

FARMER'S ADVOCATE

PERSEVERE
SUCCEED

AND HOME MAGAZINE.

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NO. 1

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The Farmer's Advocate

—AND—
HOME MAGAZINE.

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TO SUBSCRIBERS:

TERMS.—\$1 per annum, postage paid; \$1.25 when in arrears. Single copies 10 cents each.

We cannot change the address of a subscriber unless he gives us his former as well as his present address.

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Subscribers who do not give express notice to the contrary, are considered as wishing to continue their subscriptions.

TO ADVERTISERS:

Our rates for single insertion are 20c. per line—\$2.40 per inch, space of nonpareil (a line consists on an average of eight words).

Manufacturers and Stock Breeders' cards inserted in "Special List" at \$1 per line per annum.

Condensed farmers' advertisements of agricultural implements, seeds, stock or farms for sale, or farms to let, not to exceed four lines, 50c., prepaid.

Advertising accounts rendered quarterly. 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.

We return our thanks to the large number of our subscribers that have promptly remitted their subscriptions and for the very kind remarks so many of you have made expressing satisfaction and good wishes. We doubly thank those that have sent one or more new subscribers. To those that wish us success, we should feel obliged if you would show your paper to some of your friends, and send even one new one. It would be but little trouble to you; and greatly oblige us. In every neighborhood there are some that do not take the FARMER'S ADVOCATE, that should have it. Just give it a trial, and see if you cannot send in one name, as so many have done.

We feel sure you would be pleased if you had our pictures, "Offer," and "Accepted," nicely framed and hung in your house. We wish every one of you to have them.

"The Offer" is a very handsome, large lithograph, beautifully executed, representing a pleasant young woman reading her offer of marriage; the surroundings, expression of the face, the position, the attitude are all pleasing, and so is the subject to many a youth, and a pleasing reminder to many a grey-headed lady. "Accepted" is the companion picture, same size, and also pleasing. We will give you either of these pictures if you will send us one new subscriber, or the pair for two. If you have obtained these, we will send you the colored lithograph, "Life's Voyage," which is a large, well-executed, handsomely-colored picture, showing merry childhood, and con-

tented and happy old age, with boat, water, cattle, household animals, the church and the lovers. You will be well satisfied with it, or we will give you any choice plant or choice seeds from any florist, seedsman or nurseryman in Canada. We will send you the order, or will procure you the plant or seed you require, to the extent of 50c., for one new subscriber. We are determined to add a few more thousand subscribers to our list, at any cost. Already our receipts are far in excess of any previous year, and a slight exertion on the part of each subscriber, will raise our list to double its present number.

The annual meetings of the township agricultural societies will take place on the second Thursday of this month, and of the electoral districts on the third Wednesday. You should attend the meetings and listen to the discussions, ask questions and suggest improvements.

Many complain about management, improper decisions of judges, &c., when in bar-rooms or at other meetings of like nature, but on the day of the annual meeting they are absent. That is the time and place to lay your complaints. The meetings do not forget to return thanks to those that

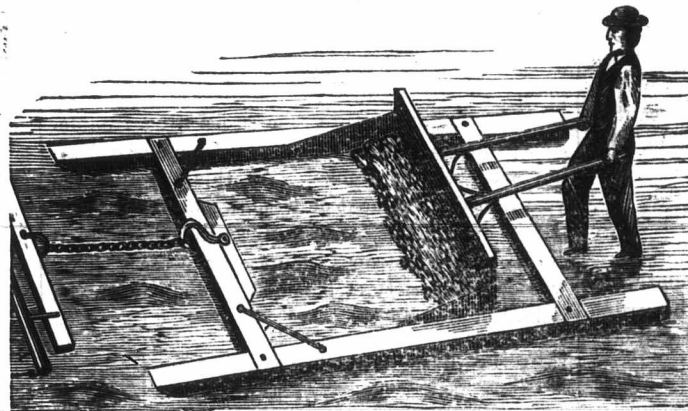
those who have land they wish to level, this will be found an excellent and cheap implement. There is no patent to prevent any one from making it. Mr. Bobier is a good and enterprising farmer, and made it for his own use. We have seen it and think it of so much value that we got one of our artists to draw and engrave it for your benefit. It should not cost more than eight dollars if ordered to be made. This machine is not patented.

Migration.

Numbers of our Canadian farmers are satisfied with the farms they have, and well they may be. From personal observation and information otherwise obtained, we know of no country where persons of small means could have done better for themselves than in this Dominion. Opportunities are still open in the country for the poor and the rich to improve their conditions. Any quantity of land is open for settlement; mills, factories and traders are wanted to fill up this vast country. There are homes in it for millions, and opportunities quite as good as ever they have been for all to succeed.

There is a strong desire to improve their circumstances generally evinced by many; this causes the extensive migration from one locality to another. These moves are often beneficial to the industrious and enterprising; the lagging and shiftless will do well nowhere. Many call at this office for information, and many furnish us with very satisfactory accounts. Within the past few days we have seen parties from Muskoka; they are sons of well-to-do farmers in the township of Deleware. They have taken up land in Muskoka, and are well satisfied with their prospects. A farmer from Westminster has taken up 200 acres on St. Joseph's Island, and settlers are going there very fast. A personal inspection of lands is necessary as there is good and bad land in both places. Mr. Jones, of Markham, furnishes some very favorable accounts of farming land near Thunder Bay, on which settlers will soon become wealthy. Vast numbers are pouring into Manitoba, and have excellent prospects before them.

Many farms have been purchased in this county during the past year by persons from other counties. Land is too high here for farmers with large families to purchase farms for their sons; thus the swarming process must be kept up. Some are going to the States. A young man from Westminster is highly pleased with Texas; several have taken up land in Arkansas. Both of these States offer good inducements to settlers; in our Dominion, however, there is greater certainty of lasting prosperity. The great Eldorado of the States, California, has lost its charms for Canadians; many have returned greatly dissatisfied. Poverty, discord and starvation appear to be more prevalent than peace and plenty in that fertile and salubrious country. British Columbia offers but moderate inducements to tempt many farmers to its shores. The climate is pleasant and the scenery grand, but the greater part of the province can never be of much value as an agricultural country. Its greatest wealth is in mines, minerals, timber and fisheries.



have devoted their time and ability to make your exhibition as good as it is if they deserve it. If they do not deserve your hearty thanks elect new men. There are just as good fish in the sea as was ever taken out of it.

A Land Leveler.

Mr. Joshua Bobier, of Ingersoll, has invented and constructed an excellent land leveler, the best we have yet seen. It is made of 4 x 4 scantling, about 10 feet long and 8 feet wide; two iron bolts through the scantlings form the hinges, which are attached to the plank by a piece of sheet-iron. The plank has a slip of steel screwed on to its lower edge. Two poles put through the plank form the handles. By this implement a man can level rods or fields far better and quicker than it can be done by the common leveler and the scraper. From the cut now given any common mechanic can make one. A few bolts and braces are required. } To

WORK TO BE DONE.

There is scarcely a good Farmers' Club to be found in this Dominion. At the annual meeting you might bring forward plans to endeavor to have one established in your locality. The most enlightened may learn something of value from the observation of the most obscure; if you are well informed, you might with pleasure and profit impart useful information to others. A half-a-day or an evening might be profitably spent weekly, during this season of the year, in discussing agricultural subjects. In the busy season the meetings might be held monthly. Do not attempt to have everything just your own way; hear and encourage the remarks of any; by a little friendly talk you may have the best Agricultural Club in Canada; try it. A few dollars expended in this manner would be well laid out, and return better interest than bank stock. It is your duty, if you are a farmer, to attend the annual meeting, and when there, to show that you are alive to your interest; let not the mere nomination and seconding of a candidate, and the listening to a long, dry address satisfy you: ask for information, give suggestions for improvements. Do not let the business be hurried through in a half hour; if any officer cannot patiently wait one good half day in the year, to be devoted to the annual meeting, elect another; limit the time of speakers, and even the length of time given to the President's address—give all an opportunity to make a few remarks that desire to do so; the more you can induce to express their views, the greater will be the interest taken in your Society. The most retiring and reserved member may perhaps give you the most valuable hints.

We are informed that thousands of kegs of butter are now lying in the farmers' and dealers' hands that is not worth over 5c or 6c per lb.; much of it will be sold at the counters of retail dealers. To persons that are not judges of butter, it might bring higher rates, but most of it must be exported as grease. The loss to your pockets might be averted by proper information spread through an Agricultural Club. Knowledge is power, and power is equivalent to money. Agricultural clubs would increase the spread of knowledge and thus increase your wealth. Who will be the first to move for a Club in your locality? Remember "Cast thy bread upon the waters," &c.

Hints for the Season—January.

BY "HORTUS."

The spring-like weather of the past month has given great opportunities for working in garden and orchard when we hope has been taken advantage of. However, let nothing be neglected, good care is everything.

GRAPE VINES must be pruned in the fall or winter season and covered up, not so much from the frost as the bright sunny days of the spring. To the uninitiated the pruning of the vine, apparently, seems a very difficult matter. Nothing more simple. The principal object is keep plenty of young wood for fruiting, cutting out the old wood. Bone dust is the best fertilizer for the vines. Fill your soil with it and you will be rewarded with fine grapes—early and well flavored.

SMALL FRUITS.—The farming community are waking up to the fact that the growing of fruit pays, and nothing better than currants and raspberries, and one living within a radius of 20 or 30 miles from large cities, or even farther, now that we have such abundant railway facilities for shipping, may go into this business and will be astonished at the amount of profit there is in it. Of course care and labor is required, but nothing more, in proportion, than any other kind of a crop. A per-

son might have 20 acres of black currants alone and he would find a ready sale for them at \$4.50 a bushel. There are hundreds if not, "millions" in it.

Don't put off trimming your bushes till spring; now is the time if not done earlier. Thin out the old wood, keep the centre open and saw the wood to make cuttings of.

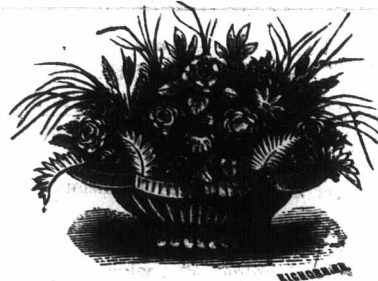
These may be cut in lengths 10 inches long, tied in bundles, and stored away in cellar, in sand or sawdust. They will be found ready for planting in spring.

Cions for grafting should be gathered and kept in cool place. Look after your apples; go through them and pick out all decaying ones. Last summer being so dry that apples became very ripe and are not keeping well at all this winter, so do not store or keep them too long.

MULCH around all bushes and fruit trees with manure. Cover asparagus with same, ready for forking it in spring. Protect your young strawberries with pine branches or other litter, so as to lodge the snow—"nature's overcoat."

Protect your young trees from mice by banking up with earth or by tramping the snow firmly around them.

Have all bulbs and tubers, such as gladiolus, tuberose, dahlias, cannas, &c., put in a nice dry place.



HOUSE PLANTS require plenty of sunshine and will not thrive very well till the days begin to lengthen. Do not water too much, but regularly, and in even quantities. An occasional shifting or repotting will add much to their growth and give finer blooms. If your roses are troubled with the mildew, sprinkle the foliage liberally with sulphur, pick off all decaying leaves, and often turn your plants to the light, they are so apt to get one sided in window culture. The green fly, a troublesome, minute insect, can be kept down by fumigating with tobacco smoke. At this season of the year a nice assortment of window plants may consist of geraniums, roses, lilies, carnations, hyacinths and heliotropes, Chinese primroses. This would give variety of bloom and foliage, with the richest of fragrance.

Dry Feeding and Impacted Intestines in Horses.

BY PROF. JAMES LAW, ITHACA, N. Y.

At the present season we have many complaints of sickness from costiveness in connection with the change to dry winter feeding. In some animals there is simply a dry, firm condition of the dung with some loss of condition and of liveliness. In others there is acidity of the stomach, with a rough coat and a propensity to lick earth or lime; in others with a lack of vigor and of lustre in the coat, there is an occasional attack of looseness of the bowels, followed by more or less confinement. In some there are occasional colicky pains, with a tendency to look at the flank, to move the hind feet uneasily, to paw with the fore feet, to crouch, to lie down and rise again. This may recur after every feed, or it may appear but once a day, and usually after a meal, for eight or ten days in succession. It may be associated with more or less drum-like distention of the abdomen, and a rumbling sound; or the dung may be passed in hard

round masses, darker than natural, and polished on the surface and covered with a film of whitish tenacious mucus. In almost all cases the animals are lacking in power of endurance, and sweat easily under exertion. In the worst cases violent colics set in, the dung is passed in small masses of one or two balls only at a time, and, after a while, defecation is altogether suspended, inflammation sets in, and the patient too often perishes.

For these various morbid conditions the change to winter management is largely responsible. This is especially the case on breeding farms, and with the young stock which has run at pasturage during the summer. The confinement of the small yard, or, still worse, of the stable, renders slow and tardy the circulation, which was free and bounding under the active stimulus of the lively and unrestricted movements on the open pasture; the process of absorption and secretion become correspondingly sluggish with the circulation which supplies their motive power. The natural digestive liquids of the stomach and intestines become defective in amount, digestion becomes slow and imperfect, the bile is thrown into the bowels in lessened quantity, and the bowels failing to receive their normal stimulus become torpid and allow of the formation of solid accumulations in different parts, giving rise to more or less disorder and ill health in different cases. When we add to this the effect of a close, impure atmosphere in retarding the natural changes in the blood, and leaving that vital fluid less fitted for the support of the various functions, and finally the influence of a dry diet of hay and grain, we have reason enough for the sluggish movements, the disorders and obstructions of the digestive organs.

Vital functions do not readily accommodate themselves to extreme and sudden changes. When effected by slow degrees the most extreme transitions will be borne by the system, so that a herbivorous animal may be made to assume the character of a carnivorous one, or a carnivorous those of a herbivorous. Thus Islandic cows are taught to subsist on fish; some horses of Hindoostan acquire the habit of eating flesh, and even European horses have come to relish animal soups given to bring them up from a state of debility. In the same manner our domesticated dogs and cats come to live on vegetable mush, and change their blood and secretions accordingly. But none of these can be submitted with impunity to any sudden change of this kind. The natural instinct is repugnant to the change, and most of them will rather starve than suddenly turn to such unaccustomed and unsuitable food. Against these extreme changes the instincts prove a sufficient protection, and the animal can only be brought to relish the new aliment by mixing it in small and gradually increasing doses in the former food, and thus the alimentary canals are brought round to it by degrees, and a perfect digestion and assimilation are effected. But this does not hold, when the change is less radical, when the new aliment is one to which the animal has been already accustomed at a former period of its life, or when the new comers are tempted by the example of those that are already habituated to the new food, to take to it and eat it greedily. Then the stomach, failing to accommodate itself to the new demand, does not digest the food quickly and thoroughly, and becomes clogged or overloaded, or passes on into the intestines a mass of partially digested material, and no way fitted for perfect digestion by the juices of the intestine, and the bowels accordingly become blocked, disordered, distended with wind, and irritated.

To obviate these troubles the first essential is to avoid a too sudden transition, either to the inactivity of the stable or to the hard, dry feeding of winter. As the grass begins to fail in autumn, the

allowance of a little hay and grain, while still in the pastures, may gradually accustom the digestive functions to the new work demanded of them, and when put in the stable or shed on a purely dry aliment those functions will go on uninterruptedly and efficiently. Another point is, that, as far as possible, young and idle horses should have the means of taking exercise daily. If they cannot have a yard or paddock to run in they should be ridden or led out for half an hour daily. When the transition must be made suddenly or has already been made and is evidently disagreeing with the stock, the addition of some laxative agent to the food will usually correct the morbid tendency. Thus, wheat bran to the extent of a quart, or a pint of linseed meal or oil cake, may be added to the daily ration of grain, or roots or apples may be substituted, and of these none is more to be recommended than carrots when these can be obtained. Bran is comparatively indigestible, and should not be fed to excess, as it may, of itself, induce that clogging of the bowels we are so anxious to counteract. It is best given as a warm mash, and when there is no danger to be apprehended from frost, even a little scalded may be given with advantage. As a partial substitute for these natural aliments much good may be derived from a daily dose of one or two ounces glauber salts in the food, to be increased or diminished as may seem demanded in the particular case.

Wool Growing and Wool Manufacturing.

We have before us a letter of the Executive Committee of the National Association of Wool Manufacturers to the Executive Committee of the National Wool Growers' Association, United States. In it the value of sheep husbandry is forcibly presented, and the mutual dependence of wool growing and wool manufacture on each other for the prosperity, and almost the existence, of each branch of industry is shown. To us Canadians the lessons enforced are no less applicable. There is no other husbandry more profitable to the farmer than sheep farming, paying a good direct profit and fertilizing the soil in a higher degree and at less cost than can be done by any other method while the most effectual means of encouraging the extension of sheep farming is the fostering of home woollen manufactures. Of this the wool growers and wool manufacturers are well aware, and to this the associations referred to direct their united energies. We take from the letter some brief extracts well worth our consideration:—

"The immediate object of our Association is the extension and prosperity of the domestic sheep and wool husbandry, and the extension and prosperity of domestic wool manufacture. But your prosperity depends upon an active home market for your wool, and ours depends upon an ample home supply of wool for our mills, and we become thus identified, in spite of our separate organizations, and have for a common cause the securing of a national legislation which shall promote the united wool industry of the country.

"Our united industry is national because it subserves the two great primal necessities of a people—those of clothing and food. It has caused our people to be more abundantly and substantially clothed than any other in the world. Without our own mills we should not have sheep. To our nine thousand sets of machinery employed in the manufacture of wool we owe our invaluable possession of 35,000,000 sheep, whose manure doubles the products of the wheat lands on which they are raised; whose flesh is the most nourishing of all animal food; and which, by their influence in diminishing the cost of all animal food to our whole population, may be safely said to reimburse many-fold the alleged increased cost of clothing to our

people caused by the protective duties on wool. The wool industry is a necessity for the highest national development, because it promotes the highest arts of stock breeding; it is the indispensable adjunct to the most advanced form of agriculture—a mixed husbandry; and in its pastoral form it is the pioneer to new settlements. In our department, more than any other industry, it nourishes the highest mechanical, chemical and decorative arts, and is the invariable precursor of a diversified manufacture with its attendant results of wealth and culture."

Our readers see how our advocacy of sheep-farming from time to time is corroborated by the experience of the most practical men of the United States. We have known by the experience of years the truth of the Old Country proverb, that *the hoof of the sheep maketh the land fat*. We have also the additional testimony that a good home market tends more than anything else to promote the development of the resources of our farms. Not without good grounds does the Association conclude that the encouragement of a national wool industry rises above all questions of economical theory.

The Spring Crop of 1878.

The results of last year's farming, and the anxiety about the fall wheat, must make the enquiry, "What shall be our spring crops?" an important one. The advantages to be derived from a greater diversity of crops and a rotation in our system of agriculture must now be considered. The exhaustion of our soil by successive grain, the policy of sowing less wheat for some time, and the profits of growing a greater diversity of crops are to be considered.

DIVERSITY AND ROTATION OF CROPS.—We have repeatedly urged upon our readers the policy of a more diversified system of agriculture, and every year brings additional proof of the judiciousness of such a course. The farmer who depends wholly, or nearly so, on the bushels of wheat he can raise from his farm, depends on a very precarious support. A large average of wheat may for one year be profitable if the yield be heavy and prices remunerative. It was so in 1877, but there was not for wheat growers so good a paying season for many years in Canada, and, to base our calculations on the recurrence of such seasons, would be great folly. The yield of wheat and its market value may be very different in '78 from what it was in '77, when it put into the pocket of the farmer, acre for acre, more money than any other article of farm produce. Shall we then be induced by the profits of wheat growing in '77 to add largely to the area of our wheat culture this spring. Such is the course that has been generally pursued in this country. If any one crop—wheat, barley or potatoes, or whatever it may be—brings in a good profit, the market is pretty sure to be glutted with that variety the next season, and then an over-supply causes low prices. So we now see in the very large area of fall wheat throughout the country that our wheat crop for '78 promises to be unusually large in acres, whatever it may be in bushels.

EXHAUSTION OF THE SOIL.—The farmer that follows a system of diversified farming will, in a given number of years, make more money than he would by trusting entirely to the growing of wheat or any other grain. He is less liable to losses from a failure of a crop or from dull demand with low prices, and his business is, on the whole, safe. The great advantage, however, to be derived from a greater diversity of farming is the greater fertility of the soil. Wheat crops succeeding wheat impoverishes the farm, exhausting its stores of fertility. The lands of New England that were so fertile a few years ago, have, from scourging

system of sowing grains uninterruptedly, become so barren that in many parts of the country the farms have been deserted, the owners seeking new homes in the virgin soils of the West. More clover, more root crops, more live stock fed on the farm—these are what the country needs for the enriching of our farms and our farmers.

WHAT SHALL BE OUR GRAIN CROP?—The wheat crop of '77 has been more profitable than other produce of the year—the yield has been heavy, the market brisk, with remunerative prices; but it would be folly so to order our farming as if these sort of things were certain for the future, even for the next season. Of such seasons we cannot expect a continuance. How our fall wheat may turn out is now a matter of great doubt, and what the prices may be is a question of as great uncertainty. If the summer and harvest weather in 1878 be favorable to the farmers of England, the prices of breadstuffs may be low. It is not good policy to depend wholly on wheat—to make it our only grain crop. Barley was not a very profitable crop last year. The season did not answer very well for it, and the prices were not high. The Toronto price for spring wheat now averages \$1.08 per bushel; for barley 61c.; twenty-five bushels of wheat (a good crop) would realize \$27; forty bushels of barley (an equally good crop) would realize \$24.40. We have then to take into account that this year wheat is exceptionally high, and barley low priced. And barley, No. 1 Canadian, is quoted in New York at \$1 per bushel. Canadian barley, when No. 1, will be always in demand. In the United States they must buy it, it is so much superior to their own.

It has always held a high rank in the markets of the West. Large quantities are constantly imported from Canada. Duties were paid one day lately in the Chicago custom house on 20,408 bushels of barley. Our advice is that Canadian barley is now greatly sought after in England for malting purposes. Large shipments have been lately made to the old country, stimulating the demand here. Barley for the export trade must weigh 50 pounds to the bushel.

We would certainly not trust our grain crops too much to wheat. We sow wheat and barley and oats. A diversity in our grain crops, as much as a rotation in our agricultural system, we believe to be, on the whole, most profitable.

The Hyacinth in Pots.

BY DR. J. H. GARNIER, LUCKNOW, ONT.

There is no flower to supercede the Hyacinth for an early bed in the border; and when grown in the house, or conservatory, is pronounced by all to be unsurpassed for its rich and beautiful colors, and lovely fragrance. The demand for this winter gem is yearly increasing in Canada, and it speaks well for our farming community to say that many of its members order their supply direct from Holland. In the cities and towns where manufactures are carried on, the factory operative, the mechanic, and needlewoman all delight to have a few pots of flowers in their windows, and as the hyacinth bulb is generally cheap, a few of them are by no means a rare sight in winter. They give a room, otherwise dismal, a cheery look, and no similar amount of money can be spent to give a family an equal degree of sincere and thorough happiness. In the November number of the *ADVOCATE*, a short notice was extracted from the *North British Agriculturist*; but this notice can be greatly improved, and some errors corrected, as the styles of growth in the milder climate of England scarcely answer for Canada. Hyacinths are obtained of all colors except deep yellow and orange. All the best and finest bulbs, and the commonest, will do equally well for pot culture; and as this paper is not written on theory, but by one who has had much

practical experience, the statements made are yearly proved; and for a beginner, or even for an old grower, can be relied on. To grow any bulb well, the surroundings should, as far as practicable, approach the state in which nature places it. Every year we pot dozens of hyacinths for winter and spring blooming, and we give the reader exactly the mode we use: In the first place we never use less than a six-inch pot, in which we plant one large bulb. We fill the pot three-quarters full of prepared earth, and plant the bulb about an inch and a half below the surface; then we fill the pot full, and press down so as to leave about half an inch on top, which prevents the waterings from overflowing. Of course put a bit of chip, a small flat stone, or fragment of a pot, over the hole in the bottom of your pot, to prevent the earth and roots from getting out, and after the bulb is thus planted, water it freely and set away in any convenient place out of the sun or stove heat. In six or eight weeks the crown of the bud begins to make its appearance, and can then be brought to any required spot to grow on till it has bloomed. In its native locality the hyacinth is found several inches below the surface of the earth, and we emphatically state that if grown as we have directed, the bells of the spike will be far superior to those grown in the usual mode. In almost all catalogues the reader or amateur is directed to plant so as to leave half the bulb above ground. Of course the plant will bloom and look very neat in the eyes of those who know no better; but you are told to hide your bulbs, so planted, in a dark place, and keep them from the sun or daylight. By exposing the top to light before the roots are properly grown, the crown is excited, the spike sends up perhaps a few odd flowers, which bloom without coming more than an inch or two from the bulb, and after the bells are nearly ruined the roots begin to grow vigorously and the stalk of the spike is sent rapidly up, with scarcely a bell, or, if any, they are nearly scentless and colorless. The object of the grower should be to imitate nature, not from a senseless design on his or her own account. If a hyacinth bulb is left over for the year in the ground, and taken up in the month of November, the roots will be found to be well developed, and yet scarcely the appearance or no appearance be seen as to the sprouting of the leaves and truss. It is not the object of nature to make it bloom in winter, and not till the warm days of spring come round does the shoot make its appearance on the surface. Those who have plenty of means can grow hyacinths as they choose, but it is generally an object for poor persons to have the same bulb for several years. If the hyacinth be left with half the bulb above ground, is it reasonable to expect that in this unnatural position the same strength can be obtained for next year? The matter is impossible. Those who raise these beautiful bulbs for sale have an object to serve in an extended consumption, and generally after blooming, especially in towns, they are thrown away as useless. If, however, the plan of burying the root as deep as reasonable, considering the size of the pot, and the following directions be followed, we can almost to a certainty guarantee a good healthy root for another year's bloom.

1. Select a good, round, smooth, hard bulb, with the root or base looking clean, and the little pimples that show where the roots are to spring from clear and distinct. It matters but little in comparison whether the crown is advancing or not, as that will come in proper time, and some varieties show it more than others.

2. Get some old cow dung, if possible, or any kind well rotted, and mix it with an equal quantity of black muck, easily obtained in the woods or edges of creeks, and add a handful of coarse sand of any sort, thoroughly mixing the mass.

3. A six-inch pot is big enough for the largest hyacinth, and yet not too large for an ordinary one. If a ten-inch pot be used, place a bulb in the centre and others round the circumference, say four or five, according to size; but recollect that the same variety must be always planted together in one pot, and, as we have said, bury them an inch or an inch and a half below the surface. Nature points to this plan as a preserving and restorative one, and Dutch florists and dealers, in this country as well as the old, direct them to be set with half the bulb exposed; so choose for yourself, good reader, whether nature or interested nurserymen give the best advice.

4. After planting, water freely and lay them aside out of the way of too much heat. In fact, we generally bury them in the garden and leave them for two months or more, till required to bloom. In towns any dark or cool, moist place is the best, and keep the earth always moistened, but not too much watered.

The reason for having moisture is that the roots must get it from the ground, or if the supply is taken from the bulb it is necessarily weakened and so much energy is lost that should go to the truss, which is to be avoided.

5. When the truss is coming into bloom the plant should have all the light possible, plenty of rain water and a temperature of about 60°. If, however, it gets a little frost at night it does no harm, as we have every year seen our own blooms uninjured by it, either in the house or the open border. The truss should have a neat stick as a support, because it sometimes is inclined to bend over or break.

6. When the truss ceases to bloom, and the bells wither, cut it away, and don't water the plant more than once in three days, and as soon as the leaves begin to get fairly yellow give no water at all. You had better then lay the pot away or turn it on its side for a fortnight or three weeks, after which the bulb may be taken up, cleaned of all roots and dead leaves and laid carefully away, to be planted again when required. If for blooming at Christmas, pots ought to be prepared at the beginning or middle of August. It may be taken, as a general rule, that from four and a half to five months after planting the truss is in perfection. Growing hyacinths in water is a neat plan, but the bulb is ruined for ever. If the bulb is only half covered (the usual method) it is useless to expect a truss of any account next season; but with the plan we have recommended the same bulb has been grown by us for year after year with, seemingly, as much success as ever. If grown in the border a bed should be carefully prepared, and the manner of so growing them will be described next month. It is a great improvement, we think, to add a few crocuses of any shade—yellow, blue or white—to the pot of hyacinthes, as the bloom of this elegant spring plant is over, and the grass-like foliage is in lovely contrast to the more queenly and lively hyacinth; and crocuses cost not more than one cent per bulb. We can recommend the following varieties of hyacinths for pots:—Red, Madam Maintenon, Fireball, Bouquet Royal, double; Robert Steiger, Bouquet Tender, Prince of Wales, Blue, Charles Dickens, Grand Lilac, Lord Wellington, double; Crown of Heaven, Robinson, Blue Amaranth, White, Norma, Voltaire, Queen Victoria, Virginity; and the best, Anna Marie, double, with rosy centre; Yellow, Fleur d'Or and Heroine, a citron color and very fragrant. We have grown these sorts, and can speak from experience, that they are worthy of any amount of reasonable trouble, and will repay us by the richness of their tints and exceeding fragrance. We have grown very many others, but, for the general public who wish cheap and fine blooms, these will be found

very choice. We have found by hard experience that many of the new varieties are much more costly and often inferior to older sorts that have been on the market for fifty years. There is as yet no true yellow, but no doubt a few years will make it an accomplished fact. On a cold winter's day in Canada what a contrast does it make, when the snow is around the house or on the street, to see a few pots of red and blue and white hyacinths in a window as you pass. It makes us think, as we pass along, that where those lovely flowers are must be a very happy home, and have a thrifty mother, an industrious father and rosy children.

Farm Gardens.

PAPER NO. 4, BY P. E. B., OTTAWA.

In the three previous papers on the above subject we have planted one strip of ground fifty feet wide by two hundred feet long, and laid out the house plot fifty feet by one hundred, so that to complete the parallelogram we have still left a piece the same size as that taken up for ornamental purposes, as described in Paper No. 3. We propose to fill this with grape vines of the most approved sorts, and in passing may mention that the best vines we have obtained are those received from the Vine Growers' Association of Navy Island, which is situated in the Niagara River, some little distance above the Falls. Mr. Haskins, City Engineer of Hamilton, is the President of this company, and I have no doubt will forward any communications respecting plants to the right quarter. This company keeps a very good assortment, though probably not all those recommended below. I believe the price is \$15 per 100; at least that was the rate for two-year old vines last year. This island is specially adapted for growing plants, as the season is both early and late, giving a good chance for a long summer's growth and consequently well-ripened wood.

The vines should be set eight feet apart in rows and ten feet between the rows; this will give sixty plants with a ten-foot strip left along the fence. Trellises for training the vines on should run north and south, so that the sun may rise on one side of them and set on the other. The trellis may be made by cutting fourteen feet long two-by-four scantling in halves, and setting them two feet in the ground, which will give posts five feet high. It greatly adds to their durability if these posts are dipped in or brushed with coal or gas tar obtained from gas works. A light rod should be nailed against the posts, one foot from the ground; strips of pine made by ripping a 1½-inch board two inches wide, will be found very suitable; a second bar, similarly made, should be nailed on the top; this will keep the posts from drawing together when the vines are put on. These slats will then be four feet apart; this space may be divided by three wires, one a foot above the first bar, the other two eighteen inches apart. This wire should be of galvanized iron, of any number from 18 to 13; the largest is perhaps the most serviceable; the latter is, however, a little the cheapest. The vines should be set midway between the posts; cedar or tamarac may in some situations be more easily and cheaply obtained than scantlings, and what is known to builders as "furring" may be obtained at reasonable rates, which would obviate the necessity of using the rip-saw.

To obtain the best success in grape culture the ground should be well drained and thoroughly worked before the vines are planted, drainage being one of the most necessary sources of success in this connection, as it lengthens the growing season by ridding the soil of surplus water and allowing the sun's rays to penetrate the ground. Many soils, however, are naturally drained, and require

nothing further to be done to them—notably those which have a gravelly subsoil and those which overlay limestone rocks.

Two-year-old vines are the best to plant, and these will commence bearing in two years' time, but should not be allowed to overbear themselves, as this retards the growth of the vines. It must also be remembered that a young vine does not ripen a heavy crop so well or so early as a light one, and that almost all vines have a tendency to overbearing, and very few cultivators have sufficient nerve to remove premature grape bunches when in blossom. The greediness of the human race is proverbially opposed in these matters to the health and success of the vine.

Any one who owns a foot of land should grow grapes; it is the most interesting plant in the vegetable kingdom, and will submit to any kind of treatment if kept from extreme cold. It is believed that grape growing would be almost universal were not many people deterred from undertaking their culture simply from the fact that a certain amount of mystery has been thrown around the methods of training and pruning them. Much of this proceeds from the fact that they may be trained in any form, and if only pruned sufficiently and not in the early spring when the sap is rising, not much fear is likely to arise from a too free use of the knife. The first year, however, that vines are planted they should be allowed to make all the growth they can, and in the autumn all the new wood should be removed to about three eyes of that year's growth. The two-arm system is probably the best for amateurs to practice; these should be tied to the lower bar of the trellis the third year after planting, and the upright canes from these should be trained to the wires and pinched off as soon as they reach the top bar; these uprights should be removed in the autumn, leaving two eyes, and in the spring a shoot should be allowed to grow from the eye or bud nearest the main arm; the rest should be rubbed off almost as soon as they appear.

In pruning vines the main things to be kept in view are, firstly, to have the fruit borne on wood as near as possible to the root. Do not let the plants become what gardeners call leggy, that is, long, bare canes without fruit or leaf; and secondly, that grapes are only produced on this year's growth from one-year-old wood. It is found the vine is so easily protected from severe weather by covering it with soil that it may be grown further north than either apples, pears or cherries, and, therefore, supplies a place where a want is much felt. The right time to cover the vine is when the frost begins to harden the ground in autumn. A covering of three inches of soil will protect them through the most intense cold of the severest Canadian winters. Many people put straw or leaves over them, but from actual test I can speak strongly in favor of mother earth—it is easily obtained, and has no equal in resisting the too rapid action of the snow. This covering may be removed when warm weather sets in, in spring, from the 1st to the 15th of April. Light frosts will not hurt the vine, and they do not put out their young shoots until all danger of frost is over. The vine is easily propagated by either cuttings or layers. Cuttings take from four to five years to produce bearing vines; layers from two to three. Grape cuttings may be grown as indicated in paper No. 2, September number, where directions are given for producing young plants of the gooseberry and currant. For the multiplication of plants by layering, a long cane of the previous year's growth should be selected, and when spring opens a trench four inches deep the length of the rod should be opened, and in this it should be securely pinned down with a forked stick or wooden scewers, and as the new

shoots grow this trench may be filled up. In the autumn every upright shoot may, by dividing the original cane, be made into a separate plant. So many new varieties of grapes are now in the market, and others are still coming forward, that, perhaps, one ought to feel some diffidence in naming those most suitable for general cultivation. The following will be found both early and of good flavor:—Salem, Rogers 15, Adirondac, Delaware, Creveling and Arnold's Othello. The Barnet, which is to be distributed to the members of the Fruit Growers' Association next spring, or to any one who sends one dollar to the Secretary of that Association, at St. Catharines, by the 1st of March next, is considered to be the best out door grape in the Dominion, and if it proves as good on dissemination as it has on the grounds of the first originator, Mr. P. C. Dempsey, of Albury, it will indeed be a grand success. The Champion, though not of the first quality, is probably earlier than any of the above; and if grapes are being sold for sale, a few vines might be advantageously planted. The Adirondac, though the fruit is early and of rich flavor, is produced on slow-growing vines, and for that reason only a few should be planted, in order that disappointment may not ensue. I would plant half the ground with Salem; it is a good grower, a free bearer and a splendid red grape. Othello should hang on the vine for a touch of the frost, which much improves it. The little Delaware is well known, and has only size against its being first class.

The Season.

December 28.—Up to the time of writing we have not seen a sleigh on the road this season. Land is now being plowed; and there has hardly been frost enough to stop it up to this time. It is the mildest winter thus far ever experienced in Canada. The grass is green and growing, the fall wheat is too rank and luxuriant. In many places the roads are so bad that produce is detained on the farms, and dissatisfied humanity is crying out for frost and snow. Farmers want it to facilitate their marketing and other teaming. The merchants want it for trade and cash. We do not doubt but you will have both snow and cold before many are ready for it. Large quantities of roots have been destroyed by being kept too warm. We hear that mice are very numerous in some places this year, so look out for your fruit trees. They will do more damage than you expect. Use poison or protect your trees. Many are feeding roots at too rapid a rate to sheep and cows. An excess in their use will cause breeding stock to cast their withers.

A chemical lecturer in this county has alarmed some of our stock men that have been feeding mangels to their cows. He has told them that mangels will cause abortion. We have fed mangels liberally and never had a case that we attributed to that cause; nor had we ever heard of one. If any of our veterinary or farming correspondents have ever found any such effect on their stock we should be pleased to hear about it, as we commend the growth of mangels, and consider there is not a quarter as many grown as there should be. There has been a strong feeling among farmers to hold crops for higher prices. We would ask them to look at market quotations now and in September, and compute their profit. We have said sell; we say so still, never mind about wars or rumors of wars. That is not your business. Raise all you can, and sell as soon as it is fit to sell, is the best course for you to pursue. Clover is low, and will be low. Too large stocks were held over last year by every one that had any. The market will open low and keep low this year. There is a large quantity in the country. If you are a speculating farmer, out of debt, and have a good handsome house, well furnished, and have supplied your sons,

daughters, and those dependent on you with all the proper luxuries of life, you have your ground well planted and drained, and money to loan, you might, perhaps, continue to hold your clover for another year. You will only have a low price this, and, perhaps, no better next. Before you think of holding a crop for a year, be sure you have expended every dollar for every purpose that a person of your wealth should spend. Do not get the name of mean miser.

Our Insect Enemies—The Hessian Fly.

The most effectual way to contend with injurious insects is, doubtless, to starve them out. Wherever plant food is abundant the rapidity of their increase is almost incredible. Were farmers to cease, for a time, growing potatoes in a locality the potato bugs would soon be unknown. As with the potato bugs so it is with the Hessian fly. They swarm in our fields because they find the wheat plant prepared for the propagation of their young and supplying their required food. The starving out the fly was carried out successfully in the Genessee valley some years since. They ceased for a time growing the food for the flies and the flies were soon exterminated. Fifty years ago this pest was so destructive that no wheat could be grown within thirty miles of Philadelphia, and the only remedy seemed to be to discontinue early fall sowing. The first fortnight of October became the season for sowing fall wheat. By this simple method they overcame their insect foes. But late sowing has also its disadvantages. It is found better; were it not for this fly, that the wheat shall have attained a greater growth before winter than it can have from late sowing. Therefore, can other remedies be devised?

The Western New York Farmers' Club have been holding counsel respecting this matter, and each told the results of his own experiments in resisting the attacks of this dreaded insect. The reports from Michigan, as well as from New York, proved that the fly ravages extended over a wide extent of country. The damages were greatest wherever the wheat crop followed a wheat crop of the previous year; when sown in fallow and on bean stubble the fly was less numerous. The same remark favorably applies to wheat after rye and barley. On exhausted soils the damage appeared to be greatest.

The mildness of the season, and the consequent luxuriance of the wheat plant, was also a cause of the rapid increase of the fly.

Superphosphate has proved a partial protection to wheat against the fly. Prof. Clark had noticed two pieces of wheat in his neighborhood, one of which was dressed with phosphate and the other not. The one with phosphate was nearly free from the fly, and the other badly affected, although the phosphated one was sown four or five days before the unphosphated one. The results of other experiments with superphosphate were generally of like tendency; though in some instances little difference was observed between the plots to which phosphate had been applied and others. On the whole, the results have been so favorable that further experiments are well worth trial.

Let us note the results of late sowing—of succeeding wheat crops—of superphosphate.

A contemporary says that British India has suddenly become a great corn-exporting country. Four years ago the quantity of wheat sent abroad only reached 395,000 cwt., whilst last year in spite of the famine, it is estimated that the exports had risen to the enormous extent of 5,000,000. This is a new source of supply when the harvest in England fails.

Application will be made to the next session of the Ontario Legislature for an act to incorporate a company to build a railway, and run steamers in connection therewith on the Manitoulin Island.

Stock.

Pasture Lands.

In Ireland sixty-four acres in every one hundred acres are seeded down for pasture purposes. In England forty-two acres in every hundred are seeded to pasture. And pastures in the old country are pastures in reality, seeded to several varieties of grasses, so that when one variety passes its greatest vigor another takes its place, and this continuation is kept up throughout the season. The pastures are well fertilized, and weeds are eradicated mercilessly. If the farmers in this country would pay better attention to pasture lands it would pay them well.—*Rural World*.

Prevention of Animal Disease.

The *New York Times* takes up the subject of the prevention of disease in animals, and gives some valuable hints worthy of the attention of all live-stock owners. After alluding to the damage caused by disease, the article says:—

There is no doubt that the losses of sheep, swine and cattle, that might be prevented by proper precaution and care, amount to one-fifth of the whole value of these classes of stock. One hundred million dollars yearly would not more than cover these losses. The great misfortune is that much disease is spread by infection and contagion among herds and flocks that would otherwise escape. Animals are subject to all the dangerous influences which affect the health of human beings. Miasma, malaria, exposure to sudden and severe changes of temperature; the consumption of innutritious or indigestible food, or impure water; overfeeding, underfeeding, or irregular feeding; exposure to foul air or filth—all these affect a man's beasts as quickly as they would injuriously affect himself. The instinct of self-preservation, and the well-known results of these causes, tend greatly to secure mankind from danger from them; and where the individual fails to preserve himself, the public safety prompts effective legal measures to compel him to observe proper precautions. But as regards our domestic animals, when an individual fails to preserve his own property it is only in a few cases that any legal provisions are in force for the protection of that of his neighbors. Thus disease among cattle of all kinds may spread unchecked through an extensive district from one seed-bed of pestilence and contagion. It is time that this risk which farmers are obliged to encounter should be removed. We do not propose, however, at this time to consider this view of the case, but only to offer suggestions which are pertinent at this season for the preservation of the health of animals that may be exposed to danger.

The present season is peculiarly full of risk. It is one when sudden changes of temperature occur; when the surface soil is highly charged with decomposing vegetable matter, the gases from which are absorbed by water or mingled with the atmosphere, and thus have an active effect upon the systems of animals; and also a period when the herbage is hard, innutritious, indigestible, or positively hurtful, from partial decomposition. The stratum of air resting upon meadows and pastures, either drained or undrained, but more particularly those in the latter condition, is filled with miasmatic or malarial germs which are breathed by animals and enter into their circulation. The water they drink is also highly charged with these minute destructive organisms. Although these may not of themselves in all cases induce disease directly, yet they enfeeble the vitality and create a more sensitive condition, in which animals become an easy prey to contagion or infection. Human beings under these circumstances avoid all dangerous or deleterious articles of food or drink; they ventilate, disinfect and purify their dwellings; they observe caution as to changes of clothing, and fortify themselves with medicines or tonics against the approaches of disease, and avoid with the greatest care all danger of contagion. But what owners of animals observe these precautions? Very few, if any. Nothing is done until the animal is stricken, and then the worst has already happened. To treat an animal that gives no sign until it is at the point of death is useless.

There is no help in these cases but in precaution. If such sanitary rules were observed in the stables and yards as are practices in dwellings, the danger of disease would be greatly reduced. If the precautions as to food and water were taken,

if unwholesome pastures were left unoccupied, if cleanliness in feeding were practiced, and no animal was permitted, much less obliged, to drink or eat filth of any kind, the natural robustness and hardiness of our cattle would carry them safely through a multitude of milder dangers. At this change of the seasons, when so much dead matter is going to decay, it is necessary to exercise great watchfulness in regard to these things. Not only so, but the animals themselves need close watching, that the first indication of something amiss may be observed and immediate treatment be given. In case anything is observed to go wrong the first thing to be done is to clear out the bowels by an active saline purgative—8 to 16 ounces of epsom salts is generally the most effective and safest that can be given. After this, copious drinks of very thin gruel of bran, linseed-meal or oatmeal, may be given with benefit. As a rule, bleeding is to be strictly avoided as a dangerous resource, and an almost, if not altogether, fatal mistake.

Breeding Sheep for Mutton.

We have various inquiries upon this subject. How to breed for mutton will depend upon what branch of the business you propose to follow—whether to rear sheep to sell to the butcher or for breeding purposes, or (which, in our opinion, is generally the most profitable practice, as well here as in breeding cattle) to rear your stock with a view to both objects. With the best blood, as we have frequently had occasion to show, there will always be some individuals below the standard of merit that should be required in breeding stock, and these should go to the butcher.

If you select good, strong, compact ewes of the common sort in your neighborhood and breed them to a Southdown ram, the lambs will probably show dark faces and legs, and to a large degree the fattening properties and the quality of flesh of the sire, and meet with a ready sale in the market, as the Southdown is the best, as to qualities of mutton, of all our cultivated breeds. If a Shropshire-down ram can be had, he will get you larger stock, with a heavier fleece of wool, though both fleece and flesh will be coarser than in the Southdown. However, it is probable that the produce of Shropshire, being larger, would be the most profitable. If neither of these breeds (nor the Hampshire-down, regarded as next to the Southdown in quality and larger in carcass) is at hand, or if the long wool is preferred, we would choose a Cotswold or a Lincoln—both very large, with fine and valuable fleeces for combing. But these large breeds require, to make them profitable, high feeding and more attention than the smaller varieties. All these breeds are ready for market at eighteen months, and it is not believed profitable to keep the wethers to a much greater age. They are sheep for dear lands, where there is a good demand for mutton.

In rearing sheep to sell for breeding purposes, of the mutton races, we would prefer the Southdown, and next to them the Shropshires. To begin with, get a good ram, compact, stout and short necked, and well covered with wool, of as uniform staple as possible. Don't be particular about the price if the ram suits you; any man who breeds sheep can afford to give a good price for a good ram, but no man can afford to breed from a poor ram—in proportion to the investment, nothing will make or lose money to a farmer like a ram. After securing the right sort of a ram, look about for a few good purely-bred ewes of the same breed. It is not necessary to get many to begin with; if you are without experience in the business, feel your way. To these you may add the common ewe as before suggested, and breed your ram to them for stock to the butchers. Breed early, not later than November, and get your lambs stout for the early grass. Grow your lambs—this is the true system in growing mutton as well as pork. The more you feed bran, oats, etc., the higher will be your profits. The ewes, too, must be kept in condition to give plenty of milk.—*National Live Stock Journal*.

HOW TO FEED CATTLE.—Stock doing well; have exercise and sunshine (when there is any) every day; no abortions, and losing no calves, so far; young stock growing like weeds in a corn field in June. Six bushels meal, two bushels mill feed, two bushels light oats, seven quarts oil cake meal, and one pint of salt, mixed with three times as much cut hay as there is bulk of grain, making one day's rations for seventy-five head of cattle, young and old. Feed is dampened, and stands (when weather is not too cold) twelve to twenty-four hours before feeding, and is apportioned to the stock according to age and condition.—P. N.

Shropshires.

The Shropshire has a dark brown face and legs, and the wool in the centre of the forehead and around the ears tinged with brown, larger than Southdown, which it much resembles, and the fleece, which weighs from five to seven pounds, is much longer in staple and heavier than the Southdown, but still a carding wool; there is, however, a lack of uniformity. In samples taken from last year's lambs the fleece had precisely the appearance of Cotswold wool, while a sample from an imported buck of same age, which was nearly as long, was a carding wool, which was much like the Southdown. The meat resembles the Southdown, being marbled with fat, but perhaps less delicate. While the Shropshire, as a breed, are superior to the Southdown in size and weight of fleece, still it is much to be doubted if they will prove equal to the Southdowns for improving the common breeds of our country. The Southdown being a very old and distinct breed, impresses its characteristics with great certainty; the Shropshire being a cross-bred animal, and as the most cross-bred animals are superior to either of the breeds from which it is formed, is not so likely to impress its progeny with its own type.—*American Farmer*.

Abortion in Cows.

W. D. P. writes to the *Mass. Plowman* as follows:—

The milkmen near Boston have found a satisfactory remedy in the use of lime. They give it to the cows by sprinkling a spoonful at a time over their food, two or three times a week; or sometimes they sprinkle lime among the hay as it is stowed away in the barn. A neighbor of mine who keeps about 20 cows, and who was formerly much troubled by abortion among his herd, informs me that for the last three years, since he has made use of lime, he has not had a case, and that very many of his acquaintance have had similar experience with their herds. Whether the well-known lack of lime in our Massachusetts soil has anything to do with this, is an interesting question for the man of science. The farmer will be most interested in escaping a serious cause of loss and disappointment.

Care of Ewes.

A correspondent of the *Agricultural Gazette*, England, gives the following in relation to the care of sheep, which is applicable here as there, except that we do not have to counteract the effects of watery food, as they do from the feeding of large quantities of turnips:—

If there is no permanent yard, a temporary one can soon be erected by setting down a double row of hurdles and stuffing them between with straw. We begin a month before lambing to remove our ewes every night from the turnip pen to the yard, where they have a foddering of straw, night and morning, in the cribs; the yard is supplied with fresh litter daily. Here they have a dry, comfortable bed. Ample breathing-space, uncontaminated by noxious vapors, gentle exercise and moderate supply of pure water, are conducive to health. It is surprising the quantity of barley or oat straw a flock of ewes will consume; the dry food has a salutary effect in counteracting the watery influence of the turnips. When the food of the breeding ewe consists principally of turnips during the last six weeks of gestation, the difficulty and consequently the danger of yearning is greatly increased. During the latter period of gestation the nutriment derived from the food is principally expended in increasing the size of the fetus in utero, instead of being stored up by the mother, hence the increased difficulty and danger of parturition. In order to strengthen the ewe and enable her to safely withstand the trials through which she must pass, a mixture of oats and maize—half a pint to a pint per day—should be given for a month before lambing.

Says the *New York Graphic*: "So far we have enjoyed our boasts of increasing beef trade with England. But no rose is without a thorn. A dismal wail is commencing to be heard at home. Our own prime joints and roasts are giving out, and even now are difficult to procure. Only the best cattle are shipped to England—none go under 1,400 pounds weight. Forty-five thousand of such cattle have already crossed the Atlantic. John Bull is literally taking the fat of our land and leaving us only the lean, and the trade is only in its infancy."

Breeding Cows.

A loss is often the result of using an inferior or common animal to breed from when a thoroughbred could be used at a moderate expense. Ordinary cows are too frequently kept with small returns, when by a judicious selection from milking strains the profits might be doubled. A loss is often met with by not feeding cows one or two quarts of meal each day, when the pasture gets short and dry. The profits would in general prove greater if farmers would raise their own cows, as the value of a cow depends largely upon the good care and good feed it receives when young. A loss is sustained by not putting in an acre of sowed corn to use in case of drought, as one acre then will produce a much greater profit than ten of dry pasture.

A loss is the result where twice the yield might have been secured by the application of more manure to the crop. By not providing suitable feeding arrangements, boxes, racks, etc., a great waste and loss occurs by the trampling of good food into the dirt.

A serious loss is often incurred by letting grass stand and get too ripe before being cut; and in this case the damage is twofold—first, as regards the stock that eat it; and second, the greater exhaustion of the soil.—*Chatham Courier.*

The Best Stock.

The extra price received for a superior article is nearly all profit. And this is especially the case with the farm. It costs no more to raise a good horse than a poor scrub. No more feed, care or time is required. And if the plug horse can be raised so as to pay expenses, there is a fine profit in rearing first class horses.

The same is the case with neat cattle. In fact it costs more per pound to raise such a steer as would sell for three cents per pound than one which sells for six cents per pound. In this case there are nearly double the number of pounds, and double the price per pound; and yet the choice steer takes no more food and care than the other. So that not only the extra price is the profit, but the extra weight also.

Profits of Sheep Raising.

The following, from a Pennsylvania farmer, shows that sheep raising is profitable:—"I learn by the agricultural report of 1870 that there were nearly seven acres of unimproved land in Pennsylvania to each sheep, and that each produced a little more than three and a half pounds of wool. This, at 40 cents per pound, amounts to \$2,500,000. My object in giving these figures is to show the profit of this branch of agriculture. I am now keeping, on an average farm, one sheep to every two acres improved land. The wool of each sheep averages four pounds, but these sheep do not consume one-half the hay and grass raised, and do not receive any roots. Last year I raised my first crop of sugar beets and find that thirty or forty tons may be raised per acre. I think these will enable me to keep at least one sheep to every improved acre, and still have one-half the hay, grain and roots left to feed the team and necessary cattle. If these conclusions be correct, and one-half my sheep raise twin lambs, making a total of one and one-half lambs to each sheep, worth \$4 each, we have a total of \$6 for lambs and \$1.60 for wool per acre, or \$18,500,000 for lambs and \$69,000,000 for wool in Pennsylvania. I cannot give the value of lambs for 1870, and cannot compare the difference. The wool produced was 6,500,000 pounds, but at my estimate there would be 46,000,000 pounds, making a difference of \$16,000,000 at 40 cents per pound. This result is, of course, not attainable in one or two years; it must be brought about by degrees. I find sheep are liable to disease if kept in large flocks, unless the very best breeding ewes are selected and the rams changed each year.—*Massachusetts Plowman.*

The pigs require a warm shelter as much as any animals. Do not imagine, because they can endure cold, that it is of any benefit to them. Keeping swine in a piggery open to the cold, perchance with no bed but the cold wet earth, is like throwing food into a river; for it requires food to keep up the animal heat, and the food fed first goes to this work, second to increasing the flesh. A warm, clean house is cheaper than grain.

E. J., in *Rural World*, says:—Timothy hay is poor stuff for milch cows; corn meal gives more fat than milk; clover hay, cut when partly in blossom, and well cut, is the best hay.

Dairy.**Creamery Butter.**

When we expressed our regret in August that Canadian operators had not shipped or sold their summer stock, we hoped to be able to write ere this of a good clearing-up of stocks in order to be in readiness for the fall make. It is unfortunately true that heavy summer stocks are still held, with but slender present hope of escape from loss. We find, however, that the better situation has changed its front and new elements have been introduced, which may alter the "wind-up" of this season's Canadian butter business materially. First, there has not been the usual make of choice fall butter, either in Canada or the United States. September was hot and the butter trade was no better than, if as good as, August make, so that there is not the large stock of fall-made butter that was expected.

In the Brockville district, the make is no better than before, if as good, for the reason that the best makers have, in preference, devoted themselves to cheese. The Eastern Townships butter has been better than last, because the people there had been disappointed in cheese, and gave the more attention to butter. Upon the whole, this year's butter is probably an improvement over what was made last year, and is certainly better in quality than the average product of five or ten years ago; but is still below the average of American.

The Americans have stopped sending their choice butter to England; indeed the bulk shipped from New York this year has been of a lower grade, shipped in refrigerators. They are occasionally asking a sly question about prices of finest in Canada; and deceived by the low figures lately quoted in Montreal, we understand that several New York buyers lately visited that city with the intention of picking up any choice lots of 18c or 20c butter that were causing the owners sleepless nights, but the visit did not result in much business. Again the English market is reported very dull with heavy stock. Those who have taken pains to ascertain assure us that the bulk of these heavy stocks in England consist of American ordinary butter, oleo-margarine, cheap manufactured stuff which will not keep. From the continent of Europe there is also an excess of imitation butter, which has been pressed on the market unsuccessfully.

As the season goes on, the question will be asked in Britain, Where can we get good, genuine butter? and our impression is that, though the quality may not be as fine as could be desired, it will be difficult this winter to point to a country where there is as little bosch, oleo-margarine, and otherwise manufactured butter, as in Canada. Taking the season into account, we may claim the stock in Canada, as a whole, to be better and purer butter than can be found anywhere.

The wisest plan for our farmers and butter-makers to pursue would, in our opinion, be the erection of creameries, to perform the same function for our butter that cheese factories have done for our cheese. A similar improvement in the quality would follow, and an increase in the quantity of choice would not fail to be induced. The ten years to come might witness as magnificent a growth of Canadian butter as the past ten has done in cheese.

There are already some creameries in Canada; one at Teeswater, capable of using the milk of 200 cows, built after the New York State model. In Brockville district we believe there are two, one near that town and one at Mallorytown, which produce butter, and skim cheese as well. Of course the farmer cannot eat his cake and have it too; he cannot make good butter, and out of the identical material make good cheese. One or two small factories in Hemmingford direction, which are erroneously called creameries, make butter on a small scale. The farmers thereabout use a patent pan, and these produce, some think, a better article, but it is not creamery butter.

So far as we know, there have been, with the exception of the one at Teeswater, no factories erected after the plan of the American creameries at Orange county, N. Y., in Elgin, Ill., and at other places in the West. It is a fact deserving wide mention, that the butter produced this year by the Teeswater creamery brought 25 cents gold for 500 pkgs. f.o.b. there, and it sold in a smaller way in Toronto as high as 28c this fall. Creamery butter sold at Illinois at the close of October at 30c on the spot, we are told, while in New York the average price for choice was 28c to 32c.

These creameries are so arranged as to make butter one day and cheese the next, and so not only economise, but take advantage of the demand or of any favorable change in the market for either. Our dairymen should try the experiment of erecting their cheese factories in such a way that they might be changed to butter factories if required.

The great object to be kept in view is the improvement of the quality of the bulk of our butter. We have numbers who make choice, it is true; but the proportion of really choice obtainable for export has been painfully small.—*Monetary Times.*

Churning.

The following advice on the subject of churning is furnished by Mr. J. T. Ellsworth to the *Scientific Farmer* :—

Churning cream to make good butter is not so simple a process as some may think. It must be churned at the proper time and at the proper temperature, and the churn should be stopped as soon as the cream is broken, but before the butter has gathered into balls. In warm weather it is of great importance to watch the process closely, and to notice just when the change is to take place. At this time add enough cold water (notice) to reduce the temperature of the mass to about fifty-six or fifty-eight degrees, and then complete the churning, which will be as soon as the butter is in a granulated form, with particles about the size of peas. Then draw off the buttermilk and dash in cold water, repeating the washing until the water drawn off appears clear. Now take out a layer of butter into the tray, and sprinkle on finely sifted salt, at the rate of about an ounce of salt to the pound (more or less, as customers may wish). Then take out another layer and salt as before.

After the butter is salted, set it away for about three hours for it to take the salt and harden the grain. Now work it a little with a wooden ladle and set it away again until next day, when it will need but little working before preparing it for market. If the butter is soft and white, it is from lack of proper cooling before churning, and it may be hardened by putting in about three times the usual amount of salt and working it a little for two or three mornings.

A Cheese Fair at a Royal Palace.

In order to promote the manufacture of cheese in Italy, five hundred groups of cheeses were recently displayed in the Royal Palace at Portici, near Naples. The importance of the exhibition was increased by the fact that the Italians rarely drink milk, or consume it in any other form than that of cheese. Every peasant has his cow, and makes his own cheese; and the better he makes it the higher is his reputation as a farmer and dairyman. Prizes of gold, silver and bronze will be awarded the successful exhibitors. The cheese fair, writes a Naples correspondent of the *London Times*, is likely to give a considerable impulse to agricultural industry in Italy, as unusual importance will thenceforward attach to the manufacture of an article of domestic consumption.

Mr. Lewis' Dairy.

The *American Dairymen* lately gave an account of the dairy farm of Hon. Harris Lewis, of Frankfort, Herkimer county, from which we make the following extract:—

Mr. Lewis' theory is, that the easier he makes everything for his cows the less power to overcome obstacle will he have to supply in extra feed; and the more comfortable and contented they are the better return will they make through the milk pail.

He has a herd of twenty-seven cows, but is now getting milk from only twenty. They are mostly full-blooded shorthorns, and are as quiet and contented as so many well-fed and well-cared for pets might be supposed to be. They exhibit not the least shadow of fear or nervousness, even when strangers are present. Among the herd were five or six beautiful full-blood shorthorn heifers, just as gentle and docile as the oldest cows that are used to daily handling.

The cows are generally driven to the barn each night and morning if they do not, as is usually the case, come of their own accord, when they take up their places in the stable, each in its own particular stanchion, with mathematical precision. No dog, no fright or worry is permitted, and the milking is done quietly and orderly, with no loud talking,

no sudden and startling noises. There is no patting of the cow on the back with the stool, no persuading with the toe of the boot, no coaxing at the top of the voice. They are made to give down by generous feeding and gentle treatment, and the principal of kindness is illustrated by the depth of the cream on their milk.

Food for Producing Milk.

We think dairymen have not sufficiently appreciated the value of the pumpkin as a food for producing milk. The prejudice against this food for milch cows has arisen from the effect of the seeds when given in too large quantity. The seeds have a diuretic effect, operating on the kidneys, and this has sometimes lessened the flow of milk; but if a small portion of the seeds are removed this danger is wholly removed. Indeed, the cases of ill-effect have probably occurred from feeding

ternate rows of corn. The cultivation of the corn will be sufficient attention to the pumpkin crop; and this crop will often be equal, in food value, to ten bushels of corn per acre.—*Live Stock Journal.*

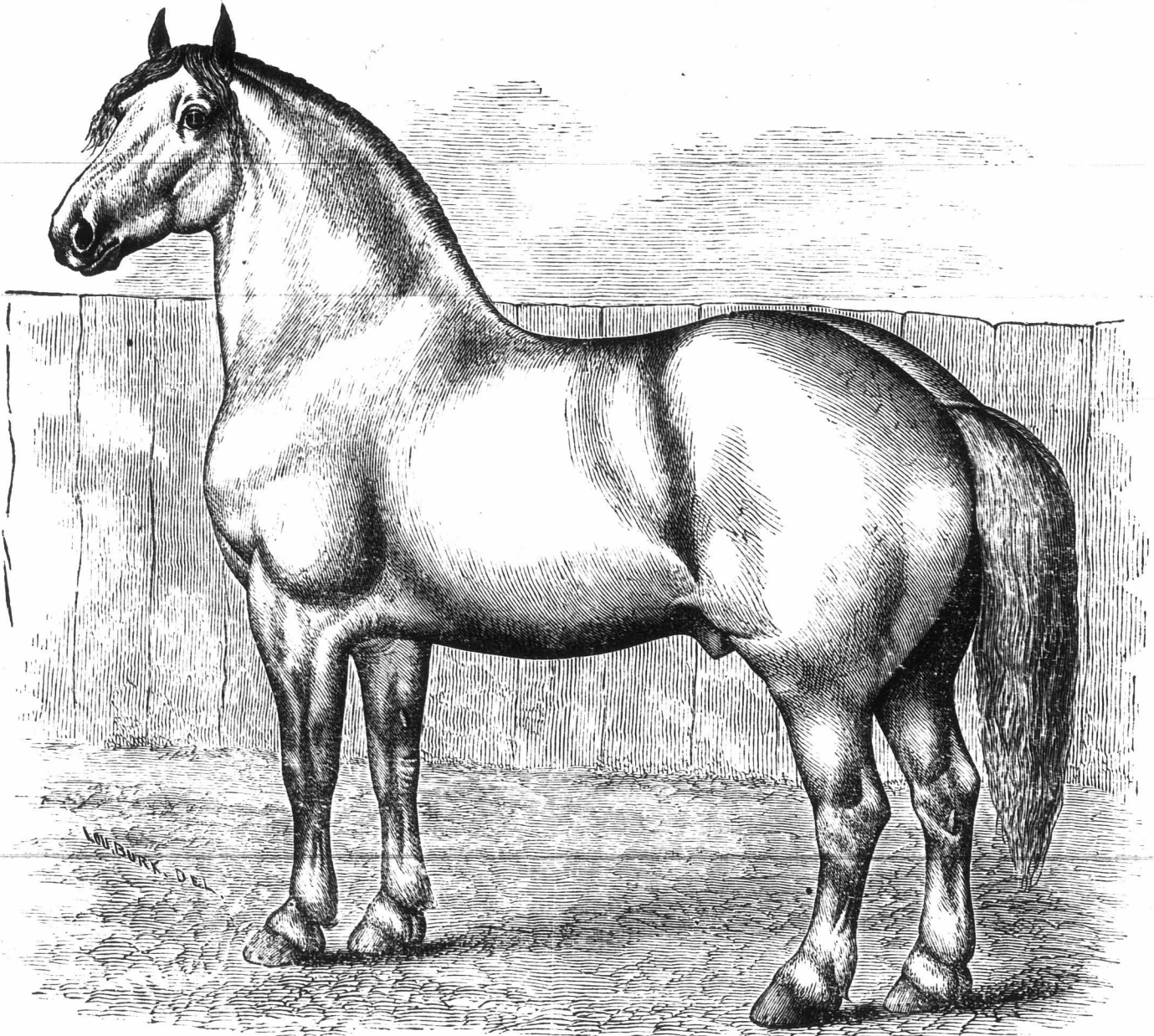
The Horse.

The farmer who breeds horses knows his own interests well enough to study the tastes of the community, and to breed up to them. Speed is, to be sure, only one of the many qualities which are essential to a good roadster, and size, style, action, temper, form, constitution, and enduring qualities are equally important in making a general estimate of the character of horses. The weight of a good roadster may vary from 950 to 1,100 pounds. A larger sized horse would not be found serviceable.

Walking Horses.

A number of our contemporaries have recently revived the thread-bare subject of "walking horses." Some original, and others taken bodily, without credit, from the source from whence it was rewritten. The theme of it all, however, is, that the colt should be educated in breaking into a good fast walk. This is all very well, provided the colt has the capabilities for fast walking. Among other things cited as an inducement to educate horses to fast walking is the assertion that one of the most successful breeders of trotting horses in America has often remarked that he would not keep a horse on his place that was not a fast walker, and that he had invariably found that the fastest walkers made the fastest trotters.

We think the facts in the case will be found to be, as a rule, that fast trotters are slow walkers, and for the simple reason that they are urged to use all their power in trotting, and when brought



ST LAURENT.
The Norman Horse.

more than the due proportion of seeds. We have seen pumpkins fed quite freely with excellent results in quantity and quality of milk; but it is not economical to feed too largely of any one fit or good food. Potatoes fed in moderation are excellent food. Potatoes fed in too great quantity they will reduce the yield. Turnips or beets must not be given too liberally. Corn, when given as a sole ration, is unprofitable; but fed largely to keep up the yield of milk, and as a supplement to the fall flow of milk. Having fully the value of turnips, per weight, they are cheaply raised, and should be added to the ration of food by every dairyman. When raised that as many tons per acre as possible with a corn crop.

The engraving which appears in this edition is a representation of the Norman Stallion St. Laurent imported and owned by E. Dillon & Co., of Normal, McLean County, Illinois. St. Laurent is a beautiful gray, 11 years old, and weighs twenty-one hundred pounds. He is said to be the largest and most powerful Norman Horse on the Continent. We hear that a lot of fifteen of his colts, consisting of seven yearlings, four two-year-olds and four three-year olds, were sold for the sum of fourteen thousand five hundred dollars. E. Dillon & Co. are the oldest and most extensive firm now engaged in importing and breeding Norman Horses in the United States. They have imported from France seventy-seven stallions and mares, and have now over one hundred head of fine animals. A remarkable characteristic of this stock is the color, dark dappled grey, the result of a number of years' careful and judicious breeding. They publish an illustrated catalogue, which will be mailed free to any applicant.

down to a walk they are allowed to saunter along at will.

Another point made by these practical agriculturists is, that a fast walking team will do nearly twice the plowing in a day that slower walkers will. That is, at five miles an hour a team will do two-fifths more plowing than the team at three miles an hour. We wonder if the sapient agriculturist who promulgated this original idea ever followed a plow team all day walking five miles an hour, or even watched the furrow slice cleaving from the mold board of a plow behind a team making five miles an hour, or even cared for a team at night doing this work? We think not. Nevertheless, let us not ignore entirely the value of educating the farm team or the roadster to walk fast.

Almost any young horse may be trained to walk faster than his ordinary gait; but while now and then a horse may be found that may be trained to walk four, or even five and a half miles per hour with a light load, the average team may not be

more yearly supply, grown alone, it is too

made to do more than four; and further, with a good load behind them, three miles per hour is about the maximum that may be reached.

But to the point respecting the training of horses to walk fast. To do this, the team must be taken young, and encouraged to walk at the top of their speed, by using every encouragement thereto, and never allowing them to trot. Thus, at the end of a year's training, they will be found to have increased their walking speed by about one-third. Some teams will do even more than this. The fastest walking team we ever saw would make four miles an hour with a load that might be easily handled. They would do four miles an hour with the empty wagon, the drive being sixteen miles and back, to and from the market city. They were, however, never allowed to trot under any circumstances. Indeed, it was not necessary, since few teams would have made the journey loaded, one way in seven hours, trotting one way; for few farm teams are driven over five miles an hour, to the farm wagon when light.

What the horse-raiser wants to pay especial attention to, in breeding animals, both as regards sire and dam, is their natural walking gait, for the naturally fast-walking horse is always an ambitious one. Then if they have muscular development and style, they contain a mine of wealth to the breeder, even though they do not contain the elements of great speed. We believe it will be found to be impracticable to originate a family of horses that shall combine great trotting action with the ability to draw heavy loads at a walking gait of five, or even four, miles an hour. This need not be looked for, but it certainly is a step in the right direction, to educate a draught team that they will move off at a brisk pace, rather than at the snail's pace we so often see. This however cannot be expected of a team illy governed, illy fed and constantly loaded to the full extent of their power.

We repeat, a team heavily loaded can't be expected to move more than three miles an hour; but by proper training a horse may be made to walk, with a light load, from four to five miles an hour, if he has the physical conformation therefor, and is generally driven at a walking gait.

Puslinch Farmers' Club.

The Puslinch Farmers' Club being strongly impressed with the importance to the farmer of judicious changes and importations of seed to substitute for the various kinds which, by too-often-repeated cultivation in Ontario, are prone to deteriorate and fall off in their annual yield per acre, resulting in a heavy loss to the individual farmer and the country at large, would most respectfully solicit information upon the following points:

Has there been any importations of spring wheat to Ontario from Manitoba for seed purposes? If so, when and of what variety? Was the experiment satisfactory? What was the yield per acre? and what of the native seed under like conditions? What was the character of that imported, also of that produced, for mulching purposes?

Any one possessing information on the above subject will very much oblige by communicating either through the press or by letter addressed to the undersigned. P. MAHAN, Sec.

[There were some thousands of bushels imported from Manitoba and Minnesota last year. The wheat was very foul and badly mixed. The greater part of the wheat was of the Fife and Club varieties, and many other sorts. No cleaning could make it pure, and much foul seed was in it. When it came to Ontario, some seedsmen recleaned it, others sold it as it was imported. The crops have not been better, nor as good, as from wheat raised in Ontario. Some years ago there was a bearded wheat imported from Red River. It answered well in many places in Ontario. Perhaps some of our readers may furnish statistics in regard to the yield, when compared with other grain. From reports at present received, we think the brand will not be represented this year.]

Notes on the Garden and Farm.

The crops on the Saskatchewan are very fine this season. Prince Albert's settlement has harvested between 25,000 and 30,000 bushels of grain. Vegetables are also very plenty. Prices of grain are:—Wheat, \$2; barley, \$1.50; oats, \$1.25 per bushel.

The Indians on the Oneida reservation in Outagamie county, Wis., who number 1,045, have raised during the summer 4,500 bushels of vegetables, and 22,500 bushels of grain.

Successful farming depends on a better preparation of the land, underdraining and thorough working before and after planting.—*Ploverman.*

SORGHUM.—The *New York Grocer* makes some remarks in relation to the item which appeared a few weeks ago in the *CHRONICLE* stating that "Mr. W. Butler, of Derehem township, had commenced the manufacture of sugar from sorghum grown by himself and neighbors." The *Grocer* says:—"It is a most important fact that sorghum can be raised through so wide a range of latitude. It is now largely planted in all the Southern States and affords to thousands all the sweets they use. It grows with equal ease in the West. There seems to be in reality no climatic limit to its production. The syrup produced from it is not considered so good as that from the cane, but this is owing probably as much to lack of facilities and experience in its manufacture as to any intrinsic difference. As a source of sugar production it has not received that attention which its importance demands. It might be made an important factor in the future sources of supply, and presents a far more practicable field for cultivation than the beet.

THE MANITOBA WHEAT YIELD.—The *Montreal Gazette* says: Private information from Mr. W. W. Ogilvie, who is now in Manitoba, informs us that he has driven three hundred miles through the Province and finds everywhere the evidences of great prosperity. He regards the land as the richest on the continent, and has established depots for the purchase of wheat in different parts of the country. Many of the farmers have threshed out from three to four thousand bushels as the result of the year's operations. The Mennonites will have over thirty thousand bushels of wheat as a surplus.

THE GRAIN CROP IN RUSSIA.—The American Consul at Odessa reports the grain crop of Southern Russia for 1877 in good condition, and the largest harvest during twenty-five years. Drafts made upon the laboring classes for the army obliged planters to purchase agricultural machinery to a larger extent. An enormous quantity of grain has been bought by English and other merchants at a very low price in depreciated currency, and is stored awaiting shipment upon the cessation of hostilities, and will then take its place in the markets of the world. It will no doubt have a depressing influence upon the price of grain from other countries.

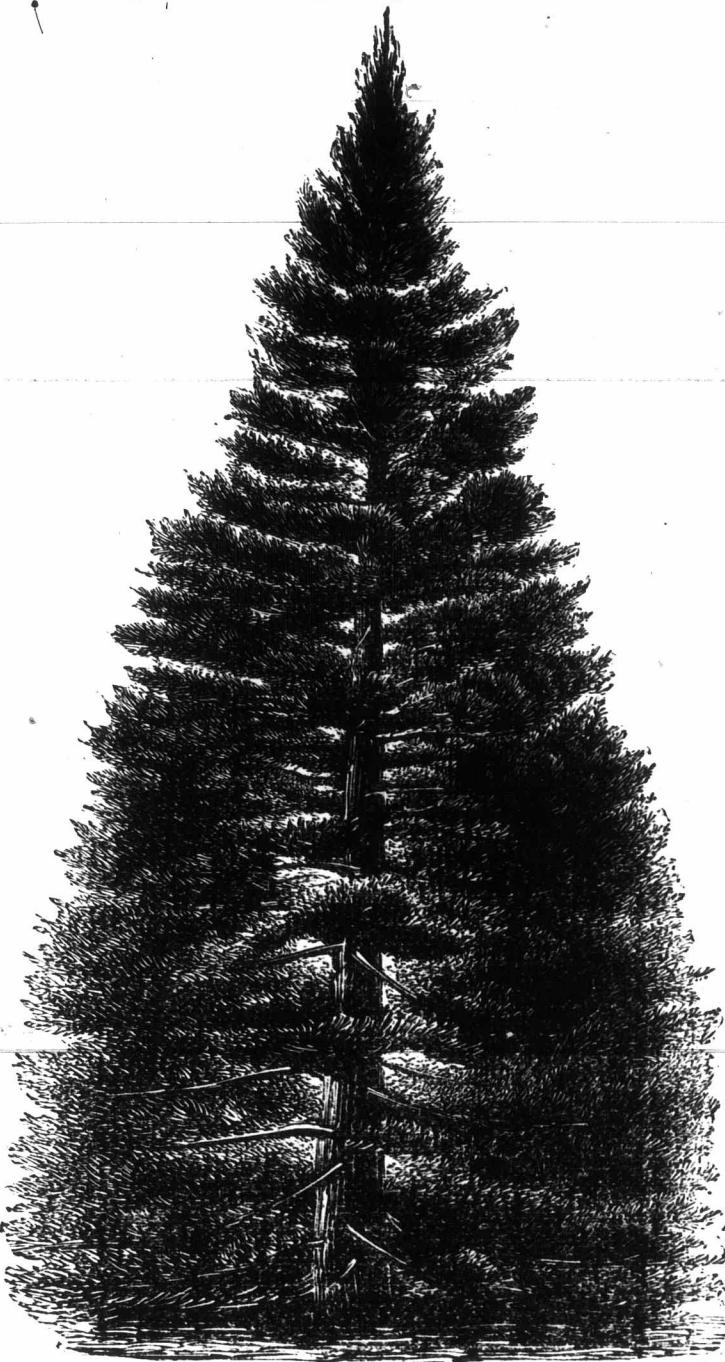
RASPBERRIES.—An English writer on the raspberry says: It takes some little time to establish a plantation; but much depends on culture. In hard, dry soils, both higher culture and mulchings are necessary to the production of good, strong canes at the end even of the second year after planting. In dry districts and upon dry subsoils deep culture is also needful, principally because deep soils retain the moisture longest. Otherwise this is not so important, for the raspberry is not a deep rooter. In fact, the roots are found in greatest abundance close to the surface of the soil, which accounts to some extent for the bad effects which drought produces, and the necessity for mulching.

Mr. Wharton says for his gooseberries he has a bucket full of coal ashes thrown over the clump of bushes during winter, raking them on and off in the spring. He had restored them to health one season

when the mildew had been destructive. The bushes grew better, the grass kept out, the berries were large and of better flavour.

During the last ten years nearly a million acres in Great Britain, formerly under grain crops, have been converted into pasture, meat having become so paying an article to raise; but in the last Board of Trade report it is remarked that this conversion of arable land into pasture has received a check, as a result of the large importation of American meat.

The *Prairie Farmer*, published at Chicago, speaking of several cargoes of Canadian barley, says: "That no barley such as that obtained from Canada is or can be grown in the prairie region tributary to the Mississippi River. Largely demanded in Chicago and elsewhere at the West, great quantities are annually imported.



The Wellingtonian.

The above cut represents a young tree of the Mammoth Californian variety. In England these trees are called Wellingtonians. We saw some very much resembling this cut in the Botanical Gardens at Kew, near London (Eng.). We also saw two rows of them on private property, where they appeared to thrive as well as any other evergreen. They are a species of the pine. Messrs. Elwanger & Barry, of Rochester, have some of them on their grounds. It is not to be imagined that the present generation will see them very large trees in this part of America, as it takes nearly 300 years for them to attain their full size. Some, however, may desire to plant rare varieties. We would prefer to have such a tree growing than the most expensive monument ever erected.

Agriculture.

Necessary Plant Food.

We do "grope in the dark," not because we do not know what substances a plant needs for food from the soil: they are few and well known. But we do not often know what elements of food exist in certain forms or preparations of manures, nor their proportions or quantity, nor which of these already abound in the soil, nor in what condition they exist there.

No manure, in reference to the needs of various soils, is "best" or "worst." The best for this soil and this time may be the worst for another soil, or even for the same soil at another time. The value of a manure, to the soil, is in proportion to the absence of its ingredients from the soil at the time of its application. Additions of ammonia or potash may be not only worthless but injurious to the crop, and always wasteful when they abound sufficiently in the soil. Their value to a certain soil at a certain time has no relation to their commercial value. The commercial value is governed by their scarcity in the markets, while the agricultural value depends on their scarcity in the soil to which they are applied.

If a corn or wheat plant is to be grown in earth already containing sufficient ammonia and no lime, then lime is a cheaper manure for that soil at twenty-five cents per pound than ammonia at the same price.

We may grow as perfect a corn or wheat plant with its roots in water, containing necessary food for soil, under proper conditions, as in the ground. If we essay to do this with sufficient ammonia, phosphoric acid, potash, magnesia, sulphuric acid and iron, we cannot make a perfect plant. By the addition of these expensive substances we may only kill the plant, but the addition of a proper quantity of lime, without more of the others, will make a perfect plant. So here is a case in which a little lime is worth more than all other food, and the addition of the others is worse than worthless.

I planted alternate rows of potatoes in a loose garden soil, applying ashes in one, ashes and lime in another, lime alone in another, and nothing to another. The rows with ashes alone and with ashes and lime, produced less than the soil simple. That with lime alone produced the same as that with nothing.

This did not prove that ashes, nor ashes and lime, are not good fertilizers in general, nor that lime is worthless; but only that they were worthless, and the ashes injurious, to that soil at that time, for the reasons already stated, and perhaps the additional reason that the ashes rendered the soil still lighter, which was already sufficiently light.

The best manures, in reference to the needs of the soil, always do best, and the worst always do worst. In reference to commercial value, it is precisely as T. T. G. states: the most valuable sometimes does worst and least valuable best.

Analyzing Soils.

How shall we ascertain what manure is best, or what the soil needs? We have been told to analyze the manure and the soil. But to analyze the soil is worse than folly. Ascertain just as I did in reference to ashes and lime. No other way is known under heaven.

There is no royal scientific road to a knowledge of the secrets that God, in inscrutable wisdom, decreed shall be sought by labor and trials and disappointments.

Science is the expression of the results of experience, and no experience ever yet demonstrated that chemical examination of lumps of earth from a field discovers what is necessary to apply to the field for the growth of plants. All experience teaches that the plants, and they only, can impart the knowledge. If the chemist could examine all the earth of the field to the full depth to which the roots penetrate, he might approximate the percentage of the various sorts of plant-food it contains; but still his tests would fail to reveal the condition in which the plant-roots will find them.

The plant alone can reveal the truth as to what exists in available condition. Their growth and death is their only language intelligible to us. We must therefore try this, that, and the other, and note the various responses in the growth, vigor and weight of the crops, as a physician tries various preparations of food with emaciated patients. Not science, nor the physician, nor the patient, can foretell the result, but the stomach responds in

truth. The doctor may guess better than unskilled persons, so, a chemist, or intelligent farmer, may guess better, and have fewer experiments to try, than unskilled persons or fools. But under our present state of knowledge they can only expedite the practical processes, through which only the truth can be reached.—*American Farmer*.

Testing Seeds.

The Royal Agricultural Society of England employs a botanist, a part of whose duties is to test seeds belonging to the members. For this he has a fee of five shillings sterling, or about \$1.25 of our money. All that is necessary is to select a given number of seeds of the kind to be tested, promiscuously. Lay them between thick folds of cloth thoroughly saturated with rain water; place the same in an even temperature of say 60 to 70 degrees, where they may remain moist, and they should germinate in from two to three days. This will apply to all the cereal grains, and other seeds that germinate at a comparatively low temperature. Tomato, egg plant, cucumber and other plants should be kept at a heat of fully seventy degrees.

Thus one may easily learn the germinative power of seeds under favorable conditions, and calculate the per cent. of good and bad seed in the lot. Seeds that lack vitality are stimulated into growth by soaking them for a short time in slightly camphorated water. In this connection we may add that seeds containing much starch are more easily affected by changes of temperature, alternately moist and warm, and dry and cold. All such seeds should be kept through the winter continually dry, and not subject to extreme freezing. The neglect to do this is one of the prolific causes of some of our varieties of seed corn failing to germinate in the spring. Hence such grain should not be allowed to be in the crib or exposed to changes of weather during winter.

Beet Root Sugar.

For some years the FARMER'S ADVOCATE urged farmers and manufacturers to take measures for developing the manufacture of sugar from beet root. The development we have so long urged is now, we hope, nigh at hand. Farmers and others interested in the prosperity of the country have taken up the question in Quebec, Ontario and elsewhere throughout the Dominion. A large meeting was held a few days since in Berlin, of the leading farmers in Waterloo County, to consider this question. The Mayor, Mr. Krautz, on taking the chair, lucidly explained the objects of the meeting. The manufacture of sugar from beet root, he said, would give a stimulus to the agricultural interest of this country beyond anything that has ever been attained in the past.

Mr. Gemment, a practical manufacturer, traced the history of beet root sugar manufacture in Germany, and the difficulties and losses that capitalists and others had to contend with before the industry became successful; an industry, he said, which, ultimately established by the assistance of the Government, had become one of the most profitable sources of revenue to the country, besides developing the natural wealth of the soil, and providing employment for numbers who might otherwise find it hard to live. In manufacturing sugar parties investing their money in factories would have to depend altogether on the farmers for the production of the raw material, which production would be a source of direct profit to all engaged, and would enable the farmer to adopt a better system of farming by rotation cropping, as markets would be established for the sale of their root crops, and in his opinion there was no country in Europe, or in the whole world, so favorably adapted for beet growing as Canada, or could produce the same quality of beet for sugar purposes, or give the same yield per acre when properly cultivated. The importation of sugar into Canada amounted to \$10,000,000 annually, and was draining the country each year to the same extent. By the establishment of factories not only would this money be retained in the Dominion, but in the course of a few years Canada would be exporting sugar to the States and elsewhere, and thereby at once furnishing employment to all classes of the community, and forming a source of national wealth. But before capitalists could be induced to build factories and invest their money it would be necessary for

the Government to grant assistance, as had been done in all other countries where factories had been established. The sister Province of Quebec had already granted a bonus of \$70,000 in addition to other grants, making altogether about \$100,000, to assist this valuable undertaking, and he hoped that ere long the Government at Toronto would make a similar grant, but to a much larger amount, in the interest of the farmers of Ontario, who form the bulk of the taxpayers from whom the revenue is derived. As soon as the Government did their part, the capital was ready with which to commence operations, and the name of Mr. James Simpson, of Hamilton, was a sufficient guarantee for the money being forthcoming when required.

Messrs. Simpson, Rayner, Brubachen, Bowman, M. P., and Young, M. P., severally addressed the meeting and endorsed the views of Mr. Krautz. It was resolved unanimously that the object of establishing this industry is approved of by the meeting, and that there be a memorial to the Government drawn up asking them to grant a bonus to assist in the establishing of a sugar factory upon such conditions as the Government may deem necessary.

Liquid Manure.

The subject of the value of liquid manure in its application to crops, in field, garden and lawn is again freely discussed. Mechi, the London millionaire alderman, was among the first to apply it to field crops, and for this purpose prepared a great deal of expensive machinery and employed a great many men to do the work. His crops bore testimony to its great fertilizing qualities, and these returns Mr. M. was not slow in laying before the British public. His statistics were liberally quoted in this country, and he has a great many disciples—on paper—as those who adopted his method of applying manure soon abandoned it on account of its expensiveness. These disciples failed to see that in all Mr. Mechi's statements he made no comparison as to the relative expense of the two modes of application and the relative products. This was carefully omitted; and if we are correctly informed—and it looks as if the information is correct, as we have seen no recent statements from that quarter—the practice has been abandoned by the rich introducer, and it must have been from the fact that the old method of applying manure to land was the quickest and most profitable.

For small lawns and gardens—where the expense is a matter of no consequence—there is no mode of enrichment so certain and effective as liquid manure, for in these cases it can be applied with watering-pots commonly used by gardeners. For this purpose a basin should be dug from ten to twelve feet in diameter and three feet deep, which should be filled with stable manure, and either a conductor from a roof turned upon it—rainwater being the best—or supplied from hydrant or pump, the water being added gradually, so as to admit of the daily turning over of the mass. In a few days, or a week, it will be fit to use, and can be applied as the necessity may occur. In this limited way liquid manure can be used with great effect; but upon the farm it would take a mint of money to so dispose of it, whatever the beneficial results may be upon the crops.

The New Hampshire Agricultural College.

We have more than once referred to the fact that Agricultural Colleges in the United States have proved failures. They have not accomplished the purpose for which they were founded at a great expense to the country. They cannot be said to have educated young men in the science and practice of agriculture in number and proficiency at all commensurate with the expectations of those who supported them. From the *Mirror and Farmer* we take a brief extract of the working of the N. H. Agricultural College:—

The public debates, of which abstracts have been given, and the private discussions, which have been still more earnest and unrestrained, have all pointed to one conclusion: that the Agricultural College had thus far failed to answer the expectations of its founders and friends. As presented at this meeting, the facts are that the College has the best buildings for its purposes in the country. It has access to all the libraries, laboratories and other scientific appurtenances of Dartmouth. It has a cash fund of more than \$100,000. It has

within its gift about fifty valuable scholarships and can offer other pecuniary helps to students. It has a faculty of fair abilities. Its trustees are devoted and earnest, and willing to follow any course which promises success. It has connected with it one of the most expensive and valuable farms in Grafton County. But it has only nine students, only one of which entered this year.

These facts are, of course, not pleasant ones for the friends of the College, for while there are a few who argue that even if it has not a student it might exert an influence which would warrant pronouncing it a success, the most of those who are interested believe that to maintain a College which instructs no students is rather too much like a farce, and that some way must be devised to bring students here, or the institution might as well be given up. We may say, therefore, that the best and most earnest friends of the College are substantially agreed that it has been a failure, some of whom—Dr. Bartlett and Prof. Brewer—are the most conspicuous examples—believe that collegiate education should be on a broad gauge plan; they tell us that there is no demand for a course of study designed to teach practical agriculture; that the details of farming can be learned better elsewhere, and that a boy when he goes to college should aim at something higher and better than a knowledge of plowing, applying manure and harvesting crops. In other words, these men would give a boy a liberal education here without reference to his probable calling, and let him study his profession elsewhere. But this view is by no means that of the farmers themselves. They think an agricultural college should teach agriculture, and that when a boy graduates at one he should be qualified to farm not only scientifically but profitably.

Underdraining and Irrigation.

The subject of underdrainage, although much talked and written about, is as yet but little practiced. It may be said to be only in its infancy. The cream of our soils lies in these valleys and springy side-hills, hitherto uncultivated, which require only the skillful hand of the underdrainer to revive them into new life and productiveness. Irrigation, in connection with underdraining, is an idea new to me until recently, when I visited the farm of Joseph Barnard, Esq., who showed me his method and the results. Mr. Barnard inherited this farm from his father, and commenced operations upon it some six or seven years ago. It then cut only about five or six tons of good hay, together with a quantity of good fodder cut upon the meadow. This meadow is about 160 rods long and from fifteen to twenty-five rods in width. Through the centre runs a small stream, and entering in upon the sides, from the elevations bordering, are numerous springs which keep this piece of meadow completely saturated with cold water, rendering it almost impassable with teams. Excepting in some spots on the brook, it cut nothing but worthless fodder.

Since Mr. Barnard's occupancy this piece of meadow has mostly undergone a complete system of underdraining. The muck is from two to three feet deep. The drains are dug this depth. A board, some eight or ten inches wide, is laid upon this bottom; then taking two pieces of hemlock boards, one four and the other five inches wide, nailed together gutter-like, they are placed ridge up upon this board, thus forming the drain. This completely drained off the surplus water and rendered the meadow accessible to teams, and a portion of it has been and is now under cultivation. The wild grasses soon vacated the premises and gave place to new and nutritious grasses. But Mr. Barnard, being a man of observation, saw that this land might suffer from drouth and set himself experimenting with irrigation. The land having but a slight descent, dams rendering it easy of flowage, he constructed two arms across the meadow at an interval from each other. These dams are made of planks driven through the muck into the hard pan. In the centre of the brook is a gate, and near each end of this dam are sluiceways constructed at a proper height for the discharge of the water.

The gate in the centre is shut and the water rises, flowing through the sluiceways, passing down each side of the meadow and percolating through the soil, down into the drains and back into the brook again. After a proper lapse of time, the gate is hoisted, and the parts flowed also get their proper moisture and drained off. Any slight elevations which do not get full benefit from this system of irrigation show a marked diminution both in quantity and quality of grass.

This tract of hitherto almost worthless land will now cut in the vicinity of twenty-five tons of good hay. A large portion of this tract has no other treatment than the drainage and irrigation to effect this change. Mr. Barnard now cuts from 35 to 40 tons of good hay on this farm from which so recently the crop was only meagre. These low lands, which for centuries have received accumulations from the hills and slopes, ought to receive the attention of the agriculturist. Besides, their present condition renders them disease-engendering plague-spots.—*Mirror and Farmer.*

Raising Corn and Peas.

A writer in a Western paper described his method of growing in the same plot corn and peas. This cannot be said to be quite a new thing. Beans succeed well as a crop between hills of corn, and we have grown them also between hills as well as between drills of potatoes. Peas are well adapted for the purpose of shading the soil, as he says, and instead of impoverishing it, add to its fertility. The attempt to secure an additional crop may be made by any one; it is worthy of a trial.

Plant and scratch over the corn the usual way until it is knee-high; then sow peas broadcast before the plow, close to the corn, and follow with a bull-tongue in the furrow, as deep as one horse can pull it through that stiff clay—never before stirred since the world was made. Having run around the row thus, then go back and turn the wing next the corn, and follow with the bull-tongue in each furrow of the turning plow, till you plow out and subsoil all the middles. The turner just prepares the way for your bull-tongue to do plowing that will benefit the crop. If you have planted in checks, you should cross with a good harrow, and your crop is then "laid by."

One plowing and subsoiling in this way is worth more to the corn than twenty common scratchings. It breaks through and causes to pulverize the crust then beginning to be formed, and it prevents any more crust from forming during the season; the roots of the corn go down and take hold of the elements upon which it feeds, and permeate every part of that deep, loose bed, and bid defiance to any drouth that may come up.

The peas by their thick shade economize the moisture which is in the soil, and prevent the escape of the rich gases which the earth at that time is throwing off for the benefit of the top of vegetable matter generally. This system secures on thin land a good crop of both corn and peas almost without rain in summer. The corn and peas can be gathered, and then your stock will be fattened by gleanings the fields; after which turn under the vines and stalks all chopped up, which derived their body largely from the atmosphere, and soon you will make your farm rich without expense or extra labor.

Manure for Grass.

No crop gets less attention than grass. If manured at all, it is only incidentally with some other crop—rarely for itself alone. Corn, wheat and barley get the manure, and when seeded the young clover takes what is left. After that, if the field be pastured, the droppings of animals left in lumps over the fields, are all that the lands get till plowed again. This is considered improving the soil; and it is. No matter how mismanged, clover is a benefit; and whatever else he many do the farmer who sows and grows clover, is making his farm better. What, then, might not the result be, if the same care was taken of the clover field as of other crops? It does not need cultivating; the long, deep reaching roots mellow and pulverize the soil as nothing else can. If the clover grows thriftily, the top acts as a mulch, shading the ground and keeping it moist. A crop of two tons or more of clover, whether ploughed under or cut for hay, can hardly fail to leave the soil better than it was before. It should be the farmer's aim to grow the largest possible crops of clover. A slight dressing of gypsum—one hundred pounds per acre in early spring—often produce wonderful results. But if a farmer has a little well rotted manure, the scrapings of barnyards, fall is the time to apply it. Clover is often injured by freezing and thawing in winter, and a very slight covering of manure will afford a great deal of protection. Rich earth from corners of fences, is well worth drawing a short distance on young clover, provided the ground is hard and firm. If the field is not to be mowed next season, coarser manure can be used.—*Country Gentleman.*

Food Supply of England.

Mr. James Caird in an address before the British Social Science Congress, on the Economy of Trade, gave some statistics on food, which will be of importance to our Western readers.

Three bad harvests in succession with a largely increased consumption of food since 1871, has aggravated the depression in trade in England. They have paid £160,000,000 more for foreign grain during the past five years and a half than in the equal preceding period. This is an increase of 40 per cent. on the money previously sent abroad for food grains. The present price of wheat, some 20s or \$5 higher per quarter, than the average for the last two years, is equivalent to an addition of £23,000,000, to the cost of their next year's bread. This money, something near \$115,000,000 must flow to us for our grain suit.

Indian corn, which ranks among cereal grains, he says, next to wheat, in imports was almost unknown in Great Britain before the potato famine of 1845-47, and was not liked. In 1847, 500,000 tons were sent to Ireland, but by 1857 the imports had diminished to one-quarter of that amount. In 1867 it was hardly more popular, but the bad harvest of that year brought it into greater request. It rose still further in 1875, after the bad harvest that year; and in 1876, with another deficient harvest here, it doubled at once the highest previous importation. It is the cheapest article of food in the market, being at present little more than half the price of wheat per pound, and its introduction in such large quantities greatly modifies the pressure which would otherwise be felt after deficient harvests in that country. In this connection, as we have heretofore remarked, the failure of the turnip crop in England ought to add largely to our sales in Indian corn there. Potatoes may also become an article of export from us. Germany furnishes largely of this crop, and is considered to be sufficient. England's yearly importations of potatoes, have increased from 43,000 tons to 300,000 tons.

England's imports of food last year reached a total of £35,000,000, or nearly \$175,000,000. In relation to meat products Mr. Caird says: Bacon has increased from 3,700 to 160,000 tons. This is a ten times greater increase than any other kind of meat, and represents many thousands acres of Indian corn, packed in the smallest possible bulk. While the import of bacon and hams has increased more than forty-fold, beef, cattle, and sheep have in the same time increased four-fold, butter and cheese six-fold. Nearly one-half of this increase has taken place since 1870. He regards the importation of Irish-American meat as a success, so far as the preservation of its original qualities is concerned.

EXPERIMENTS WITH BEETS.—W. F. Fish writes to the *Cultivator*:—Upon one-fourth of an acre of land sixteen loads of good manure from a sheep shed were drawn and spread about the last of March. The beet seed was sown May 17th, in rows three feet apart and the plot rolled. Then, as an experiment, salt was sown on all the ground at the rate of ten bushels per acre, except on two rows, sixteen rods long, through the middle of the piece. The growth of the plants on which no salt was put was more rapid at first than where salted, but when the dry weather came on that advantage was lost. The crop (harvested Oct. 17) was 250 bushels, many of the beets weighing 10 to 12 pounds each. The two rows dressed with salt yielded five bushels more than two rows alongside where none was used, making, by calculation, 23 bushels profit in all. The experiment of fertilizing was for 2½ bushels of dirty salt, costing only 20 cents at the salt works.

The *Rural Home* says:—When the writer of this was a lad the farmers' county (N. Y.), where he resided, had suspended wheat growing because they could no longer grow it with profit, owing to the ravages of the Hessian fly. Wheat bread no longer appeared on the table of the ordinary farmer, but rye was substituted as the staff of life. After a suspension of eight or ten years the fly was so effectually "stamped out" that they were able to renew the growing of wheat. During the last two years there have been reports of the appearance of the Hessian fly in some of the wheat-growing localities of this State, Ohio and Michigan, and farmers begin to feel some alarm, and query whether it may not become so numerous as to seriously interfere with wheat growing in many of our best wheat sections.

Correspondence.

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

British Columbia.

SIR,—In my last letter I promised to write you a fuller account of the Upper Country, and I now purpose to do so. What I now write is from information gathered from most reliable sources, as well as from my own personal observation, and it must be remembered that I am trying to give as favorable an account as I can of the country I live in. Whatever I must say against it is not from any narrow-minded prejudice, but from an earnest desire not to mislead people by false reports and glowing accounts.

The district I am speaking of is not a farming country, nor can it ever be a large producer of grain, although it will support a much larger population than it does at present. Such a vast extent of country must necessarily present many different kinds of soil and climate, but I have asked several who have traveled over the greater part of it whether the portion I saw would allow me to form a fair estimate of the whole. They told me it would. This is to the east of the Cascade Mountains, and is known as the Upper Country. The first change is noticeable about Lytton, and leaving the moist, mild, heavily-timbered country behind, the traveler sees a dry, rocky, barren looking sea of mountains, covered with wash gravel to their very summits; and he will say, where is the farming country he was expecting to find? and some miner or hotel keeper will tell him it is farther on, and so he may travel and keep traveling to find what is not in existence. There is lots of room to travel in, too, for the country is large, being about 420 miles long by about 200 to 225 miles wide, and from its rough, mountainous nature, a long way is only a very short distance. Persons traveling into the interior generally take the steamboat from New Westminster to Yale, 110 miles from the sea. Very few of the farms in the Frazer Valley can be seen from the steamboat, as the principal settlements lay away back from the river. The reason of this is that the banks of the river are in many places subject to overflow, and that there are a number of Indian reservations. Yale is a very small town with two streets and perhaps 250 inhabitants. There are stages running regularly twice a week to Barkerville and Kamloops. The wagon road passes through the Cascade Range, and is often blasted out of the face of perpendicular rocks. Some portions of it cost \$12,000 a mile to construct. It is kept in excellent repair. Lytton is the next town, and is a very miserable little place at the junction of the Thompson with the Frazer River, 56 miles above Yale. The stage road here leaves the Frazer behind, and follows the Thompson as far as Cook's Ferry, 81 miles above Yale. There is so little cultivation between Yale and Cook's Ferry that it is scarcely worth speaking about. The Nicola River joins the Thompson at Cook's Ferry. Nicola Valley is about 30 miles long, and is very much cracked up as an agricultural settlement. There are perhaps about 30 white settlers in the valley, and there is not room for very many more, as almost all the available water is taken up, and without water cultivation is impossible. It was here that the sample of wheat that took the prize at the Centennial Exhibition was grown. There is not much farming done; most of the people depend upon stock raising for a living. There is a very fine range for a limited number of cattle now.

I might go on describing a number of widely scattered settlements, but perhaps it will be better to try and give an idea of what the country looks like. There is nothing green but what is irrigated, and to a stranger everything looks dried up and miserable. The hills are covered with tufts of bunch grass wherever it has not been destroyed by cattle. The people say that in the spring, when the ground is soft from the melting of the snow, the cattle tread the grass out or so injure the roots that it dies. One thing is certain, that it dies out and sage brush takes its place after two or three years' feeding down. The tufts of bunch grass are about one foot apart, with bare ground between. It grows in long hair-like bunches, and fattens

stock faster than any green feed I know of. When I have said this I have told all I can honestly say in praise of the Upper Country.

Now, suppose a person has found a suitable bench of land on to which water can be brought from an adjoining creek at a moderate cost, let us examine the soil. These benches, which are often 100 or more acres in extent, are formed by the river upon which they stand, and once were its bottom before it cut a deeper channel for itself. There are often two or three tiers of them. They are covered with a sediment varying from a foot to six inches deep; below that are from 50 to 150 feet of coarse gravel. This sediment is so light that when it is plowed it is necessary to turn the water on to it to keep it from blowing away. With careful irrigation it will grow good crops of almost anything for a time. No amount of care will prevent some of it from washing away, and the country is so dry that manure will not rot. No man would like to cultivate a piece of land and see it steadily getting worse year after year in spite of anything he could do. It may answer now because there is lots of land to cultivate and a very limited market to supply, but when the country becomes more thickly settled what will people do who have exhausted the soil? Nothing but leave or starve. There is not a man in this hopeful country but what expects the Canadian Government will build the railway and so give them a chance to sell out and leave. The farmers say that they only want an outside market to dispose of their wheat. They have to employ a Chinaman at \$40 a month to raise wheat at all, and how they ever expect to make it pay is more than I can find out. The Chinese seem to do better than the whites here, for they are content with small profits, and by working steadily along soon become rich. The wages of a white man is \$60 a month in summer, or from \$3 to \$2.50 by the day. There is a very limited demand for labor, but a good, steady, industrious man will almost always get a job after he becomes known. Those who are there at present seem greatly given to gambling, drinking, &c. The farmers as a class are well off, as they were mostly all there when the Cariboo mines paid well, and they got 50c. a pound for beef and 10c. a pound for grain. A new settler would have none of these advantages, for if the railway was being built through the country they would have the outside market to compete with.

Now for the crops. Timothy does not grow well, that is, has no very large tonnage to the acre, and they have as yet had but little success in raising fruit. Keeping the water on too late is perhaps the cause, as the sap freezes up in the limbs, or they have no hardy kinds. There is too little trouble taken in selecting seeds. Oats and barley are mostly grown together. I saw a great deal of very indifferent wheat—too much mixed to grow a good sample of grain. Roots are not much grown and do better in the lower country. I wanted some of the farmers to send to Canada and get good seed, but they seemed too much down in the mouth. They say—"Where can we sell it if we do raise it?" The answer is—Then why raise any at all? J. S.

Beet-Sugar.

SIR,—In view of the fact that the Quebec Government has offered a bonus of \$7,000 to a Company now formed in the City of Quebec, for the purpose of manufacturing beet-sugar, it might be worth while for some of our Canadian farmers, instead of keeping their money locked up in bank deposits, to organize a Company to manufacture beet-sugar in this Province, and petition our Legislature to grant them a bonus of sufficient amount to make a fair start. Some years ago a capitalist, who intended to start a beet-sugar factory, brought out the necessary machinery to Toronto, but as the then Minister of Finance, Sir Francis Hincks, did not see his way clear to a remission of the excise duty on sugar, the intended enterprise was given up. An arrangement has now been made between the Quebec and Dominion Governments, by which beet-sugar is to be exempt from excise duties for seven years; and probably a similar arrangement might be made between the Ontario and Dominion Governments also. I should consider this a safer speculation than starting a Bank with a poor \$100,000 capital. Besides, if one beet-sugar company should go into successful operation, private capitalists would soon engage in it also, as it is expected that in a few years England will procure all the wheat she requires from India, where cheap land and labor will enable shippers to lay it down in England at a price far below what we could

afford to sell it for, so that a complete revolution will be worked in our Canadian system of agriculture, and we shall require a new industry to take the place of wheat-raising, and will have to depend more on stock-raising; and the refuse of the beet factories is very useful for fattening cattle, and will encourage the farmers to pay more attention to the breeding and feeding of stock. Where ever on the continent of Europe, the beet-sugar industry has been introduced, the agriculturist has been materially benefitted. Land formerly worth only \$30 is now worth \$300. Our Canadian climate and soil are suited for raising beets of a superior quality to those raised on the Continent of Europe. The first beet-sugar factory ever started in the United States, was in the State of Massachusetts. No difficulty was experienced in making the sugar; still it was raw sugar, and cost six cents per pound. At that time raw West India sugar could be bought for four cents per pound, consequently that factory had to be given up. We cannot get raw West India sugar now at four cents per pound. We have to pay by retail from eight and a-half to nine and a-half cents per pound for it, and adulterated American sugar at that. Besides, when we consider the immense amount of money sent out of the country every year to pay for sugar which might, by being circulated amongst ourselves, prove generally beneficial to every interest, it must be evident that the object in view is well worth the exertion necessary to secure it. SARAWAK.

Superphosphates.

SIR,—I feel satisfied that the benefits of superphosphates are not sufficiently known. I have tried it on several occasions. I used many kinds of artificial manures in England. I have used superphosphates for the past three years on my farm here, and have received double the quantity of turnips. I sowed some of my turnips with it; and on my barley field I had ten bushels more on the part of the field where I used the superphosphates. The barley matured 10 days earlier than in the part that had no phosphates, and it was a much better grain. I can tell the effects of it on land for three years. I sow my superphosphates at the same time as I sow my seed, and drag it in with the grain. I sow 200 pounds per acre when I use no barn manure. I think it much cheaper than barn yard manure, and I shall use between two and three tons next spring. I wish you would inform me where I could procure a drill that would sow superphosphates and grain at the same time, as I want to buy one.

F. A., Caradoc.

SIR,—The unusually mild fall we have had this year has caused a too rapid growth of the young wheat wherever it was sown early, so that it is in danger of being either winter-killed or smothered under the snow. To prevent this the only remedy is to feed it down with cattle. I do not approve of feeding down with sheep, as they are more inclined to feed where the wheat is short, whereas cattle graze where the wheat grows rankest; the upward growth of the wheat being checked, its strength is expended in striking root downwards, and by tilling more than it would otherwise do. The cattle would also eat up the Hessian Fly, and thereby check its increase. I have known a farmer in the west of England, where we seldom had much frost or snow, turn his young cattle on his wheat and keep them there most of the winter; he cut turnips on the ground every day for them, as otherwise they would not have had enough to eat, and, as he told me, the ground was so soft that the cattle were almost knee deep in it. The only exception I would make to this rule would be in what we call burnt slash, where the vegetable soil is all burnt down to the hard pan, which is too retentive of water; and even in such cases, if the ground were thoroughly underdrained, I should not hesitate to turn the cattle on it until the ground was frozen.

It has frequently been observed in England that wherever sportsmen riding after a pack of hounds have crossed a field of wheat, and apparently destroyed it, there the crop was best the following harvest. A neighbor of mine in this township, who was formerly engaged in farming on a large scale, tells me he always used to turn his cattle on the young wheat whenever from the mildness of the season it was growing too fast. It might, of course, be advisable to clear out the water furrows after the cattle were removed from the field, to prevent the water from lodging in the springs. Should the Hessian Fly become as prevalent as it

was thirty years ago, discontinuing the cultivation of fall wheat for a year or two would probably be the best means of checking its increase. In many places a good crop of barley, rye or peas would pay better than a bad crop of fall wheat.

SARAWAK.

Royal Agricultural Society of England

SIR,—This Society does not receive any subsidy or grant from the Government, but a local committee is formed in each town in which the annual exhibition is held, and by that committee subscriptions are raised for the purpose of defraying the cost of providing the Society with a show yard, properly drained, supplied with water, &c. The local committee also subscribes £2,000 towards the other expenses of the show, and they devote any additional subscriptions they may receive to giving prizes for matters of local interest in addition to those of general interest which are offered by the Society itself. The Society's *Journal* is published by Mr. Murray, 50 Albemarle St.—price 6d. each part, and in the first number for the present year you will find a complete statement of the receipts and expenditures at the Birmingham meeting of last year.

I may add that the Society's expenditure on the Annual Country Meeting is, on the average, between £15,000 and £16,000. The expenditure of the local committee ranges between £5,000 and £8,000.

H. M. JENKINS, Sec.

12 Hanover Square, London W., Dec. 5, 1877.

[Thanks to Mr. J. for his prompt reply to our enquiries. It would be well for other officials to be as prompt and courteous as the Secretary of the Royal Agricultural Society of England.]

SIR,—I have often thought I would like to know which paid the farmer the best, selling his pork on foot by live weight, or selling them dressed. Accordingly, we weighed our hogs which we fattened for sale, alive immediately before slaughtering them, and then sold them dressed at \$5 per cwt. We could have sold them on foot for \$4 per cwt, that being the very highest price paid at the time for shipping purposes. The smallest hog, No. 6, would not sell alive, being too light, and we only send his weights to show the difference in the shrinkage in proportion to the size.

The following are the different weights:—

	Alive.	Dressed.	Shrinkage.
No. 1.—	535	467	68
" 2.—	461	390	71
" 3.—	281	231	50
" 4.—	272	224	48
" 5.—	250	222	48
" 6.—	162	125	37
	1,981	1,659	322

Total live weight, leaving out No. 6, 1,819 lbs., at \$4 per cwt., equals \$72.76. Total dressed weight, leaving out No. 6, 1,534 lbs., at \$5 per cwt., equals \$76.70. Difference, \$3.94 in favor of the farmer selling his hogs dressed.

The hogs were Berkshires (nearly pure), and well fattened. It will be noticed that the hogs shrank nearly one-sixteenth of the entire live weight, and also that the heavier hogs shrank less, in proportion, than the lighter ones. For instance, No. 1 would bring \$1.95 more dressed than alive. We had lard enough to pay for the trouble in slaughtering.

In conclusion, we might say, if farmers have heavy, well-fattened hogs, that it will pay better, in our opinion, to sell them dressed.

If you deem this communication worthy, give it a place in the *ADVOCATE*, and oblige,

W. L., Springfield P. O.

SIR,—Many thanks for your article on the Hessian Fly in the August number of your valuable paper. I took your advice, sowed my wheat late—between the middle of September and the middle of October. It is looking well now, and is free from fly, while many of my neighbors who do not take the *FARMER'S ADVOCATE*, unfortunately for themselves, sowed their wheat the latter part of August and the beginning of September, will lose their crop.

Last winter I top-dressed about two acres of wheat with barn-yard manure. The latter part of March I seeded with clover. At harvest I had a fine crop of wheat, and the last week in October I cut four loads of clover full of good ripe seed.

J. J., Napperton.

SIR,—In travelling through this Province I am happy to see so many of your valuable papers circulated here. The farmers of Nova Scotia are progressing well. They move with the age, taking hold with the determination to succeed, living up to your motto, "Persevere and Succeed," and, no doubt, they will. Their stock is coming along very well. I have seen some of Canada's finest production this season in the way of horses. "Young Phenomenon" and "Anglo Saxon," horses that have gained themselves fame in Canada, have been purchased here, and soon they will leave their mark, which will be a credit for the country in horse flesh. "Young Phenomenon" carried off the first prize at the Provincial Exhibition here, and very worthy he was of it. I see you got wrong information on the subject, stating A. Dayes Konx's horse took first. He took third, and if the people know the value of the first-mentioned horses they will breed from no other class.

VERITAS, Nova Scotia.

Recipe for Bots in Horses.

SIR,—I send the following recipe for bots in horses:—Take some Elecampane roots and boil them with some oats or tailings, not making it too strong at first, as they are very bitter and will not be eaten by the horse; but after using for a time, he will prefer them to oats. I have used this remedy for 25 years, and never knew it to fail in dislodging the bots.

W. A. M., Yorkville.

SIR,—I have been well pleased with the *ADVOCATE* for the past year; it should be in the hands of every farmer. I would be lost if I were deprived of the perusal of its valuable contents; send it along for another year.

Please give me the names and P. O. address of the manufacturers of the Self-Binding Reapers that were exhibited at the Michigan State Fair, six in number, one with cord and the others with wire, which were mentioned in the October number of the *ADVOCATE*. Any information concerning the machines mentioned would be thankfully received.

O. F., Mallorytown.

[The Self-Binding Reaper has not as yet been manufactured in Canada, nor do we think it has been sufficiently perfected yet. As soon as it is our manufacturers will no doubt introduce it to Canadian farmers.]

SIR,—I want to know through your paper if rye is sown in the fall and cut about the 1st of June, the feed will be as good for cows as hay is. Please give a clear definition on the subject, as it is very important to farmers. I think it would be very beneficial to farmers to sow rye in the fall, getting the benefit of the crops and cleaning the land; but to know the value of it is the main point. Send all the particulars in your next paper and you will oblige.

J. C., Duncreeff.

[Rye will be good hay if cut when the grain is well formed and not ripe or ripening. The oat plant is even better, more nourishing and strengthening. Rye is sown in August for pasture in the early winter months. It is sown in September and as late as October for early summer soiling, and may be cut and saved as hay. Whether sown for pasture, soiling or hay, it may be considered as "a stolen crop," succeeding the regular crop of one season and preceding the crop of the following season. It is very profitable, giving a heavy crop of valuable food for stock when most needed. In Europe rye forms no inconsiderable part of the breadstuffs of the northern nations. When mixed with wheat, it makes good bread, wholesome, highly nutritious and strengthenin, especially for hard working men.]

Muskoka and its Free Grant Lands.

SIR,—It gave me very much pleasure to read in this month's number of the *ADVOCATE* the remarks of Mr. Traxler on Muskoka, and particularly this section of the district. Mr. Traxler is one of the many who were led to make inquiries about the Free Grant Lands of Ontario through reading my short and somewhat imperfect description of "Muskoka and its Free Grant Lands" in the numbers of the *ADVOCATE* for February and April last.

As evidence of the very wide circulation enjoyed by your paper, I may state that I have received scores of letters from persons seeking information about Muskoka—not only from persons in Canada, but from persons residing in the United States and Great Britain. It is gratifying to be

able to state that many of these persons have settled here, and without exception they are well satisfied with the choice they have made. Although the work of replying to so many inquiries takes up much of my leisure time, I am encouraged to distribute information respecting Muskoka and give to correspondents the benefit of my five years' experience here when I read such favorable accounts of the experience of others who have followed my example in settling here. I shall at all times be pleased to reply to inquiries addressed to me by any of your readers, if they enclose stamps for reply. I trust that during the coming year the *ADVOCATE* will increase its circulation and meet with that warm support at the hands of agriculturists and all who take an interest in farming matters which it so certainly merits.

JAMES ASPDIN, Aspdin, Muskoka, Ont.

SIR,—Please answer the following questions in your January number of 1878.

Is corn fed in the ear good for horses when they are working on the farm—if so, how much would it be advisable to feed at a time?

J. S. MELLOR, Springfield P. O.

[Corn is sometimes fed to horses in the Western States, where it is of so little value, owing to the remoteness from good markets, that it has been used as fuel. Farming there, in all its branches, stock feeding included, is such that we cannot hold it up as a pattern to our farmers. Good shelled corn is good food for horses; it serves to lay on flesh and fat, but to promote the high spirit and vigor of the horse is inferior to oats.]

SIR,—Can you inform me through the columns of your valuable paper how to take warts off a cow's leg?

S. L., Milverton.

[Tie a horse's hair round each wart tight. It will cut through in a short time.]

SIR,—In your September number I see your quotations of exporting sheep, &c. from Montreal to Liverpool. Will you please, through the medium of your paper, inform me of the cost of importing sheep per head from Liverpool to Montreal.

J. C., Paris.

[The cost of importing sheep from Liverpool to Montreal will not, we believe, be greater than that of exporting from Montreal to Liverpool. If shipped in large quantities the cost is less. Many of the homeward bound Canadian vessels come with light cargoes.]

SIR,—I would like to ask, through the columns of your excellent journal, about preparing land for onions. What kind of soil is most suitable, and what preparation is needed to ensure a good crop? Would hen manure be good, and would it be best to plough the land in the fall, putting on the manure after it is ploughed, and let it remain until spring? By answering these questions, you will confer a favor on a reader of your journal.

Aronport, King's Co., N. S. W. F. H.

[The ground is dug or ploughed early in the spring, and well pulverized and levelled with rake or harrow; then open shallow drills about nine inches apart, not deeper than one inch and a-half deep, having alleys about four feet apart. It is well to smooth the ground after sowing, with a light garden roller. This prevents the too great evaporation from the soil, and so preserves the required moisture for germination of the seed. Hoe frequently during the summer, to prevent the growth of weeds, and keep the soil in fine tilth. When preparing for the crop bear in mind that the soil can hardly be made too rich. The manure applied must have well composted and rotted. It should be kept near the surface of the roots of the onions. Do not strike down deep into the soil, but gathers its food from the entire surface by its wide-spreading fibrous roots. A soil rather light is most suitable for the onion crop, but other soil can, by good tillage, be made to bear good crops.]

Manure for a Turnip Crop.

Please inform me through the *ADVOCATE* what is the best manure for turnip crop and cabbage.

Brownsburg, P. Q.

A. McG.

[The best manure for a turnip crop is well-prepared farm-yard manure. Some prefer ploughing it into the soil, others applying in the drill just before the sowing. In addition to the farm-yard manure, we would give a light application of some stimulant, such as guano, to force quick germination of the seed, and hastening the growth of the young plant to escape the ravages of the fly.]

Garden, Orchard and Forest.

Washes for Fruit Trees.

The orchard can no longer be considered, in Canada, as a mere adjunct to the farm, demanding little care from the farmer and returning little or no profit. Canada has shown her capabilities for raising all fruits grown in the temperate zones equal to any other part of North America. Everything pertaining to fruit culture is worthy the greatest attention from all who are occupied in the cultivation of our soil. Fruit growers have many enemies to contend with, and not the least troublesome are blight and insects. From the *Western Farm Journal* we select an article on "Washes for Fruit Trees" that is at least worthy of trial:—

Insects and mildews injurious to the leaves of fruit tree seedlings and root grafts can be kept in subjection, or destroyed by a free use of the following combination of lime and sulphur:—Take of quick or unslaked lime four parts, and of common flour of sulphur one part; break up the lime in small pieces, then mix the sulphur with it in an iron vessel; pour on them enough boiling water to slake the lime to a powder; cover the vessel close as soon as the water is poured on. This makes a most excellent whitewash for orchard trees, and is very useful as a preventative of blight on pear trees, to cover the wounds in the form of a paste when cutting away diseased parts, also for coating the trees in early spring.

It may be considered as a specific for many noxious insects and mildew in the orchard and nursery; its materials should always be ready at hand; it should be used quite fresh, since it soon loses its potency. This preparation should be sprinkled over the young plant as soon or before any trouble from aphides, thrips or mildew occurs, early in the morning while the dew is on the trees. This lime and sulphur combination is destructive to these nests in this way by giving off gaseous, sulphurous compounds which are deadly poison to minute life, both animal and fungoid; while the lime destroys by contract the same things, and its presence is obnoxious to them. In moderate quantities it is not injurious to common vegetable life.

Another recipe for a wash for orchard trees is to put one-half bushel of lime and four pounds of powdered sulphur into a tight barrel, slaking the lime with hot water, the mouth of the barrel being covered with a cloth; this is reduced to the consistency of ordinary whitewash, and one-half ounce of carbolic acid is added to each gallon of liquid at the time of application. Apply to the trunk; it will not hurt the branches or foliage if applied to them also.

An experienced fruit grower recommends the use of the following simple method:—He takes lye from wood ashes or common potash, mixes a little grease with it, heats quite warm, and with a little syringe throws it up into all parts of the trees, branches and trunk. It will effectually kill all kinds of caterpillars and worms that are infesting the trees or running over the bark. Trees treated in this manner are exceedingly healthy and vigorous in appearance, possessing a smooth glossy bark.

Seasonable Hints.

It is too soon for window plants to get into trouble yet. They generally look well till after New Year, after being brought in during October. But soon over-watering, or under watering, or the effects of minute insects, or waste gas from the burners, or sulphurous gas from the heaters or stoves will begin to tell, and there will be trouble. As these are about all the difficulties in window-plant culture, one soon learns to avoid them, and, indeed, nothing but a real love of window-plant will enable any one to learn. It is what the best of magazines, with the smartest of editors, cannot teach. It is a good season to watch for coming troubles. As soon as the slightest thing seems wrong, search at once for the cause of the trouble. They are often but small, and easily remedied at the outset.

The Camellia is very apt to drop its buds if the atmosphere is too dry; but generally dropping follows any check to the roots by which the regular flow of moisture to the bud is stopped. This may be either too little or too much water; if too little, of course there is not enough moisture; if too

much, the fibres are liable to have their points injured, and thus are unable to draw moisture to the bud. Usually, the last bad results follow from over potting. With a large mass of soil, water is apt to not pass readily away, when the soil "sours," as it is termed. A pot full of roots will seldom drop the Camellia buds for any other cause than too little water.

A great enemy of the Camellia is the Red Spider. The leaves indicate its presence generally by a brown tinge, which the pocket lens, which every gardener of course carries, readily detects. All plants are more or less liable to these insects. The best way to keep them down is by a free use of the syringe in fine days, using water in which some sulphur has been strewn. Tobacco smoke is still the best cure for aphids. Scale is a very troublesome pest; water heated to 130° is still the best. This injures very tender leaves, but the scale is rarely on such, it usually keeps to the branches or in thick leathery leaves.

Tree Carnations,—these are now indispensable winter flowering plants, and want a very light place to do well. They do not generally care about very large pots—about five or six inches—but they are very much benefited by rich manure water.

The Cala Lily is now extremely popular. This also loves light. It must have a good supply of water, and good soil to flower well.

Fruit Trees.

When fruit trees are grown among vegetable or farm crops, they will generally take care of themselves, and seize on some of the food intended for the crops; where nothing else but trees are grown they should be top-dressed occasionally. It pays to feed orchards as well as other things. The season of leisure is a good one to do it in. The best kind of manure for the purpose is that which can be had the easiest. Where no crop whatever is taken off, coal ashes are good. It is said there is no fertilizing material in coal ashes, but somehow trees grow wonderfully when top-dressed with them.

Young growing trees are very much benefited by having their bark slit by running the knife up and down freely, they must not be cut cross-wise or horizontal; also they are much benefited by having their trunk and main branches washed with whitewash, sulphur and soot. These are "old fogy notions," but try them and blame us if they prove wrong. Where branches have grown too thick cut out the surplus ones. If this happens to be a large branch paint the scar to keep it from rotting till the wound heals over. If the trees are large, and the old bearing wood seems weak, cut some of it away and encourage young vigorous branches from the interior to take their place. If you have a large orchard of plum trees it may pay to keep a person in early summer jarring the trees. If you have but a few trees it is better to invest fifty cents in mosquito netting to cover each tree with, and you may now keep this in view in pruning time, and cut your tree so as to best suit your netting. Look after the labels. Much of the interest in an amateur's orchard is in knowing the names. After years of observation and experiment we have found no fancy labelling so good as a good piece of pine wood about six inches long, one inch wide and the eighth of an inch thick, the name written when fresh painted with white lead, and a piece of very thick copper wire ran through the end. It should be hung around the trunk over a fork, and with a loop many inches round, so as to give room for many years' increase in the diameter of the stem. On this the names may be written so large that he who runs may read; and if well done such a label will remain good for ten years at least.

The Value of Forest Trees.

"F. R. E.," in a letter to the *Prairie Farmer*, tells his method of growing chestnut trees, and the value of chestnut and other woods for the inside finishing of houses:

Permit me to say that when land can be had at a reasonable price, it is best to plant the nut where the tree is to grow and remain. I would plant 4x5 feet, putting in two nuts at a place. If both grow, transplant one the spring after its first season's growth. Cultivate with harrow or shallow cultivator three years, then leave nature to care for herself. In this, the growing of the chestnut, one very valuable item seems to have been lost sight of, viz., the value of chestnut wood as lumber, when the trees have made size, so that boards 16 to 18 inches wide can be had from them. My ex-

perience in studying woods for inside finishing of houses, where no paint is to be used, has shown me that no wood when worked down smooth, oiled and varnished, brings out a grain more beautiful than the chestnut. The butternut is another good one. In designing woods for rooms in earlier days I gave the oak for the dining room and butternut for the panels and mouldings for the parlors; hickory for the hall, and varieties of ash for the chambers; chestnut for the kitchen. I did this but once, for my kitchen was the handsomest room in the house. Since that time, if I want a showy finish of wood, beautifully grained, I take chestnut. For doors I sometimes use either butternut or black walnut, or oak, for the main frames, putting in panels and mouldings of chestnut.

The Oyster Plant or Salsify.

Oysters are cheap enough and abundant enough in all conscience; and there is little need of us who live in the great oyster centres of trade talking about a substitute. Still there are some who do not like oysters, and vegetarians who won't eat oysters, and once in a while some one who cannot get oysters, and to all these the salsify or oyster plant is a great blessing. There are, however, very few who can grow it well, and it is by no means uncommon to hear people say that their attempts to grow it have been time and money thrown away.

So far as our experience goes, it is no use to try to grow salsify on high, dry ground. What are called early gardens are not spots to try to grow this vegetable. It must have cool ground; and then we think it likes a heavy rich ground rather than a light one. The Jerseymen bring it to market sometimes in tolerably good condition, and we are apt to associate every Jersey crop with a rich damp sand. However this may be, we have no doubt that in the ordinary garden soils a heavy one is much better for salsify than a light one.

And then it must be sown very early. It takes time to grow to a good size, and needs the whole season to do it in. It is not at all a tender plant. A little frost is laughed at; and so no one need fear to sow it as early as it can be got in, for fear cold weather may follow the sowing.—*Germantown Telegraph*.

Room for Apple Trees.

BY E. IN OHIO FARMER.

One very important thing which all trees and plants absolutely need, yet which only a very small proportion of them ever get, is sufficient room. It is strange that there is such a universal practice of crowding. In nine cases out of ten a man who is to set a dozen trees will not give room for more than eight. Many men who are first-rate farmers in other respects err in this direction. They may have fifty acres of land upon which there are no trees, but this does not keep them from setting them too thickly on the land which they devote to the orchard. These same men can see that if corn is planted too thickly it will not do well, and that all farm crops need sufficient room in order to thrive. But when they come to plant trees, which need light, air and room, more than anything else which is grown on a farm, they crowd them too near together.

And the evil seems as great and frequent to-day as it was twenty years ago. Then there was some excuse for it; planting trees was comparatively a new business on the farm, and the few which had been put out had not grown enough to make the evils of close planting evident. But now the experience of many years throws a light upon the methods of planting which was then unknown. Men of the present day have often seen the evils of close planting and ought to avoid them. But each farmer seems determined to learn for himself and pay a needless tuition in the school of experience. The trees are all quite small when they are set, and sufficient allowance is not made for their rapid growth. When taken from the nursery, it seems as if twenty feet apart would give plenty of room. Some farmers, who think to be on the safe side, give twenty-five feet, and very few allow thirty or thirty-five. For a while twenty feet answers well enough, but in a few years it is evident that the trees are too near together, and that they will all be injured by excessive crowding. In some cases farmers have cut out every other tree, and thus left a good orchard with the trees far enough apart. But this is an expensive operation, and involves a great waste. It is much better to take plenty of room at first.

For the ordinary varieties at least thirty-five feet between the trees should be allowed, and for the larger kinds forty feet would be still better. If it is objected that this makes an orchard look too bare and naked, it may be replied that permanent benefit is more to be desired than merely temporal good, and that it is better to sacrifice a little in the appearance of an orchard now than it is to make it look well in the present and impair its future value. Besides, if the appearance seems to be of vital importance, all possible benefits in this direction can be secured, with no permanent injury to the orchard, by setting the trees thirty-five or forty feet apart and planting dwarf pear or peach trees between. The standard trees would not be injured, and the orchard would certainly look better for this addition. The dwarfs would come to maturity, produce their fruit, and pass away before the trees which were to remain would have attained their full size; but the temporary trees would have answered their purpose and also have produced a liberal quantity of fruit.

It seems as if this plan (which is very far from being a new one, and for which the writer makes no claim of originality,) was worthy of a trial by all who are about setting trees, and who are sure that they shall not be satisfied with the appearance of the orchard if they are put a proper distance apart.

Pea-Vines as House Plants.

There are many common garden plants that are beginning to be utilized for house cultivation and for the decoration of rooms in winter. The *Revue Horticole* notices the common white Canadian peas as having been used with good effect as winter decorative plants in France. The method of growing them is exceedingly simple, and is described as follows:—

"Plant the peas in a pot filled with garden soil and sand. Water them and place the pot in a closet, cellar, or any dark place where the temperature is mild and even. Under the influence of the darkness, moisture and heat the seed will quickly germinate and will produce an abundance of half-blanching leaves. When the plants are high they may be brought into the light and placed wherever wished. Their white tufts have a charming effect among other plants. If well watered they will remain ornamental for six weeks or more, but as soon as they become green and coarse they should be thrown away. A succession is easily kept up by planting at intervals of three or four weeks, and treated as before directed.

Forestry.

It has seemed to be the great aim of our forefathers to clear all the land they could, whether available for farming purposes or not; cutting off steep hill-sides in exposed situations, worth much more for wood than grain and pasture, to say nothing of the protection the trees on them would give to other fields that might be sheltered by them from the wintry blasts.

It has been found that in those countries where the cutting of the timber has been left to the interest and caprice of the individual owning it, the destruction of the forest has been followed by such climatic changes that in many cases the country has become barren and uninhabitable.

To avert this catastrophe a number of the governments of European states have established Bureaus of Forestry, and prohibit the cutting of trees except under their direction.

Central Asia, once the garden of the world, dotted with green forests, produced sustenance for its people, but since the destruction of its forests much of the continent has become a pathless and almost lifeless waste.—*The Husbandman.*

Something About Apples.

Over 900 varieties of apples are found in the gardens of the Horticultural Society, London, and over 1,500 varieties have been tested there. Most of the improved varieties are either the result of accident or of accidental crossing.

It is generally considered that apples grown on the fertile lands of the West, though large and fair, Colorado not excepted, with its phenomenal capacity to produce the fruit in nearly all its varieties, are yet inferior in flavor to those grown on the strong, gravelly and sandy loams of this section. Hence the preference given to the Michigan, New York, Massachusetts and Maine fruit, while the apples grown in the British Provinces of which thousands of barrels are sent to Boston and

New York every year, are, in some respects, the best sold in the Eastern markets. In this connection, and we have the testimony of Col. Wilder, it is a remarkable fact that where cultivation and protection from insects have been regarded, as in our gardens, that the apple is as fine now as it was in its pristine days, going back even as far as the days of the Garden of Eden. It is also a significant fact that the apples originating in New England—for instance, the Baldwin, Rhode Island, Greening, Connecticut and Roxbury russets—are still the great favorites for market, and that from Western New York annually there are sent more than 1,000,000 barrels a year.—*American Cultivator.*

Fruits and Vegetables in Tidewater Virginia.

At the quarterly meeting of the Norfolk Horticultural and Pomological Society, held October 25, President Leighton delivered an address, from which we take the following extract:—

Another horticultural and pomological season has closed with us, leaving sad traces of the business depression throughout the sections that receive our products. While most of our fruits have fallen very far short of a full crop, the long-continued inactivity of labor North has reduced sales to unremunerative prices.

Tidewater Virginia maintains her reputation for fine pears. * * * I will name a few varieties of pears in their order that seem peculiarly adapted to this section: Duchesse d'Angouleme, Seckel, Bartlett, Howell, Beurre d'Anjou, Sheldon, Urbaniste, to which only a few other varieties may be added, excepting for family use.

While our cotton receipts are correctly reported and destination of shipments named, the towering interest of this section has passed year after year unrecognized in our statistical reports, and as this is the proper body to act in this matter, I urge your attention to it.

The gentlemanly agents of our transportation lines cheerfully furnished accurate data of the strawberry crop of this section the past season, which took our friends abroad quite by surprise, it exceeding three million quarts.

An accurate statement of our vegetable products would equally astonish them. The last statistics were in 1868 (and that was regarded as susceptible of many allowances on account of approximations instead of definite data) in which the article of kale did not enter—it being then unknown to us as a market vegetable, but now shipped by thousands of barrels.

It is desirable to ascertain what new varieties are succeeding and what old ones are being dropped for the general market, and in this connection I would recommend the appointment of a committee to report at the next meeting upon the relative value of any new articles as compared with the old, tested in our section.

Reports from our own and other States point to increased ravages of the pear blight the past season. Although rather late for the suggestion, some of the poisonous sap may yet be checked in its return to the roots by the removal of the blighted parts and the application of carbolate of lime as a wash where amputations are performed. This disease is a lurking mystery, baffling scrutiny and common-sense conclusions—the unsolved problem in pear culture. If the descending sap through the bark—which adds what we usually call a grain or what is the increase of a year's growth of the diameter of a tree—is poisonous, its descent to the roots is not neutralized by the earth, and in its ascension in the spring, through the woody portion of the tree, may perpetuate the disease. This is my observation of the orchards of others.

HANGING BASKETS.—A great many suppose a hanging basket is merely a small round receptacle of some kind filled with a few common climbing and drooping plants. These may be made quite pretty, but the finest style of hanging basket or garden is made about as long as the window is wide, and about a foot in width, to be suspended so as to be above the bottom sash. Any rough box of the above dimensions, made of half-inch boards, about five inches deep, and covered with pieces of birch bark nicely tacked on the outside, makes a very tasty and pretty appearance when filled with plants. The soil need not be very rich, as a rank growth is not desirable, for the plants would soon outgrow their proper space. Soil composed of rotten sods, leaf-mold and a liberal dressing of sand, is the best.

LOCALITY FOR ORCHARDS.—The *Gardener's Monthly* says:—In almost all cases it is the universal experience that orchards are certain to do well where the spot chosen is somewhat higher than the surrounding land. Often enough the fruit will be killed by the spring frost, when those on clay land fifty feet higher will escape. The cold air always sinks, and if there is any low spot for it to sink in, the higher of course escapes. Often trees on river banks escape when others are injured, and people say it is the contiguity to water, when it is really the elevation—the cooler air being drawn to the river bed.

LINSEED OIL ON PEAR TREES.—A. C. L. Madison writes:—"I recently killed two fine pear trees with an application of linseed oil." The Editor of the *Gardener's Monthly* replies:—As we know of many trees that have been benefited instead of injured, it is an interesting question—Why these varied results? We have made, therefore, special inquiry into the oil question of one in the secrets thereof, and we find that there are three kinds of linseed oil in the market—one the pure extract of flax-seed, the other half petroleum, and the third our informant could not tell what. But the petroleum explains. Such oil as that certainly explains.

THE TRUMPET LILY.—This is the name by which the plant known in England as the Trumpet Lily is generally known with us, as it was in former times regarded as a true Calla.

ROSES FROM CUTTINGS.—A few years ago I was persuaded to strike some roses from cuttings. I did so, and was very successful, and I have been following the same plan every year since without failure. Early in October I procured some good cuttings, cut them with a sharp knife, let them dry slightly at the ends, and planted them firmly in a bed of common sod, mixed with a little old lime rubbish. The result has been that eight out of ten cuttings have rooted. I have struck nearly all sorts.—*Cor. London Journal of Horticulture.*

Of all remedies and checks for the Colorado Beetle, we are inclined to put most reliance on the sparrow and the crow. And if the present panic only results in farmers learning the value of the insect-eating birds, it will have done excellent service.—*Cottage and Artisan.*

A Chicago writer says:—The prospect that shipments for Liverpool can be made without breaking bulk, except at Halifax via the Grand Trunk and Intercolonial, has caused some excitement among our forwarding circles. There is no limit to the trade that can be done by the Northern route, if its interests are properly handled and the inducements are offered which seem fairly within the possibilities of the situation.

Growth of the Pecan-Nut Hickory.

Our experience in Pennsylvania with the Pecan-Nut Hickory led us to believe that this would be one of the most rapid growing and profitable timber trees to plant, and that it would be well worth the attention of planters. For the nuts it would be worthless north of the Potomac in the Atlantic States, but for timber it would no doubt do well even in New England. The following from a Mr. Harrison, a correspondent of the *Prairie Farmer*, confirms this view:—

"The Cottonwood was hardy and of rapid growth, but worthless as a timber tree and very inferior as fuel. The Locust would sprout from the root so as to become a nuisance, and the borers ruined the grooves. The Gray Willow did not realize the anticipation formed of it even as a fencing material. The Soft Maple was valuable for windbreaks and for fuel, but was not a timber tree. At this time I thought of the Pecan (*Carya oliviformis*), a species of Hickory, a native of the Illinois and Mississippi valleys. I satisfied myself by experiment and investigation of its value as a timber tree—wagon and carriage makers, wherever they had used it, testifying to its value, being equal to the best of White Ash for all purposes of buggy or carriage manufacture, possessing equal durability and greater strength and elasticity. At various points on the Mississippi River steamboat carpenters who have used it find it valuable timber in boat building. As a fuel it has no superior. But would it grow and thrive if planted on our prairies.

To test this, in the fall of 1870 I dug up in the bottom land along the Illinois river a dozen or two young trees, heeled them in my garden for the winter, and in the spring removed them to my farm on the prairie. The summer of 1872 was hot

and dry; but all the trees grew and did finely. Next year I increased my planting, and thus far have three different settings of trees. I find it as easily transplanted as any tree I have ever handled, having never lost a tree of vigorous growth, clean and healthy. By my advice several of my friends have procured and planted this tree, and I have five hundred more which I intend to plant the coming spring. The Pecan tree ordinarily commences bearing about eight years of age. It bears one of the finest nuts which sold in the Cincinnati market for the past six years, at an average price of \$5.00 per bushel. A gentleman in the southern part of the State, who has a Pecan orchard, partly natural, which he has increased by further planting, says it is of more value to him yearly than his apple orchard. The Pecan tree is grown readily from the nut, if it is not allowed to become dry before planting.—*The Gardeners Monthly.*

Geraniums.

Last November I pulled from the earth a large scarlet Geranium, together with my double one, tied strings around them and hung them in the cellar, which, by the way, is a very dry one. In March I took them, leafless, to all appearance dead, put them in some common earth and kept them moist; they soon showed life and came out very well. Transferred them to tubs for growing flowers in my grounds, I think the last of May; they began to bloom immediately, and have had a profusion of flowers even since, and a bushel basket would not cover one of them. I think there is nothing better for them than hen manure and plaster. If the cellar is very damp, put the geraniums in boxes of sand through the winter. Some questions were asked about the amaryllis. One year ago last fall a friend sent me one not looking very nice; I put it in the cellar and said, go to sleep till I call for you. In March, as usual, I brought it out, not looking very well I assure you, but I watered it up and it soon bloomed; then I let it rest a while, merely keeping life in it, then again watering well, and it bloomed again. It has now its third bloom, one stalk of six beautiful flowers.—*F. C. Y., in Floral Cabinet.*

FOR THE WINDOW.—It is an error to suppose that smilax cannot be easily cultivated. It needs but little pot-room for soil, and clings to any slight support in the form of wire, trellis or twine. Ivy, in any well-lighted room, will keep green all winter and grow rapidly without window exposures. A picture hanging above the mantel can be wreathed with it; the pots holding the soil on either side being hidden from view by placing behind the picture or by setting inside vases. The best house-plants for ladies who have time and room for only a few varieties are, I think, the old-fashioned geranium, calla lily, heliotrope, a variety or two of exalis, some mottled petunias and ivy, smilax or other climbing plants. To make winter plants a success, slips ought to be cut off the large ones and stored during the summer months. I find cleanliness necessary to the health of potted plants. They should be frequently dipped in tepid water (not warm) and gently moved back and forth until the leaves appear free from dust. Rain-water is best for watering plants, which, by the way, seldom need watering, as many persons think, every day. Flowers should be cut, not broken, from the stem. A few pieces of charcoal dropped in the water assists in a longer preservation of cut flowers, ferns, etc., and prevents any bad odors.

CHRISTMAS BERRIES.—In the absence of the old-time holly berries a hint for a cheap substitute may be useful. Most of our older florists recollect the Jerusalem Cherry, a plant producing an abundance of brilliant scarlet berries in the Autumn, which mostly remained on during winter. There are now some exceedingly pretty improved forms of this, known as Wetherill's Hybrid Solanums, that make a compact round-headed dwarf bush 12 or 13 inches in height, and which all winter long are covered with their attractive orange-scarlet berries. This plant is of the very easiest cultivation. All that is necessary is to sow the seed at once and place the pot or box in a sunny window; when about an inch high brick the seedlings out into little pots and let them remain until warm weather allows us to plant in the open ground, when they may be set in a warm sunny situation for the summer. In the Autumn they will be a mass of green berries, which soon change to their bright tint after removing to the house, and, my word for it, few of the flowering plants will attract more

attention than this, in addition to its value for cutting for decoration purpose in conjunction with wreaths of laurel and ivy. Another very valuable old plant for the same purpose, although not quite so readily grown, is the pretty green-house specimen, *Ardisia crenulata*. This is fond of heat and moisture, and if red spider and other insects be kept off it, nothing will be much handsomer during the dreary winter months.

THE SANITARY USE OF TREES.—A correspondent of the *American Architect* calls attention to a phenomenon which he has observed in the outflow of waste from his own house. He has a close-built brick cess-pool eight feet in diameter and eight deep, with an overflow thence for liquids in a percolating stone cess-pool ten feet by ten feet; both are domed over at the top, closed each with a flat stone and covered with soil. Unlike his neighbors, whose cess-pools are constructed in the same manner and in the same kind of soil, but who are subjected to the necessity of cleaning out both cess-pools at frequent intervals, his own have been in use for four years without being opened, and have given him no inconvenience. A few months ago a deep excavation in the street near his percolating or overflow cess-pool revealed the fact that the moisture from it was all absorbed by the roots of three large and very flourishing trees, a tulip and two maples, in its immediate neighborhood. "There could be no accumulation of water," he says, "where there were such channels to draw it up." This certainly is an important point to be considered in locating the area of absorption for household waste. We do not remember to have seen elsewhere noticed this very probable sanitary function of trees; but if the theory is correct, it goes far to solve the most serious difficulty in the problem of drainage without common sewers.

The birth of a new potato is thus related by the Rochester Union: "David S. Almstead, Superintendent of Mount Hope Reservoir, last summer planted a row of peach-blows, and on each side of it a row of early-rose, but when he dug the middle row he found neither peach-blow nor early-rose, but an apparent cross between them. The product was a potato resembling the early rose in shape, but of the peach-blow color, with pink eyes. The yield was far better than either rose or peach-blows, and the quality was excellent. They were planted in sandy soil."

The Stratford Beacon says:—An idea of the proportions to which the dairy interest in Ontario has grown, may be formed from the fact that during the past ten days, Mr. Thomas Ballantyne, M. P. P. has paid out for cheese over \$120,000. The cheese was mostly the product of the district of which Stratford is the centre.

The Apiary.

Granulated Honey.

The *American Bee Journal* gives a full report of the meeting of the National Beekeepers' Association. From the addresses delivered we take a brief extract on granulated honey:—

Mr. Shearer, in "Facts for the Public," said:—To consumers of honey a few facts are necessary in this article to preserve them from imposition. Nice white comb speaks for itself, and is generally admired, but the price many lovers of honey cannot afford. It makes a beautiful dish for the table, but is no better than extracted honey. All comb is wax, and wax in the stomach is perfectly indigestible. Extracted honey is the pure liquid honey as it is taken from the comb by the honey slinger, free from any foreign admixture. It is entirely different from what is known in the market as strained honey. Consumers help to impose upon themselves by the false idea that pure honey will not granulate. They desire ungranulated honey, and dealers will attempt to supply the demand. Almost all pure honey will granulate when exposed for some time to light and cold. The granulated state is a fine evidence of pure honey. Much of the jar honey heretofore sold in the market, and recommended not to granulate, is an inferior article, composed largely of glueous or some inferior substance. Granulated honey can be reduced to its liquid state in a few moments by placing the jar in warm water. When thus liquefied it so remains for some time before again crystallizing. Consumers may be sure of a good whole-some article by purchasing granulated honey and reducing it.

Canadian Agricultural Notes.

Nova Scotia.

The annual meeting of the Annapolis Royal Agricultural Society was held Dec. 4th. From the addresses delivered on the occasion we take some useful extracts:—

Mr. Bancroft said—Merchants are sending off money every day for breadstuffs and other goods; the farmers must set this off by drawing money from abroad to meet these outlays. The staples of this locality seem to be fruit and beef. Large exportations had been made of Canadian beef to England, and we ought to take advantage of it. In the raising of at least beef and fruit, the capitalists of this place may compare favorably with any country in the world.

Mr. D Harris—In every case where farmers had prospered, it would be found that their wives had "rowed their side of the boat." We ought to raise more goods of home manufacture than we do. In order to come at that desired result, there should be more attention paid to the cultivation of flax. True, it required a good deal of work and attention, but it would amply repay any one who engaged in it. We have abundance of territory that might very profitably be devoted to sheep-raising. If we went into that business more thoroughly we might soon have manufacturing establishments erected that would provide work for thousands of our people who are now half idle. Our fruit compares favorably with the exhibits he had seen at the Centennial. It is a fact that fruit raised in these northern latitudes is better in the two great qualities of flavor and durability than that of tropical climates. In size too our apples bear no mean comparison with those shown at Philadelphia.

W. N. Ray, M.P.—A mixed husbandry is what a country like this requires. Farmers should not be depending upon one or two staples. If we depend upon one or two articles of produce, a failure in these will prove most disastrous.

Eliakim Tupper—If the farmers in Nova Scotia would take the same pains in raising winter wheat that they do in Ontario, they would raise more bushels to the acre than can be raised elsewhere in Canada. There are four conditions necessary to success: 1, a soil in which water does not lie; 2, a good, rich soil; 3, to seed early, say in August; 4, the seed put in three inches deep. If the raising of sheep were carried on more extensively, there would soon be material enough to induce the establishment of manufactories. We would thus have another source of wealth and prosperity opened up to the people of the province.

Quebec.

That this province, though the oldest in Canada, has yet many inducements for settlers we have the proof of every day's observation and experience. The *Sherbrooke News*, in a report of an inspection trip on the Quebec Central R. R., says that "this railway is now unanimously regarded as a most effective agent in opening up to the settler a large tract of country hitherto waste and undeveloped. The road from Marleton to Meadow Lake is through a new settled country. Two years ago it had scarcely an inhabitant; now most of the land is either occupied or taken up by intending settlers. There is along this portion of the line a dense growth of spruce, balsam, tamarack, yellow and black birch and hemlock, which will find a larger market on the completion of the railway." That the Quebec R. R. will be of immense benefit to the section of country through which it runs admits of no doubt. New enterprises will follow its construction, new developments of resources now wholly barren will succeed, and new settlers will take the land now waste and barren.

Ontario.

MANITOULIN.—In a letter to the *Witness*, "A. W." tells from his own experience, how a home was made in the Manitoulin Island. From his letter we glean the following items:—

"This time last year a man named Wilson took some large potatoes to Manitowaning, which weighed four pounds each. I bought some from Indians last spring that were very large. Three of us took a potato a-piece and sat upon it, using it as a stool. They are common Indian potatoes. A friend of mine bought some Early Rose potatoes

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up there; they were also very large, although the party he bought them of had sorted them previously, picking out the largest to boil for the table. We cut them for seed, and we cut twenty-five sets from one potato.

"It is a grand place to grow crops, especially in the bush. If any one wants to get a home, there are thousands of acres of burnt land, and thousands of acres of bush, not taken up yet, quite close to neighbors, where any one that will work at all can make a living easily without much delay. It is said that the best of the land is unsurveyed, but that is far from the thickly-settled district. The price of these lands is 50c. per acre, 20c. down, the balance in three years.

"I know one party who had twenty acres of fine bush cut down (chopped), and after that he let an acquaintance have ten acres for three years for logging and clearing it. He had the finest crops off it I ever saw. Such wheat and barley! the wheat stooled out twenty stalks to one grain of seed, one bushel of seed being sufficient for one acre. He had the finest potatoes I ever saw, and onions in splendid condition. This man came on the land with his wife, two sons and one daughter, in very poor circumstances. Now he has enough to keep his family all next winter. He has taken up 200 acres of bush close by. His sons worked out last spring and sent the old folks money.

"It is not very hard to get hold of land, but it is hard to work it and live while the crop grows. Why does not the Government endeavor to do something for the thousands of young men and old men, who are willing and anxious to work? * * * Now, if the Government of Canada were to send a few thousand deserving men into the bush, giving them each a farm, taking them on it, advancing rations, seed, and the few tools—to be paid for in a few years' time—what a lot of people would jump at that offer, and what a lot of land could be cleared up without costing the country a dollar in the long run!"

Poultry Yard.

A Feed of Raw Onions

Chopped up fresh once a week, in cold weather, is a very good change for "green feed" to fowl-stock, after they are housed for the winter, and field foraging is no longer available for the season. This vegetable is eagerly eaten by poultry, young or old, if not too lavishly fed to them, or given too often. It helps to keep vermin off their bodies, too, as the garlic works outwardly, through the skin pores, as well as inwardly upon the digestive functions.

Raw vegetables, chopped fine—such as cabbage, turnips, ruta-bagas and carrots, will all be eaten with avidity by fowls in cold weather, if fed to them with discretion, and not too frequently. And some of these are a desideratum to our poultry stock, during the months when they cannot have access to the fields or orchards, for grass, etc.

Fowls Drink Water Freely,

But they know just how much they need, and when they have access to the fluid, clean, sweet and fresh, they imbibe no more than is good for them. It is, therefore, unnecessary to mix your dough too thin, and sloppy, at the morning feeding.

Have the meal well scalded, and feed the mixture to the stock stiff and dry, comparatively. This feed should, generally, be composed of both corn meal, with vegetables—say one-third each. In our own practice we have found this preferable, both for the birds and as an economical provision, for the old or the growing stock. A little pepper occasionally in this dough and always salt, will improve the mess.

Food for Laying Hens.

We have frequently given our views, and the results of our experience, in the matter of properly feeding laying hens, through the columns of *The Poultry World*. But an old patron inquires about this process latterly, and we again apply to "J. L.," of Germantown, Penn., for his benefit, and for those who may have forgotten what we have heretofore written on this topic.

The appropriate way to feed layers to profit, is, give them a good variety of egg-producing nourishment. Corn-feeding, merely, is but poor stuff for this purpose. It is too heating, too drying to blood and tissue, too fattening—as a rule.

In the season when hens are laying (or when they are about to commence to lay), we have found that oats, wheat, cracked corn, barley, and dry chandlers' scraps—in about five equal parts, are decidedly the best kinds of provender to supply them with, in confinement, for two of the three daily meals. But this system must be varied, or they will eat the wheat and scraps to repletion, and give the oats and barley the go-by. At night, give them whole corn and wheat.

Feed every other day with the above supplies, and three times a week furnish them with chopped vegetables in meal, with granulated bones, instead of scraps, or chopped (cooked) coarse meat.

In the morning, regularly in cold weather, supply the warm mash of scalded corn and rye meal. Let them have plenty of clean, dry gravel, lime and pulverized oyster shells always at hand.—*Poultry World*.

Last year the value of the eggs imported into England, says the *Pall Mall Gazette*, was £2,610, 231, but even this large importation failed to satisfy our requirements, and the high price of eggs in the market at the present time shows that we could buy more and eat more if we could only get them. It seems probable that substantial help in this as in others matters relating to food supply will come from the other side of the Atlantic. Canada is establishing an egg trade with us which promises to assume important dimensions. Last week one steamer alone brought to Liverpool from Canada 280 barrels of eggs, and there is every prospect of a continuous stream of eggs setting in from that country.

Correspondence—Continued.

Top Dressing Wheat Crop.

SIR,—I would like to know the best kind of artificial manure for top dressing wheat on sandy soil. W. M.

Almonte P. O., Ont.

[Had you farm-yard manure, it would be second to no artificial manure for top dressing, where there is not a want in the soil of some one element necessary for successful wheat-growing. But your enquiry is for artificial manure. A dressing of ashes and plaster, sown early in the spring on light sandy soil, produces generally an excellent effect. A top dressing of superphosphate, 200 pounds to the acre, has been used with very good results. Some add to the superphosphate, nitrate of soda, 150 pounds. It has been known both in England and the States to pay well, greatly increasing the yield. Even superphosphate by itself is quite as superior as superphosphates.]

The History of the Redfern Wheat.

"HONOR TO WHOM HONOR IS DUE."

SIR,—Ten years ago a young farmer of the Township of Pitsbury, named Edwin Redfern, procured four bushels of Fife wheat from his neighbor, Henry Reese, which had been obtained as a change of seed, from Montreal. Seed time was followed by harvest, according to the promise. Not possessing a reaper, our friend went to work with the cradle, and was in the act of swinging it for a blow when he paused, for his quick eye observed within reach of the cradle, a tall bearded plant of wheat, towering above the rest. This was the Redfern wheat. Laying down his cradle he plucked up the plant, which contained fourteen heads, all full to the top. Seeing that he had made a discovery, he showed them to his neighbors, thereby losing seven during the ensuing winter, so that he had only 180 grains to sow the next spring, and these were forgotten in that hurried season until after the planting was done, and they did not ripen, of course, with the rest of his grain. So his little crop of three sheaves were pulled up green, none too soon to save them from his cattle, who had eaten every green thing around where they grew, by the next morning. Bad years followed, in which many farmers had not a yield of over four fold, and in which the new wheat proved itself superior to the old. Its discoverer, with a generosity equal to his intelligence and quickness of perception, exchanged his wheat with brother farmers bushel for bushel, having first honorably and wisely proved its grinding qualities before recommending it to others. How favorably his conduct compares with those speculators who are endeavoring to perpetuate that fraud, the Eldorado wheat. While putting hundreds of dollars into the pockets of the farmers of Canada, he has not put any in his own. Nor has

he ever received any public acknowledgment of his services. If the man is called a public benefactor who makes two blades of grass grow where one grew before, then I think that Edwin Redfern is deserving of some heed of praise. What does the FARMERS' ADVOCATE say? G.

Hog Cholera.

SIR,—If you know any cure for hog cholera, let us know. Likewise, anything that will prevent them from taking the epidemic. What are your ideas of the Sulky Plow? Where are they manufactured, and what is the price of them?

Olinda, Ont.

ESSEX FARMER.

[Treatment—Administer quickly in first stage of the disease, before diarrhoea sets in, the following:—

Take of Epsom salts 2 to 4 oz.
Sulphur, 2 to 6 drams
Gentian, 1 to 2 drams
Warm ale, half a pint.

The action of the bowels should also be assisted by means of clysters. It is well to rub the body well with a flannel cloth. Be sure to have the styes well cleaned, and plenty of ventilation; in fact it is better to turn them out into a yard to roam about. Preventive treatment consists in cautious feeding, exercise and cleanliness, with a carefully-regulated admixture of vegetable food.]

RUDD & TENNENT,

Veterinary surgeons,
London.

To Implement Manufacturers.

We have enquiries for the self-acting binding reaping-machine from Malorytown and from Brant; for a Sulkey plow from Simcoe; for a manure and grain drill from Longwoods; for a hay loader from Prince Edward's Island.

REPLY TO APPLICANTS.—We are not sure if any of these implements are made in Canada. As soon as any are made here we wish to be able to furnish applicants with information about them. We will try to furnish information to each of you. The duty of 17½ per cent. prevents as many being used in Canada as would otherwise be. The first who makes these implements in Canada will benefit the country, as there will be a demand for some of them as soon as they are introduced.

Rats in Missouri.

A correspondent of the *Rural World* tells a sad tale of the doings of rats in that part of the world. Hear the lamentations of Granger, Mo.

I desire to attract steady attention from farmers, merchants and housekeepers to a little animal—a rodent—that is eating out their vitals, mostly when they are asleep. To estimate the maximum of the damage done yearly to the nation, or to counties and towns, or even to individual farmers, is an impossibility. It is the rat that I would call every person's attention to in these United States, if they wish to avert general ruin. Those little creatures multiply very rapidly, and are astonishingly sagacious, and no partial or isolated war made upon them will avail a fig's worth. It must be a general war; every one must be engaged in it, from the gulf to the great lakes, if we are to obtain a victory. The universal cry should be "Down with the rats!"

I know of three acres of corn, which would have produced about ten barrels or fifty bushels to the acre, entirely eaten up in September last by rats. I also know of a field of ten acres, good for eight barrels per acre, swept clean and clear of every ear by rats. But these items are mere bagatelles as to destruction, when compared with what is done to the different cereals in cribs, corn houses, &c., I have known of hundreds of pounds of the best bacon hams destroyed by rats. I have known of hundreds of young turkeys, goslings and chickens being eaten up by rats. My knowledge of rat damage, though I am 83 years old, is as nothing to the knowledge of hundreds of persons who are not privileged to keep house or marry on account of their minority. Shall we boast of our progress and freedom, and sit down to be governed and eaten by rats?

See advertisement—Little Rock and Fort Smith RR. Lands.

The Family Circle.

"Home, Sweet Home."

A Race for Life.

By the Author of "Danesbury House," "A Life Secret," &c.

CHAPTER I.

ROBERT LETELLIER.

It may not have been the reader's privilege to visit the department of the Isere, in the south-east of France. Not to have travelled as far as Paris would be something surprising in these days, but comparatively few have penetrated beyond the capital. The remotest parts of France are beautiful; the scenery is magnificent; nothing can be more enchanting to the eye than the views on the line of route from Lyons to Grenoble, coach-road; they are beyond what the imagination can conceive. I cannot say as much for the towns and villages; some of them are as wretched as the scenery amidst which they rise in fine; and the manners and customs of their inhabitants, taking them on the average, are at least a hundred years behind Paris in refinement.

I passed some months in these towns years ago; and I and the streets, and the streets' peculiarities, not the least remarkable of which were the smells, did not get on well together. Some streets were narrow; a long-armed man could touch the houses on either side; and, what with the contiguity of the houses and their excessive height, you had, in walking along, to throw your head completely back, and strain your eyes upwards if you wished to obtain a vista of the rich blue sky, darker and richer than it is with us. The narrowness of the streets was not all the grievance; a gutter, a yard wide, ran through the middle, the sides gently sloping down to it; and when a carriage came along, the horse splashing through its midst, and splashing you, you had to make a rush for the nearest open doorway, and obtain shelter till the carriage had passed; for, as there was but barely room, not an inch to spare, for its wheels to escape the houses, what was to become of you had you remained in its way? Foot-pavement was a thing unknown (had there been space to lay it on), and the sharp, rude stones hurt unaccustomed feet. Woe to you, also, if you were perambulating these streets at ten at night; you might venture earlier, or you might venture later, but if you were in them when the hour struck, you would hear the windows above open, stentorian lungs shout out "Sauve qui peut," and then woe to your head unsheltered from the deluge! These were some of the "customs," a stranger then had to encounter, very much to his astonishment; and I do not doubt that they prevail still.

One evening, the cathedral clock in the town of Grenoble struck six, and the cathedral bell immediately rang out for "Safut." Some stragglers, chiefly women, might be seen turning into the Place Notre Dame, where the cathedral is situated, in obedience to its call, but the congregation is not scanty at the ordinary evening services. One lady, dressed in black, stole in quietly, apparently noticing nothing. Her eyes were cast down, her air was abstracted, and it might be suspected that she was in some trouble. It was Madame Letellier. She drew off her right-hand glove, dipped her fingers in the *eau benite*, touched her forehead with it, and then, lifting a chair, carried it close to the altar, first paying her halfpenny for it. There she knelt upon it, her head bowed in her clasped hands; she never lifted her head; she never lifted her eyes: she appeared to be perfectly absorbed in grief or devotion, perhaps both. The very short service over, she turned to leave the church again; but ere she could pass out at the great doors, many friends surrounded her, one only question on their lips—How was her husband?

"Thank you," she answered, "he is no worse; indeed, the doctors consider there is a slight improvement this evening. I do all I can—pray; I cannot do more. I trust it may please God to hear me."

"That He will hear your prayer is certain; God is good," whispered a lady at her side, one who had a countenance marked with care; "whether He will see fit to answer in the manner you wish is another thing. His ways are not as our ways."

"When my dear mamma was ill, I prayed that she might live, but she did not," interposed a pretty girl, with tears in her eyes—Annette Carine; "therefore, as God took her, I know that it was best she should go."

Smiling sadly upon Annette, and curtseying several times ceremoniously low to the group in general, as is the custom with the French ladies, Madame Letellier withdrew from the church and passed on. She took her way in the direction of the Place Grenette, and entered one of the handsomest houses in the vicinity. It was the property of her husband, and they occupied the first floor, and retained exclusive right to the courtyard at the back and to the garden. Her son was in the saloon when she entered it—a gentlemanly young man, taller than the average run of his countrymen, and with a remarkably pleasant countenance.

"Robert, how is he now?"

"Much better," was the edifying answer; "he has actually been asking if he may not have something to eat."

"A deceitful improvement," murmured Madame Letellier.

"Now, mother, don't continue to worry yourself," laughed Robert, who could not associate the idea of danger with his father, hitherto in the enjoyment of robust health. "As if colds ever killed strong men!"

M. Letellier—he who was lying in bed ill—was one of the first glove manufacturers of Grenoble; glove manufacturing, you may be aware, being the staple trade of the place. He was deemed to be a rich man, and they lived in very good style and kept their carriage—not that it takes half the money to do these things there, and to maintain certain luxuries, that it does in England. We spend our money in pretension, in keeping up appearances, in trying to be finer than others; with the French pretension is rare. Two children were theirs: the daughter had married well, and lived in Lyons; the son, Robert, who had received a liberal and classical education, was with his father in the manufactory. M. Letellier had caught cold, and it had settled on his chest; the French doctors called it *fluxion de poitrine*; we should call it inflammation. It was violent, and attended with dangerous symptoms.

Madame Letellier went to his room and found him, to all appearance, much better, as her son had said; and at the stated time the household retired to rest. Before morning, however, they were aroused; M. Letellier was worse; and when the medical men arrived they said he had not many hours to live.

Standing over the bed, as the morning advanced, were his

wife and son. He appeared restless, casting his eyes to the door and anxious to say something, but power of speech had nearly left him. Suddenly he clutched his son's arm, and the latter bent down to catch the half-formed words that issued from his lips.

"The letters! Any letters? Where are they?"

Robert went to the manufactory and brought back three letters.

"Shall I unseal them for you, father?" he bent to whisper.

For answer, M. Letellier grasped the letters with an eager movement, as of fear, and thrust them under himself as he lay in bed. His wife turned to her son. "What is in them thus to agitate him?"

"Nay, I know nothing," replied young Letellier.

The doctors were not wrong; they seldom are when they pronounce that life is on the wing; and when the spirit of Robert Letellier the elder passed away, the attendants drew the letters from underneath his body. He had died in such peace as is given by the rites of his professed religion, having received absolution and the last sacraments of the church.

But whether death is busy or not, business may not be neglected; and Robert, in the midst of his grief, drew his mother's attention to the letters.

"Shall I open them, or will you?" he enquired. "Two, I see, are from England, and may contain pressing orders which must be made known in the manufactory."

Madame Letellier lifted her pale face from the arm of her cushioned chair. "You."

Robert opened the first that came to hand; it was, as he had surmised, an order for gloves from one of the London wholesale houses. He then opened the second; that was from another London house, but it conveyed no order, only an intimation that, from the pressure of misfortunes, they had been obliged to suspend payment. It was bad news; Robert knew that a heavy sum was owing by them to his father. He said nothing, judging that his mother had enough grief for the present moment, but quietly laid the letter atop of the other, and took up the third.

That was the letter that M. Letellier had been so anxious for in his last moments; its contents proved it—ominous contents, which seemed to stop the pulses of Robert as he gathered them in. M. Letellier, unknown to his wife and son, had been embarking in large speculations connected with the Bourse in Paris—one of those delusive schemes which (in prospective) are certain to make the fortune of all who engage in them, turning staid old merchants' heads with golden visions, but which, in their result, generally bring ruin. Nothing short of ruin, utter ruin, did this letter convey to the senses of young Robert Letellier. It appeared the crash had been expected for some days, and had now come; and its deluded supporters, not content with venturing their available money, had managed to render themselves liable for damages. Did the anticipated blow contribute to his father's sudden death? No wonder he had been anxious for letters, dying though he was; no wonder he had striven to hide them from the eyes of his wronged family. An exclamation of dismay, which, in the anguish of the moment, he was utterly unable to suppress, burst from Robert's lips; but he recollected himself, drowned its sound in the best way he could, and put the letters in his pocket.

Madame Letellier's ears were quick, for they were sharpened by an undefined dread. She turned round and looked at her son. "Who are the letters from?"

"Two are from London and one from Paris," was the answer. "Rather a large order from London."

"Go on, Robert; there is bad news behind."

"If there is, mother, this is not a day to impart it to you."

"A day of grief like this has never come to you or to me before, Robert; such a one can never come to me again. Whatever ill there may be behind, it cannot be worse than what has come. Let me know it. Does it concern Charlotte?"

"Oh, no; the news is not from Charlotte. One of the London houses has gone; it was owing us largely."

Madame Letellier paused a moment. "Was the failure expected by you in the manufactory?"

"Not in the least."

"Then it was not that fear which disturbed your father in dying. Terribly disturbed in his mind he has been for some days past; I have seen. There is a third letter, Robert."

"Mother, I cannot tell you the tidings that letter brings. Spare me; spare yourself to-day."

She held out her hand for the letter. "I will read them for myself; better I should know all at once. Give it me, I say; you have but one parent now, and you may not begin by being disobedient."

Most reluctantly he handed her the fatal letter; but, in the absorbing grief of her husband's loss, she appeared but little affected by its contents; and yet she no doubt fully took in the utter ruin that must come upon them. "Aujourd'hui roi, demain rien," she muttered, crushing the letter in her hands.

The French saying Madame Letellier had used, "To-day king, to-morrow nothing," was a not inapt illustration of their fortunes, past and to come. Three months after the death of its chief, the respected old house of Letellier had ceased to exist in the commercial world. It had not failed; it had not become bankrupt; it had honorably paid all its obligations in full; but, to do this, everything they possessed had to be sold, even the household furniture, and Madame Letellier and her son were left deprived of a home. Robert had not relinquished the business without a struggle to retain it; it was one of the best in Grenoble, but to carry it on without funds was impossible; and indeed its stock, machines, etc., had to be parted with to help pay the debts.

A gentleman came forward, Monsieur Jean Marie Carine, the father of that girl you saw for a moment in the cathedral. He was another substantial glove manufacturer of Grenoble, but his business was not so large or his connection so good as that of the Letelliers.

"I should like to buy the house and premises," he said; and I will establish my business where yours has been, and will pay you what is fair for the goodwill, if you will introduce me to the *clientele* as your successor. What say you to the proposal?"

Robert reflected, and, seeing nothing better to be done, was fain to acquiesce. The premises and the business must pass from him, and they might as well pass to the Pere Carine (as he was familiarly called in the town) as to anybody else.

"I am willing," was his reply, "if we can agree about terms." Pere Carine did agree, and took possession.

The French, for some social virtues, are not so eminent as the English; but there is one in which they put us to shame, that of filial piety. Nothing can exceed the love, the reverence, all classes of the French, whether in a high or a low station, bear for their aged parents; I can tell you, some of us might go over there and take a lesson from them. Charlotte, the daughter of Madame Letellier, arrived from Lyons with her husband, and they carried her off in all tenderness.

"Our house is yours, mother," they both said, "and our chief study shall be to make you happy in it."

But Robert—what was he to do? Grenoble prophesied that Robert might become a *valet-rien*; might, as we sometimes phrase it in these fast days of ours, go to the bad. Robert Letellier had been expensively reared, and, though a glove manufacturer, was rather given to idle and extravagant habits—to live the life of a gentleman. Shooting or fishing often occupied his morning, the cafe in the afternoon, visiting and the theatre in the evening; the Letelliers had moved in the best society of the place, and Robert was much courted in it. How would he like to turn to and earn his bread before eating it?

Whether Robert would like it or not, he resolved to do it. He stood one day without the gates of the town, leaning over the bridge that covers the river Drac, its waters flowing on to Grenoble to empty themselves into the Isere. He was taking stern counsel with himself.

"I am fit for nothing but to follow the occupation to which I have been brought up," he soliloquized. "My brother-in-law will get me a clerkship in a banker's house at Lyons if I choose; but I never did make any hand at accounts, at book keeping, and I hate it worse than anything going. No, I must stick to my trade; and as I can no longer be master—ay, and the first master in the place, as I looked to be—I must even swallow my pride and become a journeyman."

A scowl contracted his brow, for the word went terribly against the grain; and he bent his eyes over the running waters, seeing them not, so lost was he in deep thought. The river was flowing gently between its green banks, the scenery rising behind it was beautiful in its grandeur; but he saw nothing.

"But let me embrace it with a will. There's no lot on earth but may be rendered palatable by our making the best of it in all open earnestness before our fellow men. I shall not be the less Robert Letellier, a name respected in Grenoble; I need not be less the gentleman, save that I shall have scant time on my hands to waste as such. If the Pere Carine is looking out for a manager, as report goes, why I'll go and offer myself; in a week's time I shall have got over the humiliation of serving in the house where I have commanded; and better days may turn up in time, who knows? I may become master again if I resolutely bring my energies and hopes to the task, and work on for it; steady perseverance in duty must and does bring its reward sooner or later. 'Aide-toi, et Dieu t'aidera.'"

With the valuable axiom on his lips, valuable in their language as in ours, as in any, and pregnant with truth, "God helps those who help themselves," Robert Letellier turned round, re-entered the town through the gates of its heavy fortifications, closed at night, and proceeded with a rapid step, fearful perhaps that his resolution might fail, to the house of M. Carine—his own house until a month ago. Passing under its large gateway, *porte cochere* the French call it, over which the house was in part built, he gained the paved yard and entered the manufactory, leaving the pleasant garden on his right.

"Can I see M. Carine?" he enquired, finding his way to the counting-house.

"M. Carine is in-doors, sir; he is ill again."

Pere Carine was in fact subject to periodical fits of gout, and they had the knack of coming on at particularly inopportune seasons. He was a short, stout, jolly sort of man, with the reputation of being the best judge of kid-skins and the best judge of a good dinner in all Grenoble; and little cared he for anything in existence save the good dinners and his pretty daughter Annette; not but what he did care for money also, and liked to make it. The faculty told him that the gout was the result of the dinners, but Pere Carine laughed good-humoredly and would not believe them. In talking to the Letellier promises and to his *clientele* (as much of the latter as he could get), he had considerably increased his scale of business, had more workmen and larger doings altogether; but scarcely were they set afloat when his old enemy the gout came on, confining him to his room. Pere Carine fumed for a day, then he fretted for a day, and then he resolved to look out for somebody above the run of a common foreman who might manage in his place; and the resolve went forth to Grenoble.

On a green baize rest, when Robert entered, were his two legs, each looking in its linen bandages the size of a beer barrel. Annette, a blue-eyed laughing fairy of nineteen, was with him, chatting merrily; but her silvery tongue died away to silence, her laughter to reserve, and she rose and dropped a stately curtsy. Robert bowed formally in return, his head bending towards the ground—just one of those bows you were made to perform by your dancing master, but which an Englishman would never use afterwards, in real life, unless he believed himself a candidate for Bedlam. Annette Carine had often met Robert in society; but the manners in France of young unmarried ladies, and those observed to young ladies, are reserved and ceremonious in the extreme. She left the room.

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The question took the manufacturer by surprise. "You! what good do you suppose you would do me?"

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"Granted. But these days are over, gone away amongst the have-beens. I must work for my living now, and I have resolved to do so. Try me, and I will endeavor to give you satisfaction."

He waited for a reply, but none came. Pere Carine sat looking at him.

"You do not doubt my capability of management, surely, M. Carine?"

"I don't doubt that you possess that, if you choose to exert it. But have you counted the cost? You will be my servant, and must obey where you have been master."

A flush of pain dyed Robert's face, even to the roots of his hair; but he shook off sad feelings bravely—he shook off pride.

"I have counted the cost," he said. "I repeat to you, M. Carine, that I have resolved to put my shoulder to the wheel, and I did not do that with my eyes shut as to all I should have to encounter. Give me the post, and I will strive to do my duty in it."

"I'll try you," said Pere Carine. "Come to-morrow."

(To be Continued.)

Minnie May's Department.

MY DEAR NIECES,—Just a few lines about teaching good manners. When visiting at a friend's, the mother remarked, "I declare, the children do act worse when there is company than at any other time." It was not that the children behaved worse than common, but she noticed their ill-manners more. They had never been trained to wait at table until their elders were helped, and to say, "if you please," and "no, thank you," as well-bred children do. The mother must begin as early as the child can speak, to teach these little lessons of courtesy, or they will appear ill-mannered all through childhood, and will find it very hard to acquire habits of politeness in maturer years. Do we not know all men and women in good standing in society, who bear plainly the marks of maternal neglect in this particular? "Bluntness," on which many pride themselves, is much like a leper boasting of his sores. Teach politeness in a gentle, loving way, but make its laws as inflexible as iron. Always require a child to acknowledge every kindness or attention by a quiet "thank you." Teach them to ask leave when they wish to use an article belonging to another, even a brother or sister, and teach older children always to show an obliging disposition towards those who are younger. There are many little points which you will be obliged to impress, as occasion calls them up; and always remember it is hard to break up fixed habits.

MINNIE MAY.

RECIPES.

TO TAN A SKIN WITH THE FUR ON.

Flesh and clean the hide; wash out in lukewarm water, salt and soap. Take one gallon rain water, one gill sulphuric acid, a little salt and a small piece of alum; put the hide in this bath, let it remain one hour, then wash out well in warm rain water and soap; rub dry, and grease with neat's foot or other good oil.

TO FRESHEN OILED FURNITURE.

A lady sewing-machine agent tells us that the black-walnut tables of their machines are kept nice by rubbing with a cloth moistened with kerosene oil. Try it on any piece of oiled furniture, and you will quickly see an improvement. But keep it off from varnish.

INDIAN PUDDING.

Scald a quart of milk (skimmed will do), and stir in seven heaped tablespoonfuls of sifted Indian meal, a teaspoonful of salt, a teaspoonful of ginger, or ginger and cinnamon mixed half and half, a tablespoonful of suet, a teacupful of molasses, and one egg. If you want whey, pour in a little cold milk, after it is all mixed, ready to put in the oven. Bake one and a-half or two hours.

SEA-FOAM.

One and a-half cups of powdered sugar, one and a-half cups of flour, the whites of ten eggs, one large teaspoonful cream of tartar (no soda), and a little salt. Mix the sugar, flour, cream of tartar, and salt, thoroughly together. Add two teaspoon-

fuls of either almond or vanilla flavoring, and then the eggs well beaten. Pour in a buttered tin and bake in a quick oven.

SAUSAGES.

Some one asks for a recipe for sausage. A very good one is as follows: To three pounds of lean meat put two pounds of fat meat, two and a-half ounces of salt, half an ounce of pepper, and six teaspoonfuls of powdered sage. Mix together thoroughly.

BOLOGNA SAUSAGES.

To ten pounds of beef take four of pork, chop and mix it, season well with six ounces of salt and some black and cayenne pepper, cloves powdered, and chopped garlic. Put the mixture into skins, tie them and put them into brine strong enough to bear an egg, for three weeks, turning them every day. Then dry them and hang up to smoke.

CHOCOLATE PUDDING.

Allow three-fourths of a cupful of grated chocolate to a quart of rich, new milk; let it boil up and then set aside to cool; beat up the yolks of four eggs until very light, and stir gradually into the cooled chocolate; flavor with vanilla and sweeten to taste. Pour into a baking dish and bake slowly.

Make a meringue of the beaten whites of the four eggs, to which add four tablespoonfuls of powdered sugar, and flavor with lemon; when the pudding is done, spread over the top, and return to the oven to brown; serve either hot or cold.

TO MAKE THE HANDS SOFT.

Take equal portions of glycerin and alcohol; mix well; before retiring at night wash the hands in warm water, and rub well with the lotion.

Always have lobster sauce with salmon, and put mint sauce your roasted lamb on.

Veal cutlets drip in egg and bread crumb, and fry till you see a brownish red come.

In venison gravy, currant jelly; Mix with old port—see Francatelli.

In dressing salad, mind this law: With two hard yolks use one raw.

Roast veal with rich stock gravy serve, and pickled mushrooms, too, observe.

Roast pork, sans apple sauce, past doubt, Is Hamlet with the Prince left out.

Your mutton chops with paper cover, And make them amber brown all over.

Broil lightly your beefsteak—to fry it Argues contempt of Christian diet.

Kidneys a fine flavor gain By stewing them in good champagne.

By stall-fed pigeons, when you've got 'em, The way to cook them is to pot them.

To roast spring chicken is to spoil 'em; Just split them down the back and boil 'em.

The cook deserves a hearty cuffing Who serves roast fowls with tasteless stuffing.

Egg sauce—few make it right alas!— Is good with blue fish or with bass.

Nice oyster sauce gives zest to cod, A fish, when fresh, to feast a god.

But one might rhyme for weeks this way And still have lots of things to say.

So I'll close here, for reader mine This is about the hour I dine.

MARY JANE BOWMAN.

Hints to Husbands.

Amid the many suggestions to wives and mothers which we give from time to time, we take pleasure in sandwtchng the following very judicious hints to husbands, which we find in an exchange:—

Avoid unnecessary contradicting your wife. When we smell at a rose it is to imbibe the sweetness of its odor; we likewise look for anything that is amiable in man. Whoever is often contradicted feels an insensible aversion for the person who contradicts.

Never take upon yourself to be a censor upon your wife's morals; nor read lectures to her except affectionately. Let your preaching be a good example, and practice virtue yourself to make her in love with it.

Command her attention by being always attentive to her; never exact anything from her that you would not be willing that she should require

from you; appear always flattered by the little she does for you, which will excite her to kind offices.

When a woman gives wrong counsel, never make her feel that she has done so, but lead her on by degrees to what seems rational, with mildness and gentleness; when she is convinced, leave her all the merit of having found out what was just and reasonable.

Choose well your male friends; have but few, and be cautious of following their advice in all matters, particularly if inimical to the foregoing instructions.

Never be curious unnecessarily to pry into your wife's concerns, but obtain her confidence by that which, at all times, you repose in her. Always preserve order and economy; avoid being out of temper, and be careful never to scold. By this means she will find her house more pleasant than any other.

Seem always to obtain information from her, especially before company, though you may pass yourself for a simpleton. Never forget that a husband owes his importance to that of his wife; if he degrades her he injures himself. Leave her entirely mistress of her action, to go and come whenever she thinks fit. A husband ought to make his company so amiable to his wife that she will not be inclined to seek any other; then she will not look for pleasure abroad, if he does not partake it with her.

Economy in Dress.

To those who are in earnest about economizing in these hard times, one of the first of practical hints must be, Do the best you can with the stock on hand. Don't be tempted to purchase things because they are cheap. Never, in my recollection, nor in the recollection of older people than I, have goods so beautifully been offered at so tempting rates as now. The shop windows and the counters fairly overflow with a bewildering tide of loveliness, marked down, every wave and ripple of it, to prices which are amazingly low.

But nothing is really cheap to you if you are not in need of it. If in drawer or closet or wardrobe you have a dress which a little skill and management can freshen up and renovate, don't buy another. Some ladies never have any rich and handsome dresses, because they spend their money constantly on cheap fabrics, or on the thousand tempting trinkets, ties, lace, and articles of ornaments, which are spread out in witching variety in the fancy stores. Every summer brings with it quantities of imitation stuffs, which look very pretty when first made up, and which have the effect, for a little while, of better goods. Alas! it is only for a little while. The sudden shower, the insinuating moisture of a damp day, or the inevitable crowding in a street car, does for them. Their flimsy and forlorn appearance, when the first gloss was gone, is an offence to all people of taste.

It is economical to buy the best you can afford. A good strong article in wooden or silk can be worn year after year, turned, re-dyed, combined with something else, handed from mother to daughter, and from sister to sister, remaining presentable through all changes of ownership, till it finally gladdens the heart of the washwoman's little girl.

If you cannot compass the means to procure a really good material, eschew a sham. Let what you do get, be good of its kind. A well-printed calico respects itself. A sleazy poplin or barege is a beggar on a masquerade, and is soon found out. The tawdry, the meretricious, or the vulgar in clothing is an index to the lack of refinement in those who possess it.

The least manageable item in dress is the item of shoes. You must be shod. You cannot make your own shoes; and for them you must needs go to the merchant. Here, too, the same advice holds. It is better in the end to have brought good than poor shoes, since one strong, well-made, well-shaped pair will outwear three inferior ones.

Gloves can be reduced to almost any desirable limit, or large sums may be spent upon them. I have a friend who is always neatness in itself; no fault is to be found by the most fastidious critic with her dress. When I one day expressed surprise at the length of time a pair of kid gloves lasted her, she said, "Well, I always wear my second-best gloves to Sunday-school, and to church in the evening. I wear my old shoes, evenings, too. There may be gentlemen who would descend to the thoughtfulness of putting on their old shoes, evenings, but I think one would need to go looking for them, as Diogenes for his honest man, with a lighted candle."

Short Hints Concerning Sickness.

Don't whisper in the sick room.

When the doctor comes to see you, remember how many pairs of stairs he has to climb every day, and go down to him if you are well enough.

Remember that sick people are not necessarily idiotic or imbecile, and that it is not always wise to try to persuade them that their sufferings are imaginary. They may even at times know best what they need.

Never deceive a dying person unless by the doctor's express order. It is not only wrong to allow any soul to go into eternity without preparation, but how can you tell but that he has something he ought to tell or do before he goes away?

If you have a sick friend to whom you wish to be of use, do not content yourself with sending her flowers and jelly, but lend her one of your pictures to hang in place of hers, or a bronze to replace the one at which she is so tired of staring.

Don't have needless conversations with the doctor outside of the sick room. Nothing will excite or irritate a nervous patient sooner. If you do have such conversations, don't tell the patient that the doctor said "nothing." He won't believe you, and he will imagine the worst possible.

In lifting the sick, do not take them by the shoulder and drag them up on the pillows, but get some one to help you. Let one stand on one side of the patient, the other opposite; then join hands underneath the shoulders and hips, and lift steadily and promptly together. This method is easy for those who lift, and does not disturb the one who is lifted.

Do not imagine that your duty is over when you have nursed your patient through his illness, and he is about the house, or perhaps going out again. Strength does not come back in a moment, and the days when little things worry and little efforts exhaust, when the cares of business begin to press, but the feeble brain and hand refuse to think and execute, are the most trying to the sick one, and then comes the need of your tenderest care, your most unobtrusive watchfulness.

The Benefit of Flowers.

It is a decided mistake to think that money expended in purchasing shrubs and plants is thrown away; but on the contrary, it is frequently the most direct way to increase the pecuniary value of your estate. In well arranged lawns and gardens, with neat fences and flowering vines clustering over the piazza, porch and windows, they give such an air of refinement any beauty to your home that it will often attract the passer-by and create in him a desire to possess it.

The most successful speculator in real estate whom I ever knew fully understood this secret, and as his wife possessed a great love for flowers and a rare taste in their arrangement, her talents were of great use to him in his business affairs.

He would purchase an estate—dilapidated and run down—at a small cost, and after making a few repairs he would move his family into the house, and in six months the garden would be brilliant with flowers of every hue, while the rustic porch or piazza that he had added would be covered with rapidly growing vines, thus transforming a very ordinary looking house into

"A sweet home in which to live and die."

Then the place would be offered for sale, and it would soon be purchased at a decided advance upon the original cost.

I asked the wife how she liked the continued removals from house to house.

She shrugged her shoulders *a la Francaise*, and said:—

"Ah! that's another thing! but we have children to educate, and this is my husband's business; so if I can help him to earn money, and can give my children an education that will fit them to battle with life, why, I ought to be content; and then Mr. H. is always good and kind, and makes the moving as easy as possible for me."

Ah! thought I, there's the kernel in the nut shell; and if all husbands were good and kind, there would be more husbands who would take less heed to their own discomfort in promoting their welfare in business matters.

Flowers and vines add a refinement, all their own, to every home; and there is no gorgeous upholstery, no rare draperies of velvet and lace that can equal them in the adornment of our apartments.

Just look at the window at which I sit. No lace curtains fall from gilded mouldings, but the brackets of imitation bronze are screwed into the sides of the window, and each one holds four or five pots, from which hang clustering branches of tradescantia and moneywort, while tall, shapely fuchsias lift their flower-covered heads in perfect loveliness, and bright-hued geraniums contrast beautifully with their graceful bells, and dark-veined ivy leaves entwine about the walls and pictures, and on the window sills stand pots of fragrant heliotropes, sweet tea roses, primroses and calla lillies, and a hanging basket, gay with various kinds of oxalis, is suspended from the centre of the window.

Can you see how they enliven the room with their beauty and fragrance?

Do you know how attractive they make my little parlor?

And yet they cost but a small sum; but "Solomon in all his glory was not arrayed like one of these." S. O. J.

Speak Not in Haste.

Time to me this truth has taught—

'Tis a truth that's worth revealing:

That more offend from want of thought

Than from any want of feeling.

If advice we would convey,

There's a time we should convey it;

If we've but a word to say,

There's a tone in which to say it.

Many a beautiful flower decays

Though we tend it e'er so much—

Something secret on it prays

Which no human aid can touch;

So, in many a lovely breast,

Lies some canker grief concealed,

That, if touched, is more oppressed—

Left unto itself is healed.

Oft unknowingly, the tongue

Touches on a cord so aching

That a word or accent wrong

Pains the heart almost breaking.

Many a tear of wounded pride,

Many a fault of human blindness,

Has been soothed or turned aside

By a quiet voice of kindness.

Time to me this truth has taught,

'Tis a truth that's worth revealing:

More offend from want of thought

Than from any want of feeling.

HUMOROUS.

"Avoid that which you blame others for doing," says one of our wise men. Well, things have come to a pretty pass if a man can't kiss his own wife.

"Don't show my letters," wrote a Rockland young man to a young lady whom he adored. "Don't be afraid," was the reply; "I'm just as much ashamed of them as you are."

"How's your husband this evening, Mrs. Quaggs?" "No improvement, doctor, one way or the other."

There is a kind of economy that don't pay; it is the kind that people resort to after they have squandered all their munny. The man who lives the life of a toady is a kind of human spit-box. A gentleman can't hide his true karakter enny more than a loafer can. Peace is what we all long for, and what we get tired of the quickest. The man who can control his wants is the only one who can control his happiness. The man whom you can flatter you can abuse at your leisure. Epitaffs are like cirkuss bills, there is a grate deal in the bills that is never performed. It don't pay to be mean; no man ever dun a mean thing yet without being dissatisfied with it. All of the successful vices have made their debut under cover of sum one of the virtues. Cerimonys in society are absolutely necessary to preserve good order; most people have no other idee of good breeding than cerimonys.—*Josh Billings.*

"Cousin Fred, you're not at all nice, now you are married. Why, you haven't paid me a compliment for ages. Have you forgotten how to compliment?"

"My dear Clara, I've been married two years, and of course I'm awfully out of practice."

Two Irishmen, on a certain occasion, occupied the same chamber. In the morning one of them inquired of the other, "Dennis, did you hear the thunder in the night?" "No Pat, did it really thunder?" "Yes; it thundered as if hiven and earth would come together." "Why the deuce then, didn't ye wake me, for ye know I can't slape whin it thunders."

"What! going to leave us, James?" "Yes, sir; I'm very sorry, sir, but I really can't put up with missus any longer!" "Ah, James, think how long I've put up with her!"

"What do you charge for a quart of your milk, here?" asked a man, as he put his head in the door of the milk-shop. "Eight cents," was the reply. "Ain't you got any for seven cents?" "No," said the proprietor; "but," he added, "we can make some."

All women play cards alike. Watch a woman at a game of which: "La, me, Henry, is it my play? Let me see—second hand low—that's the first time around of that suit, ain't it? Well, I'll play—no, I hardly think I will—now you stop looking at my hand—did you see anything—of course I'm going to play; but I must have time to think—what's trumps—spades? I thought 'twas clubs—well, I'll—no—yes—well, there!" Then she will clap an ace on her partner's king, and insist upon keeping the trick for fear she will be cheated out of it in the final count.

Two gentlemen having a dispute, one went to the other's door early in the morning and wrote, "Scoundrel!" upon it. The other called on his neighbor and was answered by the servant that he was out, but if he had anything to say he could leave it with him. "No," says he; "I was only going to return his visit, as he left his name on my door this morning."

Could anything be neater than the old darkey's reply to a beautiful young lady whom he offered to lift over the gutter, and who insisted she was too heavy. "Lor, Missus," said he, "I see used to lifting barrels of sugar."

"Mamma, where do the cows get the milk?" asked Willie, looking up from the foaming pan of milk which he had been intently regarding. "Where do you get your tears?" was the answer. After a thoughtful silence he again broke out: "Mamma, do the cows have to be spanked?"

Pretty Dear (Mother).—Nice little girl—"Oh, do let me see you drink!" Captain Gregson—"Why, my dear?" Nice little girl—"Because ma says you drink like a fish."—*Judy.*

Mr. Gudgeon—"Oh, I say, now, Miss Ada, you are fishing for a compliment." Miss McAngle—"Oh, dear, no; I never fish in shallow waters."

"In the sentence 'John strikes William,'" remarked a schoolmaster, "what is the object of 'strikes'?" "Higher wages and less work," promptly replied the intelligent youth.

"I never can enjoy poetry when I'm cookin'" said an old lady; "but when I step out to feed the hogs, and hist myself on the fence and throw my soul into a few lines of 'Cap'n Jinks,' it does seem as if this airth was made to live on after all."

A traveller in a steamboat not particularly celebrated for its celerity, inquired of a gentleman who stood next to him what the boat was called upon which the latter replied, "I think, sir, it is called the 'Regulator,' for I observe all the other boats go by it."

He stood shivering around the Central Market, a drop of rain finding its way down his spinal column now and then. He recognized the fact that the season had closed, and that sleeping under sheds had become cold and monotonous. "I've got to lay out plans for the winter," he was heard musing as he dived into his empty pockets. "I'm kinder 'fraid that the public are sick of grass-hopper and fire sufferers, and I know they are up to snuff on the dodge of the clergyman driven out of Arkansas by the Ku-Klux. Let's see:—I might be a Russian or a Turkish exile, but I can't talk the language. I might be a settler driven out of Idaho by the Injuns, but the war is ended. All these kerosene and gunpowder accidents are old, the public don't care any more who gets hurt on railroads, and my eyes are too good to play of blind. Nother hand organ wouldn't pay, the chestnut business is too cold, and folks won't buy any more tooth cure. Hang it, all the dodges are played, and here I am as hungry as a wolf and clothes all gone! It looks as if the day wasn't for off when we'll all have to go to work and wear ourselves down to the bone to get a living."—*De-troit Free Press.*

Nucle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—Many kindly greetings have already reached us from the readers of our columns, while renewing their subscriptions for the new year. We here return them with compound interest, and tender to all our nephews and nieces, young and old, our heart-felt wishes for their prosperity and happiness during the new year now commenced. It warms our heart to look out in imagination upon the thousands of faces that meet us with a smile as our monthly visits are made. Some of them are long-tried friends, who write that they have taken the paper since the first year of publication, and would not do without it for five times its price. Such testimony as this encourages us to work faithfully in trying to interest and instruct. We cordially share the pleasure of the fortunate ones who are rejoicing in their holiday gifts, which speak of the affection and prosperity of their friends. But it will please us most to bring a smile to the face of some poor boy or girl left to neglect and perhaps suffering by the indifference, thoughtlessness, or avarice of others. Cheer up, little one. This world is made for you as much as for the proudest man you know. Sun-light, air, health, strong muscles, opportunities to work, to grow stronger and better, and to make the world better, are all yours. Work and wait. Take that for your motto and your good time will come; and you who need no such comforting assurance, who have never known the hardships of friendlessness and poverty, do your part to lighten the load and brighten the life of the less favored. Let your motto be "Help and Enjoy!" Thus all may enjoy a Happy New Year. UNCLE TOM.

PUZZLES.

164.—DOUBLE ACROSTIC. 1. To burn, an event, an island in Lake Michigan, to decay, a plant, a sentiment. The initials and initials name two brothers in ancient history. 2. My first reversed is to scour; my second transposed is a conclusion; my whole is a load. T. M. TAYLOR.

165.—GEOGRAPHICAL ENIGMA. I am composed of 25 letters. My 12, 3, 22, 5, 1, 15, 25 is a part of Europe which has been much contested for by several nations. My 6, 3, 12, 8, 24, 13 is one of the territories. My 14, 5, 10, 17, 3 is a river in France. My 10, 1, 2, 23, 20, 21 is an island made famous by Homer; and also a town in New York. My 19, 10, 4, 3 is a peninsular county in Scotland. My 11, 18, 12, 25, 14, 20, 16, 1, 7, 13 is a province of British America. My 12, 3, 9, 7, 20, 5 is a famous city in Italy. My whole was designed to aid in the liberation of Ireland from the tyrannical Saxon, but was not quite so successful as its projectors could wish. H. V. O.

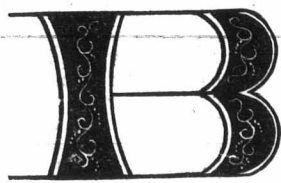
166.—ANAGRAM. Yht reeggnit limes saw deeplg dan dlppreen Of reensoug eedds nad lykndi drsow; In hyt gelra hater ewer arif usegt-bahsmce, Neop ot ressuin dan eth risdb! ITTWRHE.

167.—DOUBLE REBUS. A game of cards. A horse. Not coarse. A defamatory writing. To turn upside down. The initials and initials, read alternately, constitute the name of an American Poet.

168.—PALINDROMIC ENIGMA. 1. The very first thing find a feminine name. That backward and forward is always the same. 2. A quick, jerking motion, if rightly you name, Read backward and forward is always the same. 3. A cloth, worn at table by many a dame, Read backward and forward is always the same. 4. Now find a word that surprise doth proclaim, And that backward and forward is always the same. The initials connected, a title will frame, Given to men of ecclesiastical fame, Which backward and forward is always the same.

169.—A WORD PUZZLE. I am a noun signifying the whole. Prefix nine different heads and I become (1.) an essential part of a house; (2.) a bitter substance; (3.) a public walk; (4.) a bullet; (5.) a cloth thrown over a corpse; (6.) a tumble; (7.) elevated in stature; (8.) a large room at the entrance of a house; (9.) a summons. ALPHA.

170.—GOOD ADVICE REBUS.



171.—DIAMOND PUZZLE. 1. An exclamation. 2. To call loudly. 3. A musical instrument. 4. A vegetable. 5. In transgression. MINNIE BARGAR.

172.—PUZZLE BOUQUET. 1. A cunning animal and a covering for the head. 2. A voracious bird of prey and a useless plant. 3. A pipe and a flower. 4. A sweetmeat and a bunch of hair. 5. A noun meaning a quick breaking and a winged serpent. 6. A stone fence and the blossom of a plant. 7. Fragrant and a vegetable. 8. An entertainment of dancing and a boy's nickname. Vapor frozen in flakes and to let fall. 10. To enter into the conjugal state, and a precious metal. G. CHINN.

172.—A HINT TO FOLLOW.



TAIL We give our beautiful lithograph, "The Offer," or its companion picture "Accepted," or chromo, "Life's Voyage," to any one who will send us the correct answer with the hint fulfilled. These pictures will be mailed to any post-office address in Canada. You can take your choice of the three. If you are not satisfied with the pictures, we will give you fifty cents apiece for them, if returned within three days.

173.—BEHEADINGS AND CURTAILINGS. 1. Curtail a disgrace, leave an imposture. Behead, and leave one of Noah's sons. Curtail, and leave an exclamation denoting surprise, joy or grief. Behead again, and leave a vowel. 2. Curtail a color and leave a very small part. Behead, and leave a verb signifying "to strike." Behead again, and leave a pronoun. Curtail, and leave a simple, personal pronoun.

3. Curtail a sweet juice collected by bees, and leave a stone for sharpening razors. Behead, and leave a number. Curtail and leave a preposition. Curtail, and leave an invocation. N. T. M.

174.—ENIGMA. I am composed of 43 letters. My 4, 41, 15, 29, was a famous archer. My 1, 10, 22, 16, 14, 27, 8, 39, 32, is a quality which sentinels ought to possess. My 5, 43, 18, 28, 36, 42, 31 is what they are if they do not possess it. My 26, 7, 12, 37 are troublesome vermin. My 17, 38, 4, 12, 21, 35 is a channel for water. My 31, 6, 12, 4, 25, 13 is a long seat with a back. My 30, 23, 7, 37, 12 is something used in making bread. My 3, 41, 17, 32, 11, 20, 30 is a vicarious government. My 2, 9, 18, 24, 4, 16, 12, 30 is sameness. My 15, 34, 33, 14, 41, 5, 42 is a part of a comet. My 49, 27, 31, 20, 7, 9, 23 is a waterfall. My whole is a principle worth remembering when entering life. H. V. O.

"England Expects that Every Man this Day will do his Duty."

Answer to rebus 156 in last issue—turn to it. The above was signalled with flags, by the order of Lord Nelson, from the man-of-war ship Victory, at the battle of Trafalgar, which resulted in a victory to the British Navy in the

greatest naval battle ever fought. We wish to instil into the minds of our readers a loyal feeling. Children, ask your parents or school-teachers to give you an account of this battle. We offered a prize to all who would answer this rebus correctly by the 15th of last month, receiving many correct answers, and a few that were not quite correct. We have sent, to all who came near the answer, our handsome picture, "The Offer," and to those who have sent correct answers a very pleasing colored chromo, "Life's Voyage." We know that all recipients will be pleased. You should now get good frames, and have the pictures hung up. You will not regret that small expense. We hope it will be a lasting memento that you will always act upon—do your duty. We trust all Canadians will remember this, and daily try to fulfill the command.

Answers to December Puzzles.

- 149. Switzerland. 149. Instruction. 150. England expects that every man this day will do his duty. 151. Switzerland. ANAGRAMS. 152.— Out of the bosom of the air, Out of the cloud-folds of her garments shaken, Over the woodlands brown and bare, Over the harvest fields forsaken, Silent and soft and slow Descends the snow. BY LONGFELLOW. Under Mount Etna he lies, It is slumber, it is not death, For he struggles at times to arise; And above him the lurid skies Are hot with his fiery breath. LODGEFELLOW. 153. Rest. 154. Dictionary. 155. Hollyhock, golden rod, jonquil, heartsease, monkshood, buttercup. 156. A good anvil does not fear the hammer. 157. A pianoforte maker says that of all "manufactured things, pianos bear the noblest character, since they are classified as being grand, upright and square. 158. A Kiss. 159. Pearl, ruby, coral. 160. Halibut, arenas, leach, inch, bah, its. 161. Tune, port, wait, spot. 162. Par-all-ell. 163. Imp-are-shall. The word slave should have been rise, in anagram No. 2, and county should have been country.

Names of those who have sent Correct Answers to Dec. Puzzles.

- Mrs. M. A. Hepworth, Charles E. Wright, Lilly Wood, John Savage, Eddie Head, Hettie Macdonell, W. Broughton, Maggie L. Smith, Susan Bunata, John Bungeman, G. L. Littlejohn, Daggie George, E. F. P. Fred G. Baker, Edith Willson, James MacGillivray, Alexander Sumner, Wm. Armstrong, Geo. E. Fisher, Fickie S. McCollum, Maggie M. Clapton, Jennie E. Slaght, T. M. Taylor, F. M. Ladell, F. R. Julian, Anne Paskley, Maggie Caven, Mr. Edwin Morrison, David James, Martha A. Johnston, Mary Kirkconnell, George H. Parsons, G. T. Sudgrom, R. Paterson, Wm. Whitney, Mag-

gie Donald, James Gillespie, John Frank, M. H. Thornicroft, Ketmap Neff, Sarah Sharpe, Susie Leader, Elvie B. Tavel, Chas. Julian, Geo. M. Guest, Wm. Wheatley, Annie Both-Hugh Johnston, M. C. Fuller, Lucie Preston, James M. Jackson, Henry Jephson Grawne, 1; Edward W. Orr, 3; Martha Abbott, 2; D. Paine, 4; Bella Johnston, 1; John S. Black, 1; A. Robinson, 3; John Gardhouse, 3; Barnabas Hemp, 3; Minnie Barber, 3; Joel Phillips, Jessie Rowland, 1; Robert Dobson, 3; Eddie Wilson, 3; Martha Graham, 3; Edward Blanchard, 1; Wm. Hillston, 1; Elizabeth Smith, 3; Robert McFarlane, 3; J. Warren, 3; Alex. Turner, 4; Annie McCree, 3; Miss M. Thompson, 3; Minnie Crack, W. Shephard, S. Jane Long, 3; Minnie Hyde, 1; John T. Barley, 4; Sarah M. Callum, 4; Joel Phillips, 3; Harry Howell, 4; Mary Jane Bowman, 4; A. Thompson, 4; Wm. Shephard, 1; Richard Westaway, J. C. Fitch.

Why Some People are Poor.

Coffee, tea, pepper and spices are left to stand open and lose their strength.

Potatoes in the cellar grow, and the sprouts are not removed until the potatoes become entirely worthless.

Brooms are never hung up and are soon spoiled.

Nice handled knives are thrown into hot water.

The flour is sifted in a wasteful manner, and the bread pan is left with the dough sticking to it.

Clothes are left on the line to whip to pieces in the wind.

Tubs and barrels are left in the sun to dry and fall apart.

Dried fruits are not taken care of in season and become wormy.

Rags, string and paper are thrown into the fire. Pork spoils for want of salt, and beef because the brine wants scalding.

Bits of meat, vegetables, bread and cold pudding are thrown away, when they might be warmed, steamed and served as good as new.

A Few Precepts from Confucius.

"Be severe to yourself, and indulgent to others; you thus avoid all resentment."

"The wise man makes equity and justice the basis of all his conduct; the right forms the rule of his behaviour; deference and modesty make his exterior sincerity, and fidelity serve him for accomplishment."

"Love virtue, and the people will be virtuous; the virtue of a great man is like the wind; the virtue of the humble is like the grass, when the wind passes over it the grass inclines its head."

"Children should practice filial piety at home, and fraternal deference abroad; they should be attentive in their actions, sincere and true in their words, loving all with the whole force of their affection."

"Return equity and justice for evil done to you, and pay goodness by goodness."

"Without the virtue of humanity one can neither be honest in poverty nor contented in abundance."

"Real virtue consists in integrity of heart and loving your neighbor as yourself."

"What I desire that others should not do to me, I equally desire not to do to them."

"Think not of faults committed in the past when one has reformed his conduct."

Boys and their Mothers.

Some one has written beautifully to the boys in the following manner. Here is a whole sermon in a few sentences:—"Of all the love affairs in the world, none can surpass the true love of the big boy for his mother. It is pure love and noble, honorable in the highest degree to both. I do not mean merely a dutiful affection. I mean a love which makes a boy gallant and courteous to his mother, saying to everybody plainly that he is dearly loved with her. Next to the love of a husband, nothing so crowns a woman's life with honor as this second love, this devotion of a son to her. And I never yet knew a boy 'turn out' bad who began by falling in love with his mother. Any man may fall in love with a fresh-faced girl, and the man who is gallant with the girl may cruelly neglect the worn and weary wife. But the boy who is a lover of his mother in her middle age, is a true knight who will love his wife as much in the sere-leaved autumn as he did in the daisied spring-time."

Determine to tell the truth at all hazards, and scorn to be other than sincere. Otherwise you are nobody; so doing you are a king.

Where was I last week? At Skinners'; It's really a nice place to dine. The old man gives capital dinners. And is rather a good judge of wine. The daughters are stylish and pretty—Nice girls, eh? Don't know them, you say? Indeed? That is really a pity; I'll take you there with me some day.

You'll be pleased with the eldest—Miss Carrie; But Maude's rather more in my style. By George! If a fellow could marry, There's a girl who would make it worth while! But it costs such a lot when you're doubled; You must live in some style, there's the rub. Now a single man isn't so troubled, It's always good form at the club.

As to Maude, she'd say yes in a minute, If I asked for her hand, I dare say; Soft, white hand,—if a fortune were in it, I'd ask her to have me to-day. Father rich? Well, you know there's no knowing How a man will cut up till he's dead. Have I looked at his tax-list? I'm going To do it, old boy, that well said!

But even rich fathers aren't willing Always to come down with the pelf; They'll say they began with a shilling, And think you can do it yourself. What's that paper, just there? The "Home Journal?"

What's the news in society, eh? ENGAGED! Now, by all the infernal— It can't be, pass it over this way.

Hum! "Reception"—"Club breakfast"—"Grand dinner."

"We learn that the charming Miss Maude, Youngest daughter of Thomas O. Skinner, Is engaged to George Jones"—he's a fraud!—"Of the firm of Jones, Skinner & Baker. The marriage will take place in May." Hang the girl for a flirt—the deuce take her! Well, what are you laughing at, eh?

MRS. M. P. HANDY.

The Young Letter-Writer.

Dear Sir, Dear Madam, or Dear Friend, With ease are written at the top; When these two happy words are penned, A youthful writer oft will stop,

And bite his pen, and lift his eyes, As if he thinks to find in air The wish'd-for following words, or tries To fix his thoughts by fixed stare.

But haply all in vain—the next Two words may be so long before They'll come, the writer, sore perplexed, Gives in despair the matter o'er;

And when maturer age he sees With ready pen so swift indicting, With envy he beholds the ease Of long-accustom'd letter-writing.

Courage, young friend, the time may be, When you attain maturer age, Some, young as you are now, may see You with like ease glide down a page.

Ee'n then, when you, to years a debtor, In varied phrase your meanings wrap, The welcom'st words in all your letter May be those two kind words at top.

Why it Pays to Read.

One's physical frame—his body, his muscles, his feet, his hands—is only a living machine. It is the mind, controlling and directing that machine, that gives it power and efficiency. The successful use of the body depends wholly upon the mind—upon its ability to direct well. If one ties his arm in a sling, it becomes weak and finally powerless. Keep it in active exercise, and it acquires vigor and strength, and is disciplined to use this strength as desired. Just so, one's mind, by active exercise in thinking, reasoning, planning, studying, observing, acquires vigor, strength, power of concentration and direction.

Plainly, then, the man who exercises his mind in reading and thinking, gives it increased power and efficiency, and greater ability to direct the efforts of his physical frame—his work—to better results than he can who merely or mainly uses

his muscles. If a man reads a book or paper, even one he knows to be erroneous, it helps him by the effort he makes to combat the errors. The combat invigorates his mind.

Of all men, the farmer, the cultivator needs to read more and think more—to strengthen his reasoning powers, so that they may help out and make more effective, more profitable, his hard toil. There can be no doubt that the farmer who supplies himself with the most reading, the most of other men's thoughts and experience, will in the end, if not at once, be most successful.

Self-Effort.

It is so ordered that each one must do for himself if he would succeed, however much he may be aided, for the best that outside influence can do is only to aid. The mere attainment of knowledge is not sufficient; there must be an improvement of the faculties—the man himself must be developed—and this can be accomplished only by self-exertion. Knowledge thus acquired makes a more permanent impression, is more clearly seen and felt, and becomes, as it were, a part of the man, building him up, arming him for the battle of life, as well as preparing him for its enjoyment. What we get ourselves we are apt to treasure, and we get it in such a manner that it fits us the better, suited as it will be to our individuality. It is a fault of our schools that there is not sufficient chance afforded for independent reflection upon what is presented, so that its arrangement may take form in harmony with the peculiarity of the individual. Individuality of character is ignored only at the expense of the individual, begetting an abnormal condition which is neither true enjoyment nor the means of securing success. The pupil, under his teacher, is too often burdened with tasks which discourage and beget a mechanical habit. His faculties not keeping pace in their development with the weight of material he is made, unnaturally, to carry, he finds himself unequal to dispose of them, and thus is made to bear a load which unfits him for the active purposes of life, which otherwise, with sufficient time and encouragement for deliberation, he could have carried out with success. "One at a time" is a good, simple maxim; it means doing well what you do, which includes time in doing it. There is nothing like thorough work in all that we do—a habit of thoroughness—training the mind as well as the body, so as to put them in harmony. F. G.

Courage in Every-Day Life.

Have the courage to discharge a debt while you have the money in your pocket.

Have the courage to do without that you do not need, however much your eyes may covet it.

Have the courage to speak your mind when it is necessary you should do so, and hold your tongue when it is prudent you should do so.

Have the courage to speak to a friend in a "seedy" coat, even though you are in company with a rich one, and richly attired.

Have the courage to make a will, and a just one.

Have the courage to tell a man why you will not lend him your money.

Have the courage to cut the most agreeable acquaintance you have, when you are convinced that he lacks principle. "A friend should bear with a friend's infirmities," but not with his vices.

Have courage to show that you respect honesty, in whatever guise it appears; and your contempt for dishonest duplicity, by whomsoever exhibited.

Have the courage to wear your old clothes until you pay for your new ones.

Have the courage to obey your Maker at the risk of being ridiculed by men.

Have the courage to prefer comfort and prosperity to fashion in all things.

Have the courage to acknowledge your ignorance, rather than to seek credit for knowledge under false pretences.

Have the courage to provide entertainment for your friends within your means—not beyond.

As my wife at the window, one beautiful day, Stood watching a man with a monkey, A cart came along with a broth of a boy, Who was driving a stout little donkey. To my wife then I spoke, by way of a joke, "There's a relation of yours in that carriage." To which she replied, when the donkey she spied, "Ah! yes, a relation by marriage."

FURNITURE.—Any person wishing to procure parlor or bedroom furniture may now have a rare opportunity, as Mr. George Moorhead, of this city, who has the mammoth furniture factory of Western Ontario, has on hand an immense stock and is now selling it at unusually low prices for two months. Persons wishing to furnish their houses or wholesale dealers would find a trip to this city would pay them at the present time.

THE DAIRYMEN'S CONVENTION.—The Dairymen's Convention was in session during the week ending December 21st. During the Convention there was an exhibition of the products of the dairy, which was very successful. There were 350 samples of butter and 400 samples of cheese. There were addresses delivered by Hon. Hiram Smith (President of the Association), Messrs. J. Boyes, Folsom, of New York, and others. After the other business of the Convention, they proceeded to the election of officers. Mr. Smith was re-elected President, and Mr. R. P. McGlinchy Secretary. In the election of officers for the ensuing year due regard was had to the interests of Canadian dairymen, Professor C. B. Lambert, of Wallacetown, and Mr. J. C. Hegler being chosen Vice-Presidents.

American Berkshire Record, the second volume of which is announced, gives assurance of its permanence. It is promised that the energies of the management to meet every requirement of the most progressive patronage will not be relaxed.

Commercial.

We have to remark very little change in the market for breadstuffs. There is continued demand in the English markets for wheat, though the supplies have been so large that prices have not advanced, as was expected by some. At no former period has it been so difficult to fortell what may be the ruling for the market for breadstuffs. The yield of grain in Britain has fallen far below the average, and much of it has been harvested in bad condition, so that the dependence in the greatest purchasing country is, in a great measure, on the importation from other countries. But the importations are, in proportion to the demand, very large. Large supplies have been received from Russia and Northern Germany, as well as from India and America.

Liverpool, Dec. 28.—Wheat, 10s. 6d. to 12s. 11d. Corn, 20s. Flour, 20s. 6. to 32s. Pork, 56s. Cheese, 61s. New York.—Wheat 4c. to 1c. lower. Sales, 56 bush., at \$1.32 1/2. Flour, dull, \$4.85 to \$6. Corn, 53c. to 64c. Barley, Canadian and six-rowed State quite firm; No. 3 two-rowed State, 64c. Oats, 35c. to 40c. Butter, 11c. to 12c.

Toronto Market.

Table with 2 columns: Commodity and Price. Includes items like Fall Wheat, Spring Wheat, Barley, Oats, Peas, Rye, Dressed Hogs, Beef, Mutton, Butter rolls, Butter, tub dairy, Potatoes, and Hay.

London Market.

Table with 2 columns: Commodity and Price. Includes items like Deihl wheat, Treadwell, Red, Spring, Barley, Peas, Oats, Rye, Buckwheat, Corn, Beans, Sheepskins, Hides, Eggs, Roll Butter, Tub Butter, Cheese, Hay, Straw, Turnips, Carrots, Potatoes, Cordwood, Spring Wheat Flour, Oatmeal, Cornmeal, Tallow, Lard, Wool, Beef, Lamb, Mutton, Dressed Hogs, and Hogs, live weight.

Mr. J. J. Ireland, of Dover, Kent Co., has six head of the Duchess strain of shorthorn cows in calf by Duke Bull from Second Duke of Hillhurst. The average price paid was \$200 per head. They are said to be the finest lot ever brought into that county. Mr. J. S. Armstrong, of Speedside, received the 1st prize at the last Provincial Exhibition for the best herd of Shorthorns. J. W. Jardine has sold a fine Ayrshire bull to A. J. Wilson, of Leporte, Ohio.

MONEY TO LEND on the most liberal terms. Apply personally or by letter to JOHN MARTIN, Barrister, &c., 438 Richmond Street, London.

At the Christmas Fat Cattle Fair held at Guelph a Provincial prize animal was sold by Mr. White-law to a Hamilton buyer for \$9 per cwt. The prevailing figures, were from \$3.50 to \$6.00. The difference between the highest and lowest prices paid, plainly indicates why some farmers have good bank accounts while others cannot "make ends meet." High breeding and good feeding tell the secret.

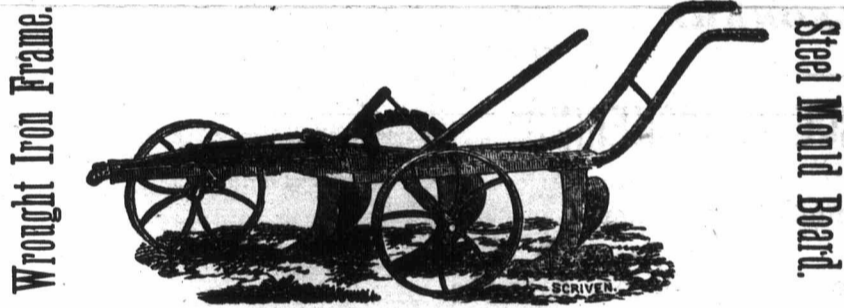
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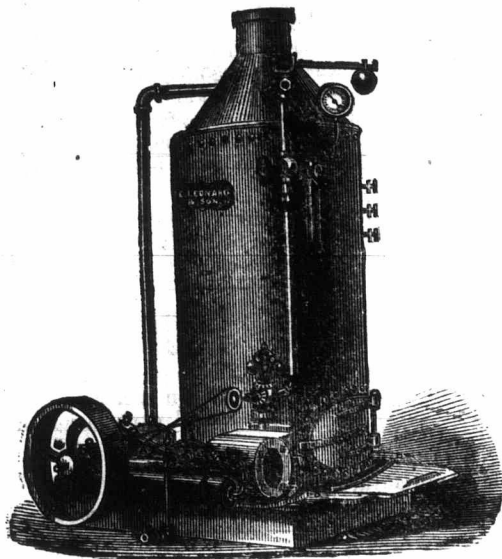
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Cash in Federal Bank	9,129 34
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LIABILITIES	\$266,383 75
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	25,321 75

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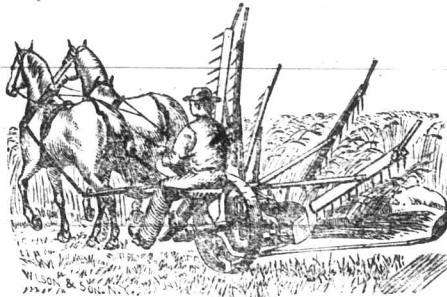
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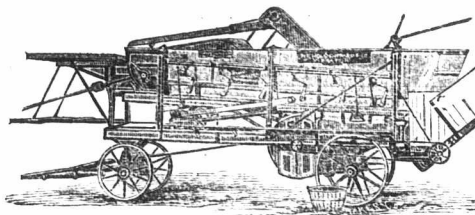
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