays will seem more delightful for brightening theirs. Try it, my dears.

UNCLE TOM.

Puzzles.

105.—CHARADE.

My first comes in the pleasant spring,
When merry birds begin to sing;
My second, I am very sure,
Is used by all, both rich and poor.
To receive my whole is very pleasant,
It oft contains some valued present.

MARY WALEY.

106.—TRANSPPOSITION.

Ety od otnhinh I toubd heet;
I nowk hyt turth snimera;
I oldwu otn veil tjwohut hete,
Orf lal het lowrd tinsocn.

ROSA A. FROST.

107.—BEHEADINGS.

Behead loose and leave a complaint;
" a bird and leave a place of refuge;
" an animal and leave design;
" a small animal and leave a river;
" a minister and leave a flower;
" a boy's name and leave a color;
" a time-piece and leave a fastening;
" a utensil and leave a hut;
" a piece of furniture and leave a covering;
" to despise and leave a kind of grain.

GERTIE HECK.

108.—CANADIAN GEOGRAPHICAL ENIGMA.

I am composed of 19 letters:
My 7, 14, 4, 11, 13, 2, 9 is an island in Canada.
My 13, 4, 16, 7, 2, 15, 5 is a manufacturing village in Canada.
My 9, 19, 12, 17, 15, 11, 14 is a lake in Canada.
My 10, 1, 18, 10, 13, 9 is a county in Canada.
My 12, 14, 11, 9, 37, 15, 19 is a town in Canada.
My 3, 13, 18, 9, 7 is a cape in Canada.
My 15, 14, 5, 2, 6 is a river in Canada.
My whole is to be found in the FARMER'S ADVOCATE.

F. H. DICKSON.

109.—HISTORICAL ENIGMA.

My first is in night, but not in day;
My second is yeast, but not in dough;
My third is in long, but not in short;
My fourth is in soon, but not in noon;
My fifth is in short, but not in tall;
My sixth is in ocean, but not in lake.
My whole is the name of an English Admiral who lived during the time of Napoleon I.

R. D.

110.—NUMBERED CHARADE.

I am composed of 16 letters:

My 6, 8, 7, 13, 14, 6 is a girl's name.
My 15, 5, 7, 16, 5, 7 is a city in England.
My 9, 8, 15, 14, 3 is a lake in Sweden.
My 1, 2, 8, 9 is a county in Asia.
My 10, 15, 8, 3, 14 is a girl's name.
My 11, 12, 7 is a river in Russia.
My 16, 8, 7 is a man's nickname.
My whole is a celebrated man living in Canada.

ANNIE AND ELLA WALKER.

111.—ENIGMA.

I am composed of 10 letters:

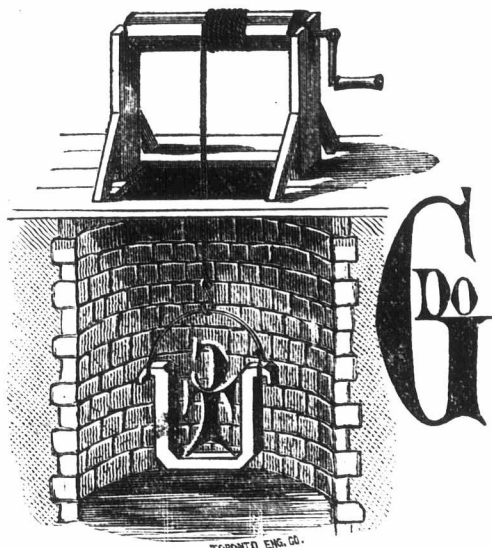
My 7, 9, 10, 4 is a recluse.
My 1, 6, 3, 4 is part of the body.
My 6, 8, 10 is one of the sexes.
My 10, 9 is a negative.
My 1, 6, 10, 5 makes a loud noise.
My 1, 2, 10, 4 is a depository.
My 3, 9, 7, 1 is an article of the toilet.
My whole is a well-known place.

MARTHA DAVIS.

112.—TWO EASY DOUBLE SQUARE-WORDS.

Across—1. That which. 2. Uncommon. 3. Level. 4. Tidy. Down—1. A bird. 2. To hold. 3. An inclosed space. 4. A pavillion. Across—1. A brilliant body. 2. Title. 3. A sign. 4. To go. Down—1. Congealed matter. 2. To domesticate. 3. An ejaculation often met with in the Bible. 4. To tear.

113.—PICTORIAL REBUS.



114.—A CONCEALED BILL-OF-FARE.

In each of the following sentences, fill the blank with a word to be found concealed in its sentence:—

1. Let each guest have some —. 2. Eating some — will be effectual in satisfying hunger.
3. Nothing but terrible starvation could make one eat such —! 4. Ah! a morsel of — will taste good. 5. Give me, I beg, good brown bread and a well-cooked —. 6. Don't take cold ham; eat some of this freshly-cooked, hot —. 7. Stop! I entreat you! Don't give the child any more —. 8. What if I should eat more —?
9. He has had quite enough —. 10. Let me whisper to you. There sits a lady who, it seems to me, is very fond of —. 11. You will take, I hope, a spoonful of —? 12. She has helped me twice to —.

115.—GEOGRAPHICAL SINGLE ACROSTIC.

The initials will give one of England's principal sea-ports.

1. A river of Ireland. 2. A river in Farther India. 3. A river in France. 4. The largest river in Western Asia. 5. A river in France. 6. A river in Italy. 7. A river in Prussia. 8. A river in North America. 9. A river in Siberia.

116.—EASY HIDDEN LATIN PROVERB.

Find in the following sentence a Latin proverb in common use:—

The sachen seized a garment on which was embroidered his totem, pushed the Italian, Orfugi, to the ground, and precipitately fled.

S. T.

Answers to November Puzzles.

No. 95.—
M
E A T
M A R A T
T A R
T

No. 96.—"True hearts are more than coronets, and simple faith than Norman blood."

No. 97.—Boston.

No. 98.—1—CHOIR 2—EIGHT
HORDE IDLER
ORRIS GLARE
IDIOT HERON
RESTS TRENT
3 DEPTH 4—LAUGH
ESSAY ALPHA
PSALM UPPER
TALON GHENT
HYMNS HARTS

No. 99.—North Carolina—Raleigh.

No. 100.—Scale.

No. 101.—Marquis of Lorne.

No. 102.—"Where are now the hopes I've cherished."

No. 103.—"Necessity is the mother of invention."

No. 104.—Electricity.

Names of Those Who Sent Correct Answers to November Puzzles.

Jefferson B. Greenbow, John A. Saunders, Sadie Elliott, Annie and Ella Walker, Amelia Straubel, Charles McCormick, Chas. H. Parliament, K. C. Fraser, J. H. Pope, Mrs. S. W. Day, Amanda Leach, Fred. W. Lamphier, John Nesbitt, J. H. Walker, Andrew Wm. Lowry, Peter S. McLaren, Charles S. Husband, Thomas Rennie, Duncan Sinclair, Edward Campbell, Wm. Pinkham, Eall Anderson, Joseph H. Brunell, Gertie Heck, Jennie Dowrie, Francis S. Wallace, J. H. Fry, Willemia Mercer, Mary A. Andrews, Minnie Hyde, C. M. Barnhill, Wm. J. Drope, Maggie Blair, Jennie McCallum, Minnie Thompson, Frank Forbs Dickson, Robert Bowes, Edward Livyer, James W. Jackson, Andrew Lewis, Mary Galb aith, Amos Hawkins, Samuel G. Stevenson, Stella Pardon, R. French, Jas. Bennett, Sarah Miller, Isaac McLean, W. Caldwell, F. J. McMichael, Mary Ann Hepworth, Addie Sanford, E. Alex. Boyd, Robert Davison, Annie C. Johnstone, Lizzie C. White, Alice Dunn, C. B. Carr, George Woodhouse, L. Sutherland, M. Osborne, Mathew Doyle, Alex. D. Brown, Lizzie M. Reid, John R. Fraser, Minnie J. Sullivan, Geo. G. Grass, Ada McFarlane, R. M. Brown, Albert E. Grass, Chas. Ebenbed.

We happy to publish the names of those who were successful in answering all the last month's puzzles correctly as follows:—Minnie Hyde, Francis S. Wallace, Annie and Ella Walker, Charles Parliament and Amos Hawkins.

HUMOROUS.

"He was a cull'd tramp, and approached Capt. Jase Phillips as the train hauled up at Pewee. 'Is you de Captain ob de keers?' 'Yes,' replied the Jase. 'Don't want fo' to hire any deck hands, doz ye?' 'No, I am not running a steamboat.' 'Zactly! Mout I ride straddle ob de cow snatcher to the next landin'—I'se busted and a long ways from home?' 'Get on. All aboard!' and the negro straddled the 'cow snatcher.' Ed. Giligan pulled out the throttle wide open, and the train had not gone more than a half mile before the engine collided with a cow, throwing it over the fence into a cornfield, and the negro after the cow. Next day, coming down, the negro limped up to Jase at the same depot, and said:—'Boss, I didn't ride far wid you on that cow snatcher, kase you sce de cow wanted to ride dar too, and dar warn't room for bofe of us, so we got ot together up here in a co'n field to rest. De next time I rides wid you I'll freeze to de tail gate ob de wagon—hit's safer.'"

Grandfather—"You are stupid, Charlie; the dullest boy I ever saw." Charlie—"You mustn't expect me to understand things as quick as you do, grandfather; because you don't have the trouble to get 'em through your hair."

A little boy from New York went into the country visiting. He had a bowl of bread and milk. He tasted it, and then hesitated a moment, when his mother asked him if he didn't like it, to which he replied, smacking his lips:—"Yes, ma. I was wishing our milk-man would keep a cow."

It was very artless, certainly, in the young girl, and very truthful also. "Mary," said her critical parent, who for some reason objected to cosmetics, "why do you use paint?" She archly replied to her paternal relative who happened to be a musician. "Well, father, for the same reason that you use rosin—to help me draw my beau."

"In my airyly days," remarked the old man, as he shoveled coal into the school-house bin, "they didn't use coal to keep us school young 'uns warm, I can tell you." "What did they use?" asked a boy near by. "A sad, far-away look seemed to pass over the old man's face as he quietly responded, "Birch, my boy, birch."

The Children's Prayer.

'Twas the eve before Christmas: "Good night" had been said,
 And Annie and Willie had crept into bed:
 There were tears on their pillows, and tears in their eyes,
 And each little bosom was heavy with sighs—
 For to-night their stern father's command had been given,
 That they should retire precisely at seven,
 Instead of eight: for they troubled him more
 With questions unheard of than ever before;
 He had told them he thought this delusion a sin,
 No such being as "Santa Claus" ever had been,
 And he hoped, after this, he should never more hear
 How he scrambled down chimneys with presents each year.
 And this was the reason that two little heads
 So restlessly tossed on their soft, downy beds.
 Eight, nine, and the clock on the steeple tolled ten;
 Not a word had been spoken by either till then,
 When Willie's sad face from the blanket did peep,
 And whispered, "Dear Annie, is you fast asleep?"
 "Why, no, brother Willie," a sweet voice replies,
 "I've tried it in vain but I can't shut my eyes;
 For, somehow, it makes me so sorry because
 Dear papa has said there is no 'Santa Claus';
 Now we know there is, and it can't be denied,
 For he came every year before mamma died;
 But then, I've been thinking that she used to pray,
 And God would hear everything mamma would say,
 And perhaps she asked him to send 'Santa Claus' here,
 With the sacks full of presents he brought every year."
 "Well, why tan't we pray dest as mamma did then,
 And ask Him to send him with presents aden?"
 "I've been thinking so, too." And without a word more,
 Four little bare feet bounded out on the floor,
 And four little knees the soft carpet pressed,
 And two tiny hands were clasped close to each breast.
 "Now, Willie, you know we must firmly believe
 That the presents we ask for we're sure to receive;
 You must wait just as still till I say the 'Amen',
 And by that you will know that your turns has come then."
 "Dear Jesus, look down on my brother and me,
 And grant us the favor we're asking of Thee;
 I want a wax dolly, a tea-set and ring,
 And an ebony work-box that shuts with a spring;
 Bless papa, dear Jesus, and cause him to see
 That Santa Claus loves us far better than he,
 Don't let him get fretful and angry again
 At dear brother Willie and Annie, Amen;"
 "Please Desus, 'et Santa Taus tum down to-night
 And bring us some presents before it is light.
 I want he should div me a nice little sed,
 With bright, shiny runners, and all painted red;
 A box full of tandy, a book and a toy,
 Amen, and then, Desus, I'll be a good boy."
 Their prayers being ended, they raised up their heads,
 And with hearts light and cheerful again sought
 their beds;
 They were soon lost in slumber, both peaceful and deep,
 And with fairies in dreamland were roaming in sleep.
 Eight, nine, and the little French clock had struck ten,
 Ere the father had thought of his children again;
 He seems now to hear Annie's half-suppressed sighs,
 And to see the big tears stand in Willie's blue eyes.
 "I was harsh with my darlings," he mentally said,
 "And should not have sent them so early to bed.
 But then I was troubled—my feelings found vent,
 For bank stock to day has gone down ten per cent.
 But of course they've forgot their troubles ere this,
 And that I denied them the thrice-asked-for kiss;
 But just to make sure, I'll steal up to the door,
 For I never spoke harsh to my darlings before."
 So saying he softly ascended the stairs,
 And arrived at the door to hear both of their prayers.
 His Annie's "bless papa" draws forth the big tears,
 And Willie's grave promise falls sweet on his ears.
 "Strange, strange I'd forgotten," said he, with a sigh,

"How I longed, when a child, to have Christmas draw nigh."
 "I'll atone for my harshness," he inwardly said,
 "By answering their prayers ere I sleep in my bed."
 Then he turned to the stairs and softly went down.
 Threw off velvet slippers and silk dressing-gown—
 Donned hat, coat and boots, and was out in the street,
 A millionaire facing the cold, driving sleet.
 Nor stopped he until he had bought everything,
 From the box full off candy to the tiny gold ring;
 Indeed, he kept adding so much to his store,
 That the various presents outnumbered a score.
 Then homeward he turned with his holiday load,
 And with Aunt Mary's aid in the nursery 'twas stowed;
 Miss Dolly was seated beneath a pine tree,
 By the side of the table spread out for her tea;
 A work-box well filled in the centre was laid,
 And on it a ring, for which Annie had prayed.
 A soldier in uniform stood by a sled,
 "With bright shining runners and all painted red,"
 There were balls, dogs and horses, books pleasing to see,
 And birds of all colors were perched in the tree;
 While Santa Claus, laughing, stood up in the top,
 As if getting ready more presents to drop.
 And as the fond father the picture surveyed,
 He thought for his trouble he had amply been paid,
 And he said to himself, as he brushed off a tear,
 "I'm happier to-night than ever before.
 What care I if bank stock falls ten per cent. more!
 Hereafter I'll make it a rule, I believe,
 To have Santa Claus visit us each Christmas Eve."
 So thinking he gently extinguished the light,
 And tripped down the stairs to retire for the night.
 As soon as the beams of the bright morning sun
 Put the darkness to flight, and the stars, one by one,
 Four little blue eyes out of sleep opened wide,
 And at the same moment the presents espied,
 Then out of their beds they sprang with a bound,
 And the very gifts prayed for were all of them found.
 They laughed and they cried in their innocent glee,
 And shouted for "papa" to come quick and see
 What presents old Santa Claus brought in the night,
 (Just the things that they wanted), and left before light.
 "And now," added Annie, in a voice soft and low,
 "You'll believe there's a Santa Claus, papa, I know;"
 While dear little Willie climbed up on his knee,
 Determined no secret between them should be;
 And told, in soft whispers, how Annie had said
 That their dear, blessed mamma so long ago dead,
 Used to kneel down and pray by the side of her chair,
 And that God up in heaven had answered her prayer!
 "Then we dot up and prayed dust as well as we could,
 And Dod answered our prayers, now wasn't He dood!"
 "I should say that He was, if he sent you all these,
 And knew just what presents my children would please."
 (Well, well, let him think so, the dear little elf,
 'Twould be cruel to tell him I did it myself.)
 Blind father! who caused your stern heart to relent?
 And the hasty word spoken so soon to repent?
 'Twas the Being who bade you steal softly up stairs
 And made you his agent to answer their prayers.
 —Mrs. S. P. Snow.

"Now, then, madame, please look steadily at this place on the wall," said a photographer to an old lady, when he had put her in position and the plate in the camera. The old lady looked hard at the spot indicated, then got up and walked across the floor and minutely inspected it, and then, turning to the photographer, gently remarked, "I don't see anything there."

Mistletoe at Christmas-Tide.

The hanging of the mistletoe is a cause of much frolic and laughter in the house. It is the rule that whoever is passing under the mistletoe-bough must submit to being kissed then and there by whosoever chooses to take that liberty. As a bough usually hangs from the centre of the ceiling, spreading over a large space, it follows that there must be much dodging and kissing; I am inclined to think that there are both.
 The origin of this use of the mistletoe is not known; but we do know that more than eighteen hundred years ago, when the glad stars sang together over the manger in Bethlehem, and wise men brought gifts of gold, frankincense and myrrh to a young child in the peasant mother's arms, England was a chill, mist-covered island, inhabited only by savages, who wore garments of skins and lived in huts of mud and stone. Among these savage Britons there were pagan priests called Druids. These priests were a mysterious folk, who lived in dense woods far away from other men, and who, in the gloomy solitudes of the forest, performed strange secret ceremonies. The "sacred groves," as they were called, were of oak; for the oak was a divine tree, according to the Druidical religion. Within these sacred groves, the priests, as is recorded in history, offered their sacrifices, and in some manner, not now known, they employed the mistletoe. But all mistletoe was not sacred to the Druids. They would have none but that which clung to the trunk and was nourished by the sap of the divine oak. To them, the apple-tree mistletoe, which modern England uses so freely in her holiday festivities, would be a worthless and common thing.
 When, in later centuries, England was taught the Christian religion by priests who went thither from Rome, the people, though professing a belief in Christ, retained many of their heathen rites and customs changed from their original meaning and purpose. At any rate, from the Druids has come the modern usage of the mistletoe-bough, strangely preserved in festivities which commemorate the birth of him whose pure worship destroys all heathen superstitions.

A Mother's Influence.

It is hard for a young mother, who has not yet overcome the wayward tendencies of her youthful nature, to realize the influence she exerts over her little ones. She is constantly surrounded by critical imitators who copy her morals and manners. As the mother is, so are her sons and daughters. If a family of children are blessed with an intelligent mother, who is dainty and refined in her manners, and does not consider it necessary to be one woman in the drawing-room and an entirely different person in her every-day life, but who is a true mother, and always a tender charming woman, you will invariably see her habits of speech and perfect manners repeated in her children. Great, rough men, and noisy, busy boys, will always tone down their voices and step quietly, and try to be more manly when she stops to give them a kind word or a pleasant smile—for a true mother will never fail to say and do all the kind, pleasant things she can that will in any way help to lift up and cheer those whose lives are shaded with care and toil. The mother of to-day rules the world of to-morrow.

Sunny Rooms and Sunny Lives.

Light is one of the most active agencies in enlivening and beautifying a home. We all know the value of sunlight as a health-giving agent to the physical constitution; and it is not less so to our moral and physical natures. We are more active under its influence—can think better and act more vigorously. Let us take the airiest, choicest, and sunniest rooms in the house for our living room—the workshop where brain and body are built up and renewed—and let us there have a bay-window, no matter how plain in structure, through which the good twin-angels of nature—sunlight and pure air—can freely enter. Dark rooms bring depression of spirit, imparting a sense of confinement, of isolation, of powerlessness, which is chilling to energy and vigor; but a light room is good cheer. Even in a gloomy house, where walls and furniture are dingy and brown, we have but to take down the heavy curtains, open wide the window, hang brackets on either side, set flower pots on the brackets, and let the warm sun stream freely in, to bring health to our bodies and joy to our souls.

1878
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 Sadie Elliott,
 Charles McCormick,
 Pope, Mrs. S. W.
 John Nesbitt, J.
 McLaren, Charles
 Sinclair, Edward
 Joseph H. Brunell,
 Wallace, J. H. Fry,
 Annie Hyde, C. M.
 Annie McCallum,
 Robert Bowes,
 Lewis, Mary
 Stevenson, Stella
 Isaac McLean,
 Epworth, Addie
 C. Johnstone,
 George Woodhouse,
 Alex. D. Brown,
 Sullivan, Geo. G.
 E. Grass, Chas.
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 said:—"Boss,
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Tempers of Beasts.

Although the Carnivora, as a rule, are a cunning, skulking, cowardly, and bloodthirsty set, yet their characters and temperament vary considerably, as some of them, when wounded, exhibit the most reckless, desperate courage, charging fearlessly against their assailants until the last gasp, and others die like curs, without making an effort to resist. The great secret necessary to ensure success in this kind of shooting is never to pull trigger unless certain of striking the game in a vital spot, and, again, always to keep a shot in reserve, in case of a wounded animal charging. I need not say that extreme coolness is as much required as accuracy of marksmanship, and any one who feels "that even he has nerves" had better confine his attentions to game that will not retaliate when wounded. These animals are all very tenacious of life, and the hunter should always endeavor to shoot them through the brain or through the heart. I have often dropped them stone dead with a bullet right between the eyes, or by aiming just behind the shoulder-blade as the fore-arm moves forward in walking, when, if the heart is missed, the bullet will most likely penetrate the lungs.

Santa's Comin'!

Santa's comin'! Guess he is!
Gran'ma, she's a knittin'
Biggest stockin' ever was,
Never needs no fittin';
She p'twends it's gran'pa's sock,
Polly says that's 'postrous!
Says it's every bit as if
Gran'pa was a 'nec'ros?

Guess I know whose sock it is!
Guess it's mine for Santa?
Won't it hold lots? Hope he knows,
So he'll bring a plenty;
Hope he'll cram it from the toe
To the big red toppin'.
Jolly! Gracious! Just to think
Sets a boy a-hoppin'!

Santa's comin'! Guess he is!
Mamma smiles at sewin':
Everybody all the time
Looks so awful knowin';
S'pose they smell the kitchen things,
Cakes, and pies, and cheeses,
My! I feel so good, I could—
Hurray myself to pieces!

Pluck.

Pluck is a spirit in man or woman which will never give up. It is a brave, bright and strong faculty of the human soul, and most generally conquers whatever it undertakes. There is no gate this side of heaven which invincible, determined pluck will not open to mortal being. A person with this faculty will not sit calmly down in the ashes and whine and fret about bad luck. No indeed! he will briefly survey things around him, shoulder his burdens, and work like a man. While you see a man of this stamp, climbing up in life, and making a mark in the world, conquering what he undertakes, doing what he determines, and tramping under foot all obstacles, look at his neighbor who lacks this blood, brave spirit. He is a poor spiritless noodle. A mere whimpering baby; no vim or hopefulness in his nature. You will hear him say "Look at neighbor So-and-so, whatever he does he is lucky in. I have no luck, etc." What a sad mistake. There is no such thing as this luck some persons are forever whimpering about. I tell you it's pluck, and nothing more or less. I get tired of forever hearing this talk of luck some persons seem to take particular delight in. I think this world has no need of these same whining, discouraged, simpering noodles, and would have been better off if they never had been born, or let me say nurtured; for I believe some persons who are a nuisance in this world, simply existing in it, might have been of some earthly account if they only could have been thrown out into the world, depending on their own resources only, instead of being nursed in the lap of luxury, or maintained by some over-fond or foolish relative. I tell you some persons are not naturally plucky; while others, if they possess this faculty at all, must needs come in contact with some of the up-hill business of this life, misfortune, disaster, and adversity in order to call forth this mighty weapon, which seems to have lain dormant during affluence and luxury. It is really astonishing how many seeming impossible things a

determined plucky little man or woman will do in this world in case of an emergency, and what great lubberly difficulties sneak from before a brave and unconquerable spirit. Just let us believe we can do a thing, and we can. Wouldn't it be nice if we never had any difficulties to overcome, temptations to fight against or free from, think you? Ah! yes—but then what would we amount to, think you? Would there be any labor accomplished if people did not have to struggle against hunger, cold and poverty? No there surely would not, and you and I, one and all, would be nothing more than naked, lazy Hottentots. And again, suppose there were no spiritual difficulties with which our souls have to struggle to overcome, how could it ever reach the heights of moral grandeur and purity, how rise to the divine? Only for the wrong we would never be able properly to appreciate the good. Only by sickness can we be thankful for health, and only by hard work are we enabled to thoroughly enjoy rest. Then work on, fellow laborers, press forward Christian brothers and sisters, for there is rest coming by and bye. It is well man must work and fight. Let us be up and at our work, hopeful, resolute and brave. How I admire this spirit. There is no case this side of being absolutely dead and buried which is utterly hopeless, and to-day the man or woman who failed once but had pluck to try again is richer by far in many things pertaining to their good than they would have been without failure.



Artful Dodger.

Trained dog wags his tail in fishmonger's basket; live lobster seizes tail. A dinner for the trainer!

King Alfred's Lantern.

Did you ever try to imagine, when you were studying the beginning of English history, what kind of people those old Anglo-Saxons were, and how they lived? They were our far-off ancestors, and our language for the most part was made from theirs; in fact, we are called Anglo-Saxons ourselves; so we ought to be interested in them.

They were a rude people in many respects, and lived in a rude way, compared with ours. How would you like windows which had no glass in them—very small windows too—but had oiled paper or sheets of horn instead? Of course the rooms must have been dark and dismal, you will say. And what would you think of houses without chimneys, or anything we should call chimneys? But matters were really not much better, even in king's houses, about ten hundred years ago.

The most important room in those days was called the hall; and it was large enough to accommodate the family, the great company of servants, and all the guests who choose to come. They ate there, sat there, and most of them slept there, on rough benches, or rolled up in skins on the floor. It was open to every chance traveler, to the wandering harpers, to beggars, and everybody else.

The fire was built against a clay or stone arrangement, answering for a fire place, at one end, or on an immense stone hearth in the middle; and the smoke, after floating up overhead, found its way out through an opening or a kind of turret in the roof. At dark they heaped high the logs and fagots; and happy was he who on a stormy night could get near the blaze. When supper-time came, servants stood behind those at table and held torches over their heads till the meal was over; and when bed-time came, the guests who had any other place than the hall to sleep in were lighted to it in the same way.

As for the king, he was more privileged than that; though just what they first used for lights, and just when lamps became common among the Anglo-Saxons, it is not easy to find out. We see in some very old pictures a simple little lamp, shaped perhaps like a saucer, hung by chains at the side of the room, and holding, no doubt, a piece of wax or some kind of oil, with a strip of cloth in it for a wick. Sometimes, in the royal chambers, for a very long time after King Alfred's day, a light was kept by means of a cake of wax in a silver basin.

They knew how to make candles, however; but instead of putting one in a candlestick, it was put on it. The candlestick had a point at the top, called a spike, and the candle was made hollow at the bottom, and slipped down over the spike; one so fixed was known as a "picket."

There is, among some illustrations of old customs, a picture of a candlestick which is very queer though very elegant, and looks like a little piece of furniture. It is a tall stem rising from a three-footed, three-cornered stand, very much ornamented; it comes to a point at the top, and a little way below is a plate to hold the tallow or wax that might run down. We do not know that King Alfred had anything like this; but he had what nobody had ever seen before in that country, for he invented it himself, and that was a "lantern."

This good king was a very busy man; the people around him might be willing to idle away their days over the fire, listening to the harpers, telling stories and playing with the hounds, but he felt that he had a great work to do. He wanted to make his subjects more civilized, to teach them useful arts, and he had not an hour to waste. He built towns, he built ships; he read, and studied, and wrote—and that was wonderful, indeed, in those days when there were but few books, and when even princes could not write their own names. He was the best, the wisest, and the most learned king the Saxons ever had.

He used to carry in his bosom "memorandum leaves, in which he made collections from his studies," and this journal he was in the habit of examining so much that "he called it his hand-book." And, perhaps, that is where the word "hand-book" came from. Of course, he read far into the night, but he soon found two troubles,—there was no way to mark the time, for there were no clocks nor watches then, and he could not keep a steady light, because the houses were so open that the wind came in from every quarter. He had noon-marks, but those amounted to nothing on rainy days; and everybody knows what a country England is for rain.

However, when such a man as Alfred makes up his mind to do a thing, he is almost sure to find a way. So he had a quantity of wax prepared, took enough of it to weigh down seventy-two silver pennies, and of it had six candles made, all weighing the same, and each twelve inches long, and marked off into twelve divisions. He planned so nicely that these six would burn twenty-four hours; and he always kept one lighted day and night before some holy relics and images of saints which he had, and which, being a very pious man, he carried about with his luggage wherever he went.

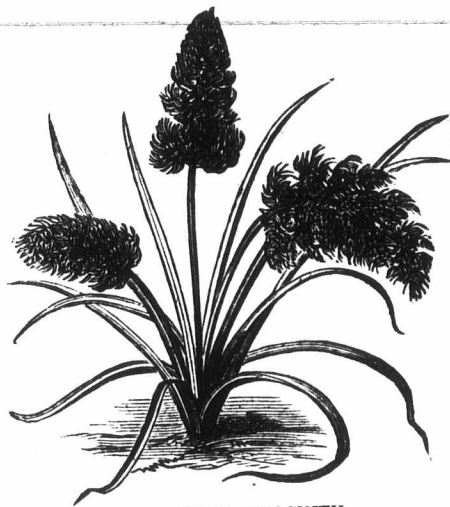
He would now have had not only tolerable light, but a very good way of marking the hours, if the candles had always been sure of burning a given time. But if the wind blew, the flame would flare, and perhaps go out; and the king made up his mind that there could be something done to remedy this,—and he did it. He made a framework, and fixed into it little plates or windows of horn, scraped so thin that the light could shine through, set his candle inside, and shut it in,—and the thing was done. He had a lantern, sure in all weathers. A very small affair it may seem to you, but it was a great one to him.

I once saw a picture of a rude Saxon lantern somewhat like his, perhaps, though it was probably an improvement on it; for no sooner does one man invent a thing than another finds a way to make it better. This, in shape, made me think of a bird-cage without the tray or railing. It had a kind of cupola-like top, and was much ornamented; there were bands with bosses on them, looking like metal, around the bottom, the middle, and next to the roof.

Minnie May's Department.

MY DEAR NIECES,—Many of you will be thinking about making little articles of 'Xmas gifts. A great many pretty and inexpensive articles can be made to please a little brother or sister, and even pater and mater, with little trouble. Most children are fond of pictures, and a pretty scrap-book can be made of old print starched stiff, and cut into sheets the size you wish; then paste the pictures on. The remains of torn picture books, lady's books, London News' almanacs, and floral catalogues are capital for this purpose. These scrap-books will bear a deal of rough usage.

If you have nice pictures, really beautiful books can be made by using linen or cambric for the leaves. You can use pictures of all sorts and sizes. If any of the little ones show a taste for drawing, prepare drawing-books for them. A few sheets of unruled note paper sewed together and fastened with a cover made of pasteboard, or oil cloth, pinked or bound around the edges, and a pencil with a rubber on the top, will give some more pleasure than a costly toy. Little baskets lined with bright silk or merino, containing a needle-book, pincushion and thimble, will smooth the path of sewing for some of the little girls. The needle-book can be made of two pieces of card-board, cut in the shape of a diamond, and worked around the edge in some simple pattern, and fastened together with a knot of ribbon; then fasten in a few bits of merino, pinked or button-hole stitched around the edges, and add a few needles so as to have ready for use. The other day we saw a lovely little frame made of perforated silver card-board. The centre was cut out and a bright colored bouquet of flowers in a spandrel inserted; the edge of the board inside was oval, and was embroidered with blue worsted; patterns of the same made the covers lovely; and around the outer edge a quilling of narrow pearl-edged blue satin ribbon gave a graceful finish to the frame. Even a pasteboard box, covered with tinted cam-



FEATHER HYACINTH.

bric and lace or muslin, will make a tasteful receptacle for gloves or comb and brush. A cigar box, covered and lined with quilted silk or cambric, and ornamented with beads of agreeable tints, is both pretty and useful and costs but little. These hints are given, as merely suggestive, to those who have not yet settled in their minds what they can get up for 'Xmas presents. We now heartily wish you all "a merry Christmas and a happy New Year." MINNIE MAY.

The Chrysanthemum.

BY HORTUS.

This beautiful flower is not met as frequently in cultivation amongst our Canadian florists as its merits deserve. At the present season of the year—the dreariest time of all, when summer has come indoors—to cling around base-burners and perch in sunny windows, just now it is that the Chrysanthemum shows forth in all its glory, with its varying colors of pink, white and yellow. The simple cultivation it requires, and its ability to flourish in unfavorable, as well as the most favor-



able situations, gives it a particular claim on our consideration that few other flowers possess. It is as much at home in the humblest cottage window as if cared for by skillful hands in conservatories. Its great merit lies chiefly in furnishing us, at this time of year, with its bright blossoms when other garden and window favorites are having a period of rest, thus filling up a gap that would otherwise be much felt. The plant was originally introduced from China, that country to which we are indebted for many of the fine shrubs and flowers that adorn our gardens. Travelers and botanists relate how much attention and care is given to its cultivation in China, and as an evidence of this we are told that when a feast is given by a Chinese, his tables and windows are decorated with its flowers, and that he who can produce the largest bloom is supposed to confer great honor upon his guests.

Strange what a taste the "Heathen Chinese" displays over the average European or American, whose tables are seldom graced by a simple bouquet.

The Chrysanthemum is divided into two classes, the Pomponé and large flowering; these comprise numberless varieties of all shades and colors, like the Dahlia. In this country it is but half hardy, requiring protection if left outdoors. They are best grown, however, in pots plunged out in the open ground during summer, kept in neat form by an occasional pinching; removing the flower buds when they first appear will prolong the blooming season, which extends, generally, over November and December. After flowering, the old tops are cut off close, allowing young shoots to come up for propagating. The cuttings root freely by placing in sand or soil. They are then potted off like Geraniums and plunged out-

side for next season's flowering; or, the old plants after blooming can be placed in the cellar till spring, when the roots may be divided and potted and treated as before directed. The cut illustrating this article was drawn from a fine bloom given to the Editor by Mr. Bain, of Toronto; it is the exact size of the flower.

Culture of the Hyacinth.

The Hyacinth is one of the most beautiful of bulbous flowers. It is cultivated in nearly every northern country in the world, and it does more than any other flower to make winter cheerful, both for its appearance and fragrance. A small pot will answer for the Hyacinth, but some prefer to plant three or four in a large pot, which makes a very pretty ornament. Fill the pot with a rich, porous soil, composed mostly of sand; make a space in the soil for the bulb, so that it will be half below the earth; then press the bulb so that it will just show its upper surface; then water well. The pots can now be set away in a cool, dark cellar for 20 or 30 days, where they will make roots; then remove into a warm, light room, say about 65 degrees, when glass culture is preferred. The base of the bulb should just touch the water; then set away in a cool place as recommended for pots; as soon as flower-buds appear give plenty of light and air and as moist an atmosphere as possible.

Hyacinths can be planted in the garden in September, October and November, and even in December should the weather be favorable. For beds of early flowers nothing excels the Hyacinth. Plant in the garden three or four inches below the surface of the soil, and be sure and give a good covering before the frost sets in. In about five or six weeks after flowering, and when the leaves are becoming yellow, the bulbs may be taken up, dried, and packed away in paper-bags or boxes for planting again in the fall. There are both single and double varieties, and the colors are different shades of red, white, blue and yellow. The single varieties are generally preferred. Hyacinths are becoming more and more popular every



GRAPE HYACINTH.

season, but being winter and early spring flowering plants, they are forgotten by a great many until they see them again in the house or garden of their neighbors, which reminds them of their neglect. No house in the city or country should be without this delightful flower, the "Hyacinth."

The loss of wealth may be regained, of health recovered, but the loss of precious time can never be recalled.

Music.

Music, next to love, is one of the most refining and soul-elevating things in the world. After a day of either mental or physical labor, in contact with this cold world, and its attendant anxieties and annoyances, what can be more refreshing to the overworn, earthworn and despondent soul than the rejoicing strains of some of those grand old songs—so old, yet ever new—that allure our thoughts from earthly homes to the celestial brightness of our homes above? Music has always been one of the principal modes of expressing joy or grief. We read in First Samuel of the return of David after the overthrow of the Israelites, how the women came forth to greet the returning conquerer with their instruments of music, tabrets and viols. We read again of David, the "Sweet Singer of Israel," being appointed to dispel the fits of mad melancholy to which King Saul was subject.

Harps seem to have been one of the principal instruments in those times; although, we read of a variety of instruments, especially Egyptian, Roman and Greek trumpets. Heathen Mythology gives an account of Apollo, the imaginary god of music and poetry, playing on an instrument called a syrinx, or pandean pipes. In modern times we read of the violin and harpsichord, on which, it appears, Mozart took his first lesson. By the number of names of musical composers on record, we believe that music has been cultivated as a science in all ages. It is one of the grand avenues by which the souls of many have been led to civilization and Christianity. Mark the difference between the intellectual mind capable of understanding and admiring music, and the mind of him, who, unable to appreciate the beauties of music, sneers at the refinement and culture which he does not possess. We are not all gifted, it is true, with the talents of Beethoven or Mozart, but it is our privilege to cultivate the faculties we do possess, and thus prove as faithful as those to whom greater gifts are entrusted.

Let us sing our simple songs here with peaceful and joyous hearts, in happy anticipation of singing the soul-inspiring strains of the New Song in unison with the Angel Choir above.

H. E. C., Covey Hill.

DEAR MINNIE MAY,—Having received a great deal of valuable information through your department, I think it my duty to endeavor to assist you if possible.

If the following suggestions are of any value to you they are cheerfully given. Undoubtedly there is a great number of your nieces engaged in knitting stockings for themselves, sisters and brothers, thereby helping mamma wonderfully.

We all know how homely plain grey stockings are; but I do not think every one knows how pretty grey striped with some pretty color are. Even plain white and grey are nice. In order to obtain a pretty color all you have to do is to purchase a package of dye the color you desire and follow the directions you see on the outside. A great deal of pleasure as well as profit will be derived from experimenting with those dyes. Now, having decided the colors to be used, knit two or three inches of grey, then three times around with fancy color, then three times grey, then three times fancy color, then ten times grey, then three times fancy color, etc.; always commencing with the pearl stitch. This forms a pretty stripe.

Most assuredly I would advise the girls to exercise their own taste and see which will knit the prettiest stocking. A. T. D., Kingston.

RECIPES.**FRENCH BREAD.**

As a rule the French bread is always sweet and good, and two things contribute in a great degree to this—that is, the manner and form of baking. They never make a thick loaf; no matter what the size or shape, it is always thin, and more than two-thirds crust. They bake their bread until it is perfectly cooked. The loaves being so thin, the heat strikes through them very soon after they are placed in the oven; hence, all the fermentation is stopped, while in the case of large loaves fermentation continues to go on after the bread has been in the oven for some time, and, of course, much of the sweetness is lost. Then in baking so long, and having so much crust, there is a peculiar sweetness given that can be attained in no other way.

TAPIOCA AND PINEAPPLE PUDDING.

A dessert that is as dainty as need be to set before a king, and yet very easily prepared, may be made by cutting up the pineapples that are so cheap this season, sprinkling them with sugar and letting them stand two or three hours. When dinner is ready pour a tapioca pudding over the pineapples and set on ice until dessert time. Allow equal measures of the pudding and fruit.

DOVE AND SLATE COLOR DYE.

A good recipe for coloring dove and slate colors of all shades is made by boiling in an iron vessel a teacupful of black tea with a teaspoonful of coppers, and water enough to cover the goods; dilute this till you get the shade wanted.

HARD GINGER SNAPS.

One pound of flour, half pound of butter, half pound of brown sugar, two tablespoonfuls good ginger, one tablespoonful cloves, and molasses enough to make a stiff dough.

MILK AND QUININE.

Milk is found to form an excellent solution for quinine, and also to disguise, in a measure, the bitterness of that drug. It will be found particularly useful in administering quinine to children. Five grains in a tumbler full of milk is almost tasteless.

KEEPING ONE'S CLOTHES IN THE MAURITIUS.

If anyone asked me what was the serious occupation of my life here, I should answer without hesitation, "airing my clothes," and it would be absolutely true. No one who has not seen it can imagine the damp and mildew which covers everything if it be shut up even for a few days. Ammonia in the box or drawer keeps the gloves from being spotted like the pard, but nothing seems to avail with the other articles of clothing. Linen feels quite wet if it is left unused in the *almirah*, or chest of drawers, for a week. Silk dresses break out into a measles-like rash of yellow spots. Cotton or muslin gowns become livid, and take unto themselves a horrible charnel-house odor. Shoes and books are speedily covered a quarter of an inch deep by a mold which you can easily imagine would begin to grow ferns and long grasses in another week or so.

HINTS ON DOMESTIC ECONOMY.

Many of the poor suffer in cold weather for lack of fuel and bed clothing. The following hints are offered to such:—To increase the warmth of a bed to the extent at least of a heavy quilt, just paste the edges of four newspapers together, and place them between the other coverings. Paper is non-porous, and holds animal heat, when combined with quilts or blankets, better than the latter alone. Again, for lack of fuel, get the coal dirt or screenings, which can be had at a coal-yard for carting away, and wetting it to a sticky consistency, mould it in the hands into rolls the size of snow balls; and having a fire already made of coal, place these balls in the stove. Never disturb it with the poker or lever, but keep the door closed, and for weeks a house can be thus warmed with no other trouble than putting on the balls. Some families, no way compelled to employ such economy, use little else.

TO KEEP LEMONS FOR YEARS.

Grate the yellow part of the rind, and squeeze the juice; add to every four lemons a pound of sugar, and put in glass-topped jars. These are equal to fresh ones in winter for pies, and can also be used for lemonade.

TO PRESERVE PEGGED BOOTS.

If pegged boots are occasionally dressed with petroleum between the soles and leather, they will not be apt to rip. If the soles of boots and shoes are dressed with the petroleum they will resist wet, and wear well. The pegs, it is said, are not affected by dryness after being well saturated with the oil.

CREAM CAKE AND QUERIES.

Take two eggs, a cup and a half of sugar and beat very light, then one-half cup of sweet milk or thin cream, one teaspoonful of cream tartar, one-half teaspoonful soda, one and one-half cup of flour. Bake this in two square tins, cut in half, making four pieces, spreading the cream between the same as jelly cake. To make the cream put one-half pint good rich milk on the stove, then beat up two eggs, one-half cup of sugar, one tablespoonful of corn starch and stir into the boiling milk. Let it cook a few minutes, being careful not to scorch it; set it aside to cool while you are making your cake; when cooked flavor with what you like.

HOW TO TREAT THE HAIR.

A lady, in the *Detroit Free Press*, says to all who wish for information on the care of the hair: "My mother let my hair grow until I was four or five years old, then she kept it cut until I was twelve, and when very young always bathed my head with bay rum or brandy. It has been growing six years, and it is thirty-eight inches long and very thick and fine. I always bathe it now in weak salt and water. If the hair is not cut often while children are young it will never be thick when they grow older."

Two other receipts we give which are excellent: Take three ounces of pulverized sage, and turn a pint of cold, soft water over it; have it in a tin dish with a cover; let it steep over the fire ten or fifteen minutes; strain it off and add a teaspoonful of pulverized borax and the same quantity of salt. Keep in a tight corked bottle and apply with a sponge or soft cloth by rubbing gently over the head, then brush lightly. Use it night and morning. For everything but hereditary baldness it works like a charm.

A writer in the *Country Gentleman* says:—"Take of pulverized alum about one-fourth of a teaspoonful, put this into half a cupful of cold water, add to this a teaspoonful of the best alcohol, and with the tips of the fingers rub this mixture thoroughly into the roots of the hair. This will prevent the hair from falling out, and the alcohol is very stimulating to the scalp."

TO REMOVE DANDRUFF.

This is a natural secretion, but becomes a cutaneous complaint by neglect. Take an ounce of powdered borax, a piece of unslacked lime the size of a chestnut, and a tablespoonful of spirits of ammonia; put them into a quart bottle and fill it up with boiled or pump water. After twelve hours apply this wash to the scalp. Ladies can apply it best with a fine sponge. Rinse with tepid water. After a few applications the scales will disappear, the hair become soft and brilliant, and young hair will be seen to start out. Dandruff should be cured gradually, so as not to produce sick headache or dizziness by its sudden suppression.

MERINGUE KISSES.

Beat whites of four eggs until they stand alone; then beat in gradually one pound of fine white sugar, a teaspoonful at a time; add eight drops of essence of lemon, beating the whole very hard; lay a sheet of wet paper on the bottom of the pan; drop on in size to suit taste a little jelly, after putting on a little of the egg mixture first, under the jelly; then with a large spoon pile on the meringue over each lump of jelly to cover it entirely; drop on as smoothly as possible to make a good shape; set them in a cool oven; when slightly colored they are done; then take them out, and place them bottoms together; lay lightly on a sieve, and dry in a cool oven until the two bottoms stick and the two form a ball.

A lady passenger once asked the late Captain Judkins the name of a passing steamer. "I don't know," was the gruff reply. "Go and ask the cook." "I thought you were the cook," she answered.

Preserving Meats.

It is curious to watch the widely different methods adopted by different housekeepers for preserving meats for family use. The methods, however, are not more variable than the quality of the meats after they are preserved. Meats may be preserved in a great variety of ways. Beef will keep for an unlimited length of time if pickled in a strong brine made of clear salt and water, but such beef, after a short time, becomes so hard and dry as to be unpalatable to most people. The salt removes all the rich juices of the beef, and leaves it hard, woody, and tasteless.

The secret of keeping beef, hams, or other lean meat in pickle, is to use just as little salt as possible, but enough to prevent decomposition. Sugar is more expensive than salt, but many people use it very freely for making meat pickle, and usually with good results. Pepper and other spices will keep meat from tainting, but too much would spoil it for table use. We are quite partial to the canning methods of keeping meats, but as the work has to be done on a large scale, and by those who are experts at the business, it will be sometime before such meats will wholly supersede the home-cured product. The early winter has been too warm for the best success in preserving meats fresh, many tons of poultry and other meats have been injured or entirely spoiled in the hands of dealers.

For keeping beef perfectly sweet for using fresh, the following method is recommended:—

"Cut the beef in pieces to suit your convenience, expose it where it will freeze very solid, wrap each piece in a separate piece of paper, securing it with twine, and bury in a bin of wheat. If you have no wheat, peas, barley, or any other grain will answer a good purpose. I have kept beef fresh and sweet this way from the first of January to the first of April. I had some beef kept in this way which was better and more tender on the first of April than on the week it was killed."

The only difficulty in following the directions this winter, has been in finding a day cold enough for freezing the meat "very solid."

For preserving beef in pickle, the following method has been adopted by many housekeepers with the best success:—

"To 100 pounds of beef cut in pieces suitable for boiling, add four quarts of salt, four pounds of brown sugar, and four ounces of saltpeter. Sprinkle the mixture over each piece as it is packed, and pound down solid and weight heavily with stones. No water need be added, so there will be enough brine formed from the beef and the other materials. The brine must constantly cover the beef, as the air will soon spoil it."

A Sweet Voice.

There is no power of love so hard to get and keep as a kind voice. A kind hand is deaf and dumb. It may be rough in flesh and blood, yet do the work of a soft heart, and do it with a soft touch. But there is no one thing that love so much needs as a sweet voice to tell what it means and feels; and it is hard to get and keep it in the right tone. One must start in youth, and be on the watch night and day, at work and play, to get and keep a voice that speaks at all times the thoughts of a kind heart. But this is the time when a sharp voice is most apt to be got. You often hear boys and girls say words at play with a quick, sharp tone, as if it were the snap of a whip. When one of them gets vexed you will hear a voice that sounds as if it were made up of a snarl, a whine and a bark. Such a voice often speaks worse than the heart feels. It shows mere ill-will in the tone than in the words. It is often in mirth one gets a voice or a tone that is sharp, and sticks to him through life, and stirs up ill-will and grief, and falls like a drop of gall on the sweet joys at home. Such a sthese get a sharp home-voice for use, and keep their best voice for those they meet elsewhere, just as they would save their best cakes and pies for guests and all their sour food for their own board. I would say to all boys and girls:—"Use your own guest-voice at home. Watch it day by day, as a pearl of great price, for it will be worth more to you in days to come than the best pearl hid in the sea. A kind voice is a joy like a lark's song to hearth and home. It is to the heart what light is to the eye. It is a light that sings as well as shines. Train it to sweet tones now, and it will keep in tune through life."

Doing Up Men's Linen.

Many a husband easy to please in all other respects, has had his weekly grumble over "the way this collar sets," or "how this bosom bulges out!" And many a housewife has tried again and again to remedy these faults. A lady writing to the *New York Evening Post*, explains the difficulty in the following language:—

"Some time ago my husband used to complain that his linen collars did not sit nicely in front. There was always a fullness which, in the case of standing collars, was particularly trying to a man who felt a good deal of pride in the dressing of his neck, as it spoiled the effect of his cravat, and often left a gap for the display of either the collar-band of the shirt or a half-inch of bare skin. While talking with a practical shirtmaker, one day, he mentioned his annoyance, and inquired if there was any means of relieving it. 'Yes,' answered the man, 'the fault lies with your laundress. While doing up your collars she stretches them the wrong way. Damp linen is very pliable, and a good pull will alter a fourteen-inch into a fifteen-inch collar in the twinkling of an eye. She ought to stretch them crosswise, and not lengthwise. Then, in straightening out your shirt bosom she makes another mistake of the same sort. They, also, ought to be pulled crosswise instead of lengthwise, particularly in the neighborhood of the neck. A lengthwise pull draws the front of the neckband up somewhere directly under your chin, where it was never meant to go, and of course that spoils the set of your collar. With the front of your neckband an inch too high, and your collar an inch too long, you have an undesirable combination."

"The speaker was right. As soon as my husband ordered the necessary changes to be made in the methods of our laundry, a wonderful difference manifested itself in the appearance of that most important part of his clad anatomy, the neck. Let me commend the shirtmaker's hint to other distressed women."

Useful Information.

The washerwomen of Holland and Belgium, so proverbially clean, and who get up their linen so beautifully white, use refined borax as a washing powder instead of soda, in the proportion of a large handful of pulverized borax to ten gallons of boiling water. They save in soap one-half. All other large washing establishments adopt the same mode. For laces, cambrics, etc., an extra quantity of the powder is used, and for crinolines (required to be made very stiff), a strong solution is necessary. Borax, being a neutral salt, does not in the slightest degree injure the texture of the linen; its effect is to soften the hardest water, and therefore it should be kept on every toilet table. To the taste it is rather sweet, is used for cleaning the hair, is an excellent dentifrice, and in hot countries is used with tartaric acid and bicarbonate of soda as a cooling beverage. Good tea cannot be made from hard water; all water can be made soft by adding a teaspoonful of pulverized borax to an ordinary sized kettle of water, in which it should boil. The saving in the quantity of tea used will be at least one-fifth.—*Scientific American*.

At a happy spot where a number of negroes reside, an old negro was heard calling out to his wife:—"Manda, is you got dem chickens shut up in the smoke house, like I told yer?" "No; an' I like to know what's de matter wid you, dat you's so mighty tickler 'bout dem chicken all at once?" she replied. "Nebber you mind, I know what's the matter, dat's nuff till dem chickens is housed. When I hear dat dem niggers ober dar in de next yard gwine to hab a party, to-morrow night, I wants to be shore dat my chickens doesn't tend it; you hear me?" The chickens were at once locked up.

When wet boots are taken off fill them quite full with dry oats. This grain has great fondness for damp, and will rapidly absorb the least vestige of it from the wet leather. As it quickly and completely takes up the moisture, it swells and fills the boot with a tightly-fitting last, keeping its form good and drying the leather without hardening it.

The best education one can obtain is the education experience gives. In passing through life learn everything you can. It will all come in play.

Life is What we Make it.

Let's oft'ner talk of noble deeds,
And rarer of the bad ones,
And sing about our happy days,
And not about the sad ones.
We were not made to fret and sigh,
And when grief sleeps, to make it;
Bright happiness is standing by—
This life is what we make it.

Let's find the sunny side of men,
Or be believers in it;
A light there is in every soul
That takes the pains to win it.
Oh! there's a slumb'ring good in all,
And we perchance may wake it;
Our hands contain the magic wand—
This life is what we make it.

Then here's to those whose loving hearts
Shed light and joy about them!
Thanks be to them for countless gems
We ne'er had known without them,
Oh! this should be a happy world,
To all who may partake it;
The fault's our own, if it is not—
This life is what we make it.

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Notices of Publications Received.

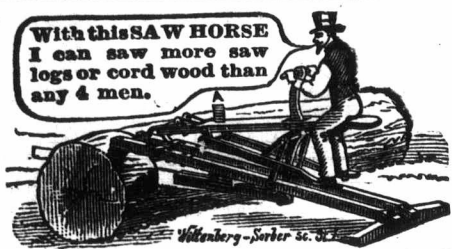
We have received, with other publications, the price list and description of the pure-bred Cotswold sheep, Cotswold-Merino sheep and pure bred Essex pigs, raised by Joseph Harris, Monton Farm, Rochester, N. Y. Mr. Harris is, we believe, the most extensive breeder on this continent of Cotswolds and of Essex pigs, and is both an enterprising and reliable man.

Farm Experiments with Fertilizers, by Prof. Atwater. The recent and continued improvement in agriculture in these days demands a more thorough knowledge of every branch connected with the farm. Scientific as well as practical requirements cannot be separated. Such a work as Prof. Atwater's must meet with hearty welcome by all who are interested in the cultivation of the soil.

The Farmer's Scientific Manual, by T. A. James, Commissioner of Agriculture of the State of Georgia, is another of those works on agriculture that are brought out by the requirements of improved agriculture. It is with no little pleasure that we see such unmistakable manifestations of a determination to succeed in the "Sunny South."

We little think of the loss to the country by fire. Many of these might be prevented by due preparation. An American paper says the daily fires throughout the country aggregate a loss, it is estimated, of at least \$50,000,000 a year, which is a dead loss—an actual destruction of value—not a mere transfer of values like that which occurs when a man loses money in an unprofitable speculation. Fires in this country cost us more than taxes, even more than the taxes which European nations levy to support their expensive rulers and costly standing armies. "Here, too, our losses from fire are very large, though not as great proportionately as in the States, yet they might be less than they are. At least the losses from incendiaries might be greatly lessened."

We have received from Oliver Ditson & Co., the following very nice selection of music, viz.:—"Duschinka," "Happy Dreamland," "Old Sailor-wife," "Carmen," "Fantasie," "Language of Love," "Overland March," for which kindly accept thanks.



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