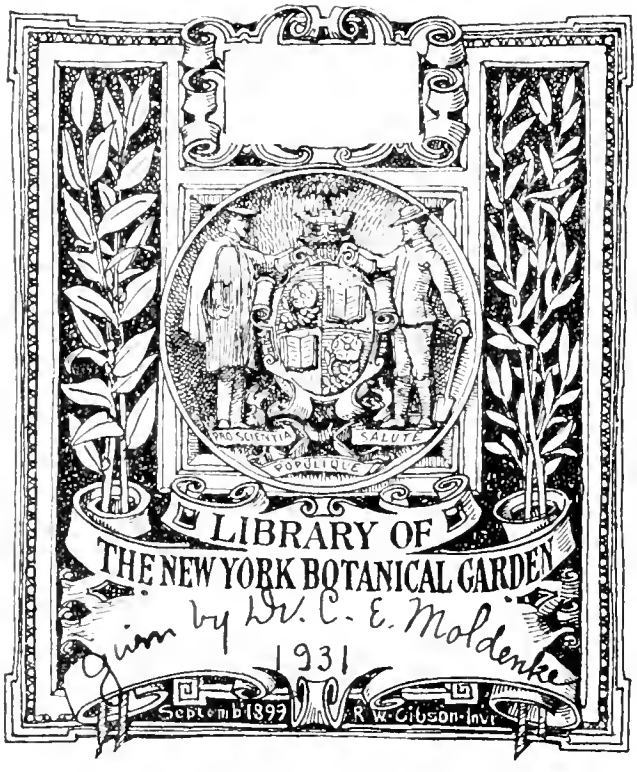
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The Farm and Garden.

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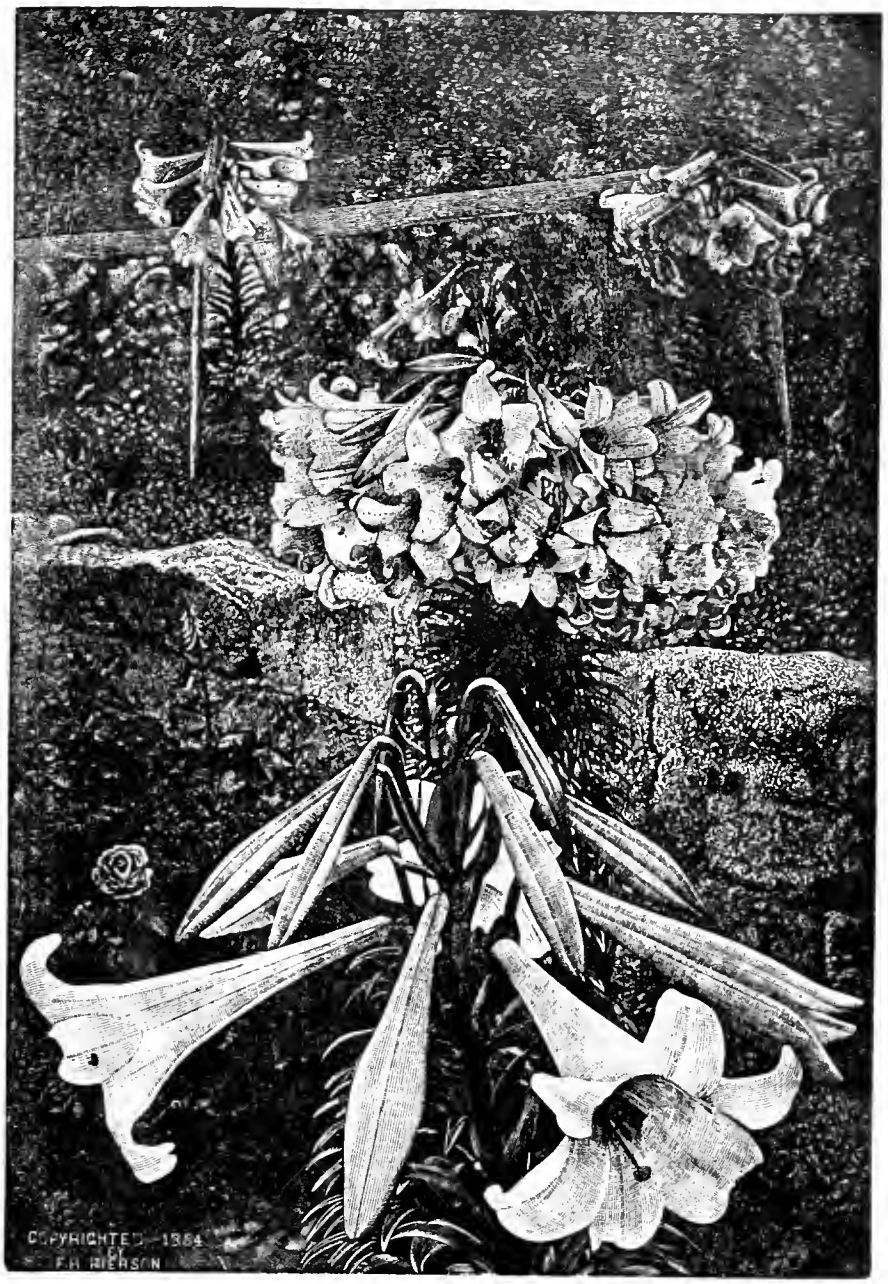

THE EASTER LILY OF THE BERMUDAS (as grown by F. R. Pierson & Co., Tarrytown, N. Y.). See pages 6 and 15.

SEPTEMBER RAMBLES OVER THE FARM AND GARDEN.

By Joseph.

Personally I detest greens; still much depends on the way they are cooked. Of course I like my mother's way best (this is not intended as a reflection on the culinary accomplishments of my "Secretary of the Interior," and partner through life). Well, my mother always served spinach with fried eggs; I ate the eggs and left the greens.

Fashion is king. No other power is strong enough to dictate in the matter of taste. No doubt greens are a wholesome dish, and many people will eat them merely for sanitary reasons. But where greens have become a fashionable dish, there is no safety for milk weed, cowslips, nor horseradish leaves. For early spring, spinach is probably as good as anything. The "round leaved" may be sown now, on highly manured, light loam. A bed just cleared of onions or peas, or any other early crop, is a very good place. In very cold localities a thin covering of coarse straw during the winter will prove to be beneficial. The young shoots of poke weed (skoke, pidgeon berry, plytolacca decandra), make excellent (sic) greens.

In the South greens are a favorite dish, and the southern Price turnip is largely grown for the top. Another very good vegetable for this purpose is the Curly mustard; I have not seen it mentioned as yet in the catalogues of any seedsmen, and probably it is but little known. The beautifully fringed leaves, with their pungent flavors, are also a desirable addition to our salad materials.

✢

There are absolutely no fixed rules by which we could determine what is good or bad. Taste recognizes neither law nor authority. The illiterate mechanic may be just as good a judge of the quality of different varieties of potatoes as the learned M. D., who, after misconstruing some remarks of mine, until he made me appear to be an advocate of the Early Rose as "the best potato," exclaims, with a shrug of his shoulder, "everyone to his taste," then adds, "the Rose is good enough for cheap boarding houses." Let him show up his diploma as "Grand Master of Epicurean Arts," or give up his pretensions and self-conceit. Good taste is an article against the deficiency of which even a regular diploma is no sure protection. At least I know a number of doctors who, having sucked themselves full at the breasts of "*alma mater*," are longing for still more spiritual food, and will suck down a goblet full of the vilest whisky, smack their lips, and mentally exclaim, "good." Everyone to his taste, indeed. Farmers know some things as well as doctors, and the latter should not be guilty of such sentiments as "what does the farmer know about cucumber salad?"

✢

The "best potato," as to real value, is the one containing the largest percentage of solid nutriment, that is, starch and albumen, and the gustatory nerves of people generally ratify the verdict of chemical analysis. It is the starch that makes a potato cook dry and mealy. In regard to the stronger or milder potato flavor, however, peoples' taste will differ as long as potatoes are grown. Some people like the flavor of young, that is, still immature, potatoes; to my mind these are watery, because deficient in starch, and therefore in nutriment, and entirely unfit to eat. But everyone to his taste.

✢

Let me speak another good word for the Early Ohio, which should not be confounded with an old variety bearing a similar name. I have grown it for about ten years, ever since its introduction by Gregory, in Marblehead, discarding the Early Rose altogether, and have found it to

be a true "queen of the valley, succeeding best on low, moist, rich soils, better in the valleys than on uplands. It develops a remarkably large amount of starch in a much earlier stage of growth than any other potato known to me, and cooks dry and mealy even before having attained its full size. In point of earliness the Ohio beats all the older or new varieties *by far*, Gem, Sunrise, etc., not excepted. It bears close planting, and considerable neglect without injury. As a keeper it is also by far superior to any other early and to a great many late varieties. The Ohio certainly and decidedly deserves of more general cultivation.

✝

Some strawberry growers are recommending to burn the mulch on the bed, after the strawberries are picked, to rid the bed of rust and the leaf roller. The bed will soon grow up again, and the rust and insects are destroyed.

✝

A piece of reclaimed swamp land, in a very high state of cultivation (being used as an onion patch for a number of years), would make us the finest garden spot imaginable, but for its situation, that is close proximity to my neighbor's barn. We cannot raise anything on it except poultry, that is, the poultry of said neighbor; and the only way to raise that is with the shotgun. I am sorely tempted to try it, or raise a fuss with the old man himself. Every summer, for ten years, he has promised to build a picket fence along the line and around his barnyard. Last spring he said pickets and posts were all ready, and the fence would be up in less than no time. So I planted my experimental potato patch, right on said spot. He built half the fence and had to leave the rest for want of material. Now his hens help me weed and cultivate my experimental garden, just as they have done for the last ten years. I plant them, they *raise* them—out of the ground, and eat them, too (the pesky things are always hungry). There is a point where forbearance ceases to be a virtue, still I should hate to resort to extreme measures. I might place pieces of potato soaked in Paris Green water among the vines, to get *rid of the potato bugs*, and believe the hens would also, and very quickly leave, but though I would not pity my neighbor, I dislike wholesale murder, I pity the hens, and will have to let them scratch. A law suit does not suit my notion, it is too slow, too much trouble, and too unsatisfactory all around. The potatoes would have yielded at the rate of 500 or 600 bushels per acre, at the least. I should be willing to let my neighbor or his hens have the whole crop from the patch, but the results of carefully conducted experiments are nearly all cost for one year.

"Good Lord, deliver me from neighbors nearer than a mile."

SEEDING WHEAT.

By John M. Stahl, St. Louis, Mo.

I believe the foremost advantage of drilling wheat is the ridged condition of the ground. Certain it is that it was the chief advantage in the early days of drills, for then there were no perfected force-feeds, and the hoes were comparatively rude, and as a result the grain was not distributed more evenly or covered more uniformly than if broadcasted. Leaving the ground ridged is no mean aid to the crops. The only protection which the wheat has during the winter is the snow. It would be an ample protection were it a continuous one. But snow does not lie throughout the winter, and we must make the most of what we have. The winds blow the snow off from the wheat. We feel this most in the prairie States, where the wind soon drifts the snow on the treeless, level land, unless the snow should be very wet. On the hilly lands of other States, hill crest and sides are apt to be swept bare. Here we see the advantage of the ridges left by the drill. In the little hollows left between, the snow lies securely upon the wheat.

The point then is to make these ridges as effective as possible. As the winter winds prevail mostly from the north, the ridges should not run north and south, but east and west. Then the wind will sweep *across* the ridges; otherwise it will sweep along them and catch up the snow in the hollows.

The ridges should also be made as high and as enduring as possible. The way to accomplish this is to have the ground fine and solid; and it is in just such a seed-bed as this that wheat delights. Everything is gained and nothing lost by ploughing the ground early, and then keeping the harrow and roller at work until every clod is reduced to a powder, and the fine particles are forced closely together. The more opposition the ground offers to the hoes the higher will they throw it into ridges, if fine; and the finer it is the more uniform the ridges will be, and the sooner will they become solid.

When we consider the importance of the ridges we perceive that it is very injudicious to roll the ground after the wheat has been drilled. This levels down the ridges, and by forcing the earth down into the hollows, covers the grain too deep. I have never known this to be done that it did not result in a plain injury to the crops. Yet I often see it recommended by agricultural writers; I think they must have been theoretical men, who never stopped to think what the result of rolling after drilling must be. I firmly believe in running the roller just ahead of the drill, and practice what I believe, in this case at least; but I would never allow the roller to follow the drill.

Leaving the ground ridged is not the only advantage drilling now has over broadcasting. With the force-feed arrangement, as now improved, the majority of the drills now distribute the grain much more uniformly than can be done by hand. If the ground is at all rough, lumpy, and uneven, it is impossible to broadcast the seed evenly. Though it fall as it should, that striking against clods and ridges will fall into the depressions. Then very few, if any men, can throw grain in such a manner that it will fall evenly upon the ground; and if there is a breeze blowing the grain will be distributed more unevenly. It is scarcely possible to place grain more evenly than it is done by a good force-feed drill.

The drill will cover the seed at a more uniform depth than will broadcasting, no matter how often the ground is harrowed or brushed after the grain has been broadcasted upon it, some seed will remain on the surface, while the balance will be covered at all depths not exceeding, say, six inches. That left upon the surface, will not, of course, germinate; and not a little will be covered so deep that the plant never will reach the surface, while many of the plants that do, will be so weakened by their long journey that they will be crowded down by their more fortunate neighbors. Hence seed is saved by drilling. When broadcasted, more seed must be used per acre than when drilled. On properly prepared ground, a drill will cover the grain very uniformly. The hoes will run at very nearly the same depth, and nearly the same amount of dirt will fall back upon each grain of seed. Herein we see the advantage of a properly prepared seed-bed. In fact, it is apparent in every operation of seeding. When the ground it fitted rightly, the seed can be put in the ground in much better shape than where the ground is rough.

I cannot see the advantages of clods on ground where the wheat is drilled. Cloddy ground spoils the ridges and the uniform covering of the seed. Where wheat is broadcasted, I believe ground slightly cloddy is the best, for snow will be held in the depressions between the clods (just where the wheat will fall), and as the clods are mellowed down by the frost during the winter, the disintegrated earth will fall upon the root of the wheat which the frost is continually heaving above ground. But drill ridges accomplish both these advantages of the clods, and better.

So far as I know, the hoes of all wheat drills are made eight inches apart. I believe larger hoes ten inches, or even a foot apart, would be better, and nearly every farmer to whom I have mentioned the matter has agreed with me. Larger hoes placed farther apart would throw up better and more enduring ridges, and the sun could better penetrate among the wheat.

I have frequently sowed wheat on ground so stumpy that it was impossible to drill it. Such ground I have ridged with diamond corn plows. The ground is thus plowed in "lands." In the middle of the "land" two furrows are made at the start, throwing the dirt out, or in opposite directions. The next furrows are run in the same way, about six inches from the first. In this way the work is continued, constantly working towards the outside of the land. Plows cutting six or seven inches should be used. These will leave furrows four or five inches wide, and a high ridge six inches wide between them. The wheat is sown broadcast on these ridges, and covered with a light brush. This is almost equivalent to drilling. If the ground is properly prepared, and care taken in making the furrows, the furrows will be of the same depth; and as the grain falls or bounces into the furrows, it will be covered uniformly, while fair ridges will be left after covering, to hold the snow.

Broadcasting is a poor way to sow wheat on our Western prairies, where the land is level, there are no protecting timber belts, the winds are strong, and the snowfall is never great. If answers better in the eastern and north-eastern States; but even in those I consider drilling a much better way of seeding wheat.

We do not pay that attention to the selection of seed that we should. Some of my neighbors are very sure that wheat turns to cheat, but it has never done so for me, for I never sow cheat; and having never raised any, there is none in the ground to germinate when conditions are favorable. Cheat is a much more hardy plant than wheat, and the seed has greater vitality; hence a seed rarely fails to germinate or a plant to grow, stool, and mature, and as a result cheat will gain very fast upon wheat. He who sows cheat, can understand what it is to sow the wind and reap the whirlwind. This is equally true of rye. The seed of rye has more vitality, and the plant more vigor than of wheat. Almost every seed of rye is sure to mature a good stool. When we consider that if wheat were, without the loss of a grain, to stool and head moderately well, it would increase six hundred fold, and that where we sowed a bushel, we would reap six hundred, we can understand how cheat and rye, which do stool and head moderately well, can gain so fast upon the wheat. "Whatsoever a man soweth, that shall he reap," and nothing more; sow pure wheat, and that alone.

Sowing shrunken seed is shortsighted policy, though often done. Shrunken grains are not so good for seed as plump grains. The substance of the grain is a wise provision of nature to nourish the plant until it can expand its foliage above ground, until which time it cannot utilize the food in the soil. A shrunken grain may be consumed before the plant reaches above ground, and the plant must die.

GARDENING IN FLORIDA.

By W. C. S.

"Joseph" has written about "Golden Opportunites in the South," in glowing colors.

I do not know that he has overdrawn his description, or exaggerated in his statements as to what can be done. Indeed I am *sure* that many of them might be realized in Florida. In fact many are already enjoying the fruit of their labor in *golden* harvests.

Several things, however, are indispensible to success. First and most important in the list I place *industry*, second, patience, third, perseverance, fourth, experience, or lacking *that*, a willingness to learn from those who have had experience, fifth, capital, or lacking this, then the muscular ability to do *lots* of hard work. I will speak more fully, as to these items, before I close.

Orange growing in Florida has attracted so much attention throughout the North, that most people there seem to think that *that* is the only industry of the State. But the truth is that there are nearly as *many* engaged in growing strawberries and vegetables for northern markets as in growing oranges. I have no statistics available for comparison, but I am sure that the receipts from the sale of berries and vegetables by the gardeners in this State, would make a very respectable showing beside the income from the orange crop. A very large proportion of those who are starting orange groves here, have not sufficient means to be able to devote themselves entirely to their groves for the ten or fifteen years which are necessary to produce a paying or even a self-supporting grove. Very many put every available dollar into their grove within the first year or two. As orange trees seldom make any return for four or five years, and hardly a profitable crop under ten years, it becomes *necessary* for the owners to resort to some other means of support. Thus it happens that many groves are planted with vegetable crops for several years, usually until the trees shade the ground so much that no other crop can be profitably grown among them.

Fruit growing and market gardening are carried on so differently in Florida, from the same business at the North, that a successful man there might easily fail here, at least the first year, unless he was unusually meek and willing to

learn from those who, having been here several years, have thus acquired the necessary experience. It is not enough to know that crops must be planted at a different season; they require different treatment both in growing and in marketing. It is not my intention to give a treatise on market gardening, with specific directions for the cultivation and marketing of each crop, to do so would fill all the pages of the FARM AND GARDEN, to the exclusion of much more interesting and valuable matter. As an illustration, however, I will say, that in packing tomatoes for shipment, each one is wrapped in light manilla paper, such as is used in packing oranges. They are picked before they begin to turn red, and if when wrapping them, the packer finds one that is colored *at all*, it is thrown out as being too ripe.

The principal crops grown in this State are strawberries, tomatoes, string beans, cucumbers, cabbage, watermelons, and Irish potatoes. There are also smaller quantities of Bermuda onions, peas, egg plants, &c., &c. All things considered, tomatoes are probably the most profitable crop, and therefore the most extensively grown.

A neighbor realized, two or three years ago, a *net* profit of $300 per acre from a crop of tomatoes, and in the expenses he counted the cost of labor, but such success is unusual. The *net* profit will seldom reach $200 per acre, the average will not exceed $100.

Strawberries would usually be the most profitable crop, if it were not for the lack of good shipping facilities. The berries cannot be sent except in refrigerators. As the business is small yet, there is but little competition, and the owners of the refrigerator lines and the commission men between them, manage to get the lion's share of the proceeds, and eat up about *all* the profits. Though small as yet, still there are thousands of quarts sent north every winter, but the expense of freight, rent of refrigerators, *commission* &c., &c., eat up the profits so that berries which sell in the northern market for from two to three dollars per quart, return the grower less than one dollar per quart. The average net price to the grower in this State seldom exceeds twenty to thirty cents per quart. Still at that price they would be very profitable if the crop would all ripen up in a few weeks as at the north. But they begin to ripen here in January or February, and last until June, or about six months. It does not pay to send strawberries North much later than April 1st, and often not so late as that. The crop from an acre here will not exeeed, in a year, that of a good bed at the North, and as it is scattered over a period of six months, of course single pickings are small.

Wherever a grower has means to go into the business largely and buy and use his own refrigerator for shipping the fruit, the profits may be more than doubled. Several growers in one neighborhood might combine and do the same thing. As it is, growers have realized in favorable seasons, from $600 to $1000 per acre. The two greatest drawbacks, which render the crop uncertain and deter many from attempting to grow strawberries, are drouth and frost. The hot summers usually burn up most of the old plants, so that to be successful a new bed should be set every year. This must be done in September or October, and often at that time there is so great a drouth that it is almost impossible to get the plants to live. A neighbor set a large bed last fall, some forty or fifty dollars worth of plants. Owing to severe and protracted drouth many died outright and those that lived were so stunted that he did not sell a quart of berries, in fact, hardly a berry ripened before the shipping season was over.

Last fall, many plants in one old bed near me, survived the drought, blossomed in November, and ripened some berries in December, a small mess being picked Christmas day. But the first week in January we had an exceptionally cold spell, which destoyed all the green fruit, blossoms and buds, so that no more berries ripened until late in February.

NO EXCELLENCE WITHOUT LABOR.

The Experiences of a Virginia Farmer.

No. 2.

The clevis to the plow was not to be found this morning. The "boys" did not know where it could be, and some little time was spent in looking for it, when, as I was going from the shop to the barn, I hit something in the grass that, by its ring, I knew to be iron: There it was. Although ever since they were in my employ I had done all I could to teach them the neeessity of *order*, a place for everything and to put all things *in* their places when the use for them was over, the careless tricks still clung to them. Unaccustomed from their earliest life, to discipline, it was hard to be trained.

When used, a tool was left with the end of the job, and often wanted, to be hunted up. I repeatedly brought them to make it a practice to put up every tool, when through with it, in the proper place, but the reply came that, if they always did so so much time would be wasted that little else could be done. The shovels and hoes were left as used, covered with mud and manure, and soon became rusty and in no condition to be used. Harness and other implements were out of repair, but no time could be taken to mend them, and soon we could hardly get tools enough to do the work with.

This careless and disorderly way of procedure in any kind of business is one of the greatest hindrances to success, and is the worst to contend with of almost any phase of life. Although I thought I had been thorough in expressing my wishes to make order the first as well as the *continued* duty in every move that was made, I found that it had to be understood that it *must* be complied with. Here on the farm it was as imperative to observe it as in a factory or the supposed higher and more refined and elevated departments of life. Earth's laboratory, where the food is generated, stands at the foundation of the pyramid of existence, and here order should be the watchword, and every workman its faithful servant.

Finally, when I saw I could not teach to effect by advice through kind words, and though an effort was now and then made to put up the tools, the general tendency being a continuance of thoughtless, heedless carelessness, I told them, at last, if they wished to stay with me I must be allowed to tell them how I desired my work done, and that they must follow out my wishes or else seek other situations. At first argument and objections to this request were made, but like the excuses of all careless ones, they were out of place, as they admitted that they received pay from me for their work, which was performed for *me*, not them, and that it was their duty to work in my interest and follow out my plans. The problem was solved when they saw their relation to their employer. I could not expect perfect order at once, but the disposition grew apace, and soon all the tools were cleaned when through their use and put up in their places. Pride took the place of indifference, and *care* and *promptness* made my help more reliable every month. The "boys" now began to see that there is no excellence without labor.

The place just occupied by us had been rented out for many years to those who cared only for what could be gathered with the smallest amount of work possible. Of course, there could be no permanent improvements expected from a tenant where capital was required to make them, and when labor was all the capital possessed. This was sparely used, outside of that which was thought to be of present return as compensation. So it went from year to year. The worms were allowed to denude the fruit trees, which laid bare their boles to the scorching heat of the fierce summer's sun, and most of them lost the bark from that side so exposed. Few remain that are not as good as dead. Fences all destroyed, hedges and weeds and patches of brush dot this pretty-surfaced land, while the buildings, though apparently in good condition, are sadly out of repair.

Little, save by dint of hard work, could be expected the first year. To know what is really most profitable to be done requires a little time to become acquainted with the different qualities and conditions of the soil. So we make this an experimental year, hoping to make less mistakes each succeeding year from the past failures. One principle must be followed or failure may anywhere be the sequel of our ever so hardly-performed work. This is to do well all we undertake, and in farming, though it is on a rented place, we can only meet with success by thorough work. It will not pay to get a half crop. The same *time* is expended that is required for more; save that when *large* crops are made more work must be done.

The old saying that "it takes a year to make a kernel of corn," is not appreciated, but when it is said that but one crop of corn can be made per year, it is easily seen as a fact. The whole year is passed and has to be provided for while one crop is produced. Now, if but a half crop is made, there is usually a waste somewhere, and it matters not whether it is in stingily working our land, and as stingily supplying food for the crops, or in any other manner of bad planning, or actual waste of time. It all amounts to the same result—small pay for whatever work is done. As the man who, to evade the encroaching briers and brush that are growing around his field, instead of cutting them off and making a thorough job of destroying the hedges that year by year grow wider until he is surrounded, with but a small area left him in the centre. So he who tills in a slip-shod manner, year by year, allows the subsoil to grow harder and nearer the surface, and land gets poorer in plant food where the roots can reach it. Soon the farm is "run out," and he seeks for a new field to again be *run out*, because naturally he will follow this same course.

PRESERVING WATERMELONS AND SQUASHES.

By W. D. Boynton, Appleton, Wis.

It is not generally known, I think, that watermelons can be kept in good condition up to the fore part of winter. I am led to think that it is not generally known from the fact that it is but little practiced. The watermelon is too fine a fruit to be restricted to any two or three weeks of the year, when it may be enjoyed for almost as many months.

Many of the readers of THE FARM AND GARDEN may know how this desirable result is to be obtained, but I think that it will not come amiss to give them a fresh reminder, while the mass who have never given the subject a moments thought may gain an idea, that, if put into actual practice, will add much to their enjoyment and satisfaction. I hardly need tell you *how* it can be done, as the process is so simple that it is the first that would naturally come to mind. The main idea with me in writing this, is to tell you that it *can* be done.

The melons that are to be preserved, should be picked as late in the season as the frost will permit, and those that are to be stored away should be just a little green—say a week before ripening. If picked at that particular stage, and laid away as hereafter directed, they will ripen very slowly, occupying about three weeks, perhaps, after which they will retain their best qualities for many days, and then commence a gradual deterioration.

The melons should be packed in sawdust, bran, oats, chaff, or any such dry, fine material that will keep the fruit cool, but still prevent decay. A large packing box placed in the woodshed or any such airy, dry place, may be filled with melons, and packing material, at very little labor. A dry, cool cellar would no doubt be still better. Try a few this season, and see if you are not well repaid for your pains. Remember that late varieties of large size are usually the best keepers.

I always pride myself on having a good supply of sound squash all Winter, and along into the Spring. It is not a hard matter to do this if one goes at it right, yet I find that comparatively few manage to keep them even up to mid-winter. It is not at all surprising that they do not succeed in keeping them longer, when we consider the methods of handling practiced most commonly.

In the first place they must be carefully gathered. The usual way of driving along with the wagon box and pitching the squashes into it from both sides, will not answer. They are sure to be jammed and bruised by this means, and whenever they are bruised they will soon decay. A sled or stone-boat should be used for hauling them to the cellar, for they may be picked and carefully laid into a low conveyance of this kind. Instead of being piled in a heap in the cellar, place them in tiers on broad shelves or staging, that the weight of many may not press upon one. I will warrant squashes so treated to last all winter.

COAL TAR IN THE GARDEN.

By Anna Griscom.

A lady, with ample grounds and skilled in the culture of fruit, gave us her experience in using coal tar water among her plants.

She found it a certain remedy for rose slugs, cabbage worms, mildew on gooseberries, and a preventive of mildew on grape vines. One vine subject to it, never had it after a yearly application of tar water. She thought it might even destroy potato bugs, as it had done such good work in other respects.

She used it in the following proportions. To three gallons of coal tar she used a barrel of water. To one gallon of tar, three gallons of water. She stirred it up well and then let it settle. The quantity of tar given here will last for five or six years, using it once a year. She has never been troubled with destructive insects since she has used it. As its odor is healthy, it deserves a trial in lieu of so many poisonous substances recommended as fatal to insects.

MARLBORO RASPBERRY,

As grown by W. H. Hallock, Son & Thorpe, Queens, N. Y.

ORCHARD AND SMALL FRUITS

The Marlboro Raspberry, originated by Messrs. A. J. Caywood & Son, illustrated above, is claimed to be the greatest acquisition introduced in many years. We hope it may prove equal to the expectations. The plant is as strong and vigorous as the Cuthbert. Hardy when the mercury goes to 20° below Zero. Very productive; fruit of large size, bright red color.

FRUITS FOR FARMERS.

By Samuel C. Moon, Morrisville, Bucks Co., Pa.

Within the last few years there has been much more attention given to the proper stocking of farms with fruit trees and plants, than was formerly done. Still there is room for improvement in this important respect. Many farmer's families are not as well supplied with fresh fruits as persons in similar circumstances are, who live in the cities. One of the essential requisites of a "*first class*" farm is to be furnished with orchards which will produce an abundance of fresh fruit for all who live upon it, all the year round.

This much should be done at least, for the economy, convenience, health and luxury of the farmer's family. But a good orchard (and it need not be a large one) if properly managed will do more than this. If the surplus fruit is gathered and utilized to best advantage, it will return considerable money into the treasury.

It requires but a small crop of fruit to pay for the value of land which the trees occupy. We have before expressed the idea in this paper, but would repeat it:—"That the judicious and tasteful planting of fruit and ornamental trees enhances the value of real estate more than an equal amount of money invested in any other way."

The necessary requisites for success in fruit culture are:—To select the varieties best adapted to the locality; to secure good young trees or plants; to plant them in good soil, about as deep as they stood in the nursery; to keep the ground clean and in good order; to preserve them from injury by insects.

There are varieties of all the fruits which will thrive on almost any kind of soil. It is necessary for a planter to ascertain which varieties are best suited to his soil and situation, plant them carefully, give them a little subsequent care and attention, and keep the ground clean and in good condition. We recommend clean and thorough cultivation in an orchard while the trees are small, but after they attain bearing age, get it into sod, and keep it so, but do not allow any grass to grow within three feet of the trees. Keep this circle mulched with coal ashes, leaves, litter or stones. Keep hogs in the orchard all summer, and let them root all they will. Manure every three years just in proportion to the amount of fruit that it is desired to gather.

Small fruits must be kept clean and well cultivated at all times, and should be manured annually. Mulching is of very great importance to all kinds of small fruits; in fact, to almost every crop, and should be attended to more than is usually done. Horse-stable manure is the best and most complete fertilizer for all kinds of fruit trees and plants. Next to this is decomposed animal matter and ground bone.

It is not an extravagant assertion to say that "farmers may have fresh fruit of their own raising, every day in the year." We have tried it and know that it can be done without an expensive fruit house or any other facilities than those which are usually found on the farm.

By exercising a little care and judgment in selecting and handling the late fruits, they will keep well in a good cellar. Late pears and grapes should be left on the trees and vines as long as they will hang, then gathered while dry and spread thinly on the shelves of a closet in a cool, dry, dark, room or cellar. Apples should be exposed to the air in a cool shady place for a few days after picking, then sorted, and the sound fruit packed in clean tight barrels, headed up tightly, and stored in a cool, dry place, where they will have as nearly as possible a uniform temperature of about 40 or 45°

The following assortment of trees and plants can be planted on one acre of land, and will supply a large family all the fruit they can use every productive year. The varieties are selected for eastern Pennsylvania, and are named nearly in the order of ripening. The whole bill can be bought at a reliable nursery for fifty dollars, or less, for first-class stock.

20 Apple trees, plant 33 feet apart. 1 Hagloe or 1 Summer Red Streak, 1 Cornell's Fancy, 1 Gravenstein, 1 Maiden's Blush, 1 Fallawater, 2 Roman Stem, 5 Smith's Cider, 2 Ridge Pippin, 3 Ben Davis, 1 Roxbury Russett, 2 Tewkesbury Winter Blush.

12 Pears, plant 20 feet apart. 1 Doyenne D'Ete, 1 Beurre Gifford, 1 Brandywine, 1 Juliensie, 1 Buffum, 2 Bartlett, 1 Sheldon, 1 Seckle, 1 Lawrence, 1 Keiffer, 1 Rutter.

6 Cherries, plant 20 feet apart. 2 Early Richmond, 1 Mayduke, 1 Black Tartarian, 1 Governor Wood, 1 Bigarreau.

6 Plums, plant 15 feet apart. Wild Goose, Richland, Lombard, McLaughlin, Imperial Gage.

6 Quinces, plant 10 feet apart. Champion, Reas Mammoth, Orange or Apple.

Peaches, plant 12 trees every other year, 16 feet apart, or between the appple trees, but never plant peaches twice on the same land.

Plant Grape vines eight feet apart, all around the barns and other buildings, the southern and western exposures are the favorite locations. Telegraph, Hartford Prolific, Brighton, Wilder (Roger's No. 4), Concord, Martha, Diana, Worden, Lady Washington, Agawam, Catawba, Clinton. If the vines are to be neglected and they must shift for themselves, as is too often the case, Concord and Clinton will be the most likely to succeed.

2 Grafted Chestnut trees, plant 40 feet apart. "*Numbo*" the large improved European variety.

12 Currants, plant 5 feet apart. Cherry, Red Dutch, Fay's Prolific *new*.

12 Gooseberries, plant 5 feet apart. American, Cluster and Downing's.

50 Raspberries, plant 4 feet apart. Cuthbert, Red; Gregg, Black Cap.

25 Blackberries, plant 6 feet apart. Wilson's Early, Kittatinny and Missouri Mammoth.

200 Strawberries, plant 1½ feet apart. 25 Crescent, 50 Manchester, 50 Sharpless, 25 Charles Downing, 25 Wilson's Albany, 25 Kentucky.

100 Asparagus Roots, plant 2 feet apart.

Remember that all kinds of fruit need good land and frequent manuring.

ORCHARD INSECTS.—No. 4.

By Eli Minch, Shiloh, N. J.

The Root Louse, *Schizoneura Lanigera* (Hausm) is very injurious to orchards. This louse is very small, about one-twelfth of an inch long, and covered with a cottony down that, when the lice are numerous, cause the tree to appear as if whitewashed. These lice, in the winter, attack the roots of the apple, and also the pear, underground, and live in the larval form until spring, when they attack the suckers at the base of the tree, when they appear as if splashed with whitewash, and as the season becomes warmer they attack the trunk of the tree and branches. The lice, with their suckers, perforate the bark of the tree, and suck the sap from it, and as the bark dries and peels off they burrow beneath it, and continue their attacks until the tree nppears as if scalded by the sun or attacked by a blight, at times an entire side of a tree will be killed by them, and will be deemed by a careless observer to be killed by the hot suns. When the weather becomes very warm they seek the top of the tree and the ends of the branches, and can be soon detected by the white appearance of the ends of the smaller branches. In winter they seek the roots again and live on them, the same as the branches. When they attack the small roots they cause the root to form small knobs, or knots, and when very numerous will kill the roots, as well as the trunk and branches. Numerous remedies have been proposed for them, but none of them are effectual.

The Peach Tree Alphis, *Myzus Persicae* (Sulzer), are black lice that have the habit of the Apple Root Louse of living in the winter in the earth, feeding on the roots, and on the first approach of warm weather, seek the branches, and cover them so fully as to cause them to appear black with them. When they are very numerous at the roots the trees turn yellow, and much of the supposed yellows are only the work of the Peach Aphis, also, much of the spread of the so-called yellows is caused by the Aphis and the Peach Borer. The Peach Aphis also attacks the cherry. The Green Aphis of the rose also is very injurious to the apple and plum. They attack the leaves in vast numbers, and suck the sap from the leaves and tender branches, and causes them to curl up, and when numerous will seriously check the growth of the tree. The Apple Tree Aphis *Aphis Mali* (Fabr), are a reddish brown aphis of sufficient size to be easily seen on the underside of the leaves of the apple leaf, and by sucking its juice they cause the leaf to curl the same as the rose aphis, but the aphis are very much larger than the rose aphis, and are equally as injurious. The Lady Bug destroys millions of them, and when the aphis are very abundand they rapidly multiply and feed on them, and will so reduce them that they will hardly be noticed, and the lady bugs no longer having their favorite food, will also disappear, when the Aphis will rapidly increase again, to be swept off again by the increasing lady bugs. This will account for the aphis being at times so abundant, at other times but a few are to be seen. The life history of the Aphis is not well understood, and much further investigation is needed. I find the Aphis at times very abundant on grasses, and the trees free from them or only a few at least, again the grass will be deserted, and the trees will swarm

with them. More information as to their habits is needed. The Bark Lice, of which there are many kinds, are very pernicious insects in the orchard. When hatched, they soon make a scaly covering fast to the bark under which they grow and multiply, and send out fresh colonies to overrun the tree. They soon give the tree a sickly appearance, and will soon destroy the value of the tree. An application, with a brush, of a solution made of one pound of caustic soda lye, and two gallons of water, will, when applied to the scale quickly loosen it, and kill all the lice beneath it. When the scale lice attacks the smaller branches as well as the trunk of the tree, the whole tree must be frequently sprayed with the solution or a kerosene emulsion which is very effectual.

I would say, in closing these articles, be careful to examine all the trees you purchase, very carefully, for the insects I have in this, and the former issues of the FARM AND GARDEN, briefly described. Trees free from insects will be of very rapid growth, and be of a dark rich green. A tree free from insects, will reach as large a size in five years, as one infested will in ten or twelve years. I can but close these articles with the advice I have so often repeated, look well when you purchase a tree, for insects, and if present, use hot water for a dip to dip them in at a temperature of from 140° to 150° Farenheit, which will kill most of them, even the eggs will be destroyed; or a kerosene emulsion, which will kill the eggs effectually. Kill the Scale Louse by soda lye as described. I have used, but do not recommend the use of raw kerosene, which I pour a gill or so on water of a large tub, dip the trees, roots and all, in the tub, the trees will be covered by a film of oil, and if quickly done, and the trees exposed in the shade, to the air, until the smell of kerosene disappears, in perhaps an hour or two, they may be set and grow well. But if *soaked* in kerosene or after the trees are pruned, the places where the branches were cut off will absorb the oil and the trees will be killed as well as the eggs of the insects. I have done some trees this year myself this way, that were full of Root Lice, and they are now growing nicely, free from lice, but unless carefully done, the the tree will be killed, hence, I do not recommend the general reader to try it.

LOCATION FOR AN APPLE ORCHARD.

By L. H. Bailey, Jr., Cambridge, Mass.

There is no more frequent cause of failure in apple orchard than uncongenial soil and surroundings. The supposition that any heavy and black soil is suitable for apple growing, simply because it is rich, is erroneous. "My soil is rich and loamy, and even though it is low and rather cold, I can improve it by underdraining," said a farmer who contemplated planting an orchard. While I would not lessen the faith in liberal underdraining, I would, nevertheless, urge the importance of selecting for apple culture, soils naturally well drained, in preference to those artificially drained. It is rare, indeed, that an unguent and cold soil is made entirely suitable for apple growing by tile draining. I have in mind two orchards upon soils entirely opposite in their characters. One is upon a rich, warm gravel, with no hard subsoil within four or five feet of the surface, the other upon a heavy loam with a clay subsoil. The former orchard has never been drained; it bears well of choice fruit, is in good health, demands little care, and has been for some time the premium orchard in the state in which it is situated. The latter has had similar treatment as to pruning and general cultivation, only more diligently and vigorously applied, and the varieties are nearly the same. To this orchard has been given a most thorough system of underdraining. Neither time nor expense have been spared to relieve the soil of all unnecessary water in the least possible time; still this orchard is a failure, its fruit is not abundant nor of good quality, and the trees are not vigorous. I have heard its manager remark, "it is impossible to make good apple land out of a low and cold soil." A positively poor soil, if warm and naturally well drained, is certainly preferable to one of an opposite character. A poor soil can be improved by manuring. Of course an orchard on a cold soil is preferable to no orchard at all, but if planted with an idea to profit it will likely be a failure. Few farms lack entirely any high grounds. A few trees planted about on the knolls will return more satisfaction than three times the number on an uncongenial soil. Good and naturally well-drained wheat land is usually good apple land. A rich ground is especially desirable. It must not be supposed that apples are to be expected to dwell on an infertile soil. An abundance of vegetable matter in a warm soil is always necessary to apple culture. Lack of hardiness, late bearing, shy bearing, and poorly flavored fruit, are commonly the results of planting on a low and wet soil.

Aside from perfect drainage and warm soil, high lands present other advantages to the apple grower. Cold air is heavier than warm air, and it settles into valleys and low places. A difference of several degrees is often apparent between the bottom of an ordinary ravine, and the land adjacent. We have all had experience to testify to this atmospheric drainage while travelling at night over hills. Trees on eminences escape late frosts and, if given some protection from hard winds, endure the winter better than similar varieties at low levels. The importance of atmospheric drainage to the orchardist struck me forcibly when once visiting in the mountains of Vermont. A late frost had destroyed all the apples in the valleys—had been so severe, in fact, as to kill all the leaves on the butternuts and walnuts. On the higher hillsides and summits, however, and especially where the conformation of the hills allowed the air to roll freely down their sides, the apples were abundant and uninjured.

We have before us a valuable letter from L. M. Ayars, M. D., of Champaign County, Ohio, in regard to early apples, in which he highly recommends the Early May, of Georgia, and the French Muscat. The Early May ripens with him from June 15th to July 10th. Size medium, and in form and color resembles the Early Harvest, with a blush on the sunny side. The Muscat he describes as a very large conical apple, a medium sized one, measuring ten and one-half inches in circumference, of a clear, beautiful yellow color, and an abundant and early bearer, season early in August, the fruit always fair and perfect. We would be indebted to our readers if they write often of new and valuable fruits.

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J. N. Fender, of Selma, Iowa, asks if the Gregg Raspberry and Cumberland Strawberry are profitable for field culture in Iowa. We should say yes. The American Pomological Society gives the Gregg Raspberry double stars, and the Cumberland one star for Iowa. The Wilson and Charles Downing each double stars.

✝

C. Broderson, of Potter County, Pa., asks for a list of hardy fall and winter apples for a cold climate, of early bearing and prolific varieties, also about Kieffer pears, and fall planting. It is no easy matter to give a list of apples for a particular section of the country, as soils and conditions vary so much. Most of the New York varieties would be hardy. The location of an orchard has much to do with its hardiness. If an orchard is planted where it is repeatedly frozen and exposed during the winter, very hardy fruit are winter killed. Where late frosts are probable, plant on high ground, with a northern exposure. The Baldwin might be valuable for winter for you, while for your neighbor would not be so valuable. In undertaking a work so important as planting an orchard, we should spend a week in visiting all the orchards on soils similar to ours in our section, and make our list from it; that is the best and safest rule. The Whitney No. 20, and the Wealthy are very hardy apples. We cannot, as yet, say how much cold the Kieffer pear will stand uninjured. In severe climates spring planting is safest. In regard to Shetland ponies we could not advise you.

BETTER THAN A POEM.

J. E. McC.

Not every boy can write a poem as Mr. Longfellow did in his school-boy days. But nearly every country lad can perform a work which will be more lasting than most poems written in our time. He can plant a standard fruit tree. A good apple tree, well set in a suitable spot, will grow and thrive and bear fruit long after its planter has gone to his rest. Thousands of golden or rosy fruit will drop from its branches, and many will rejoice in the luxury thus offered. It will be pleasant for a sister or mother to remember "my William planted this tree on his tenth birthday," or to commemorate some other pleasant event or anniversary in the household. A living, growing, useful ornament like this, far exceeds in interest, any cold impassive marble.

I was conversing recently with an old man as we stood under the shade of an enormous mulberry, laden with fruit, and as we were talking of tree planting, I remarked "I guess you did not plant this tree." "Yes, I did," he replied, with a kindling face. "Fifty-three years ago, I came in with a handful of large black mulberries and said I was going to try and raise a tree from the seed. They laughed at my plan, but that did not disconcert me. I found a nice rich spot in the pie plant bed, and planted all the berries. But one seed of the whole sprouted, and I assure you I watched and tended that with care. As soon as it was large enough to move I transplanted it to this spot, and you see to what it has grown. There are ripe berries on it now in July, and there will be ripe ones still when frost comes."

The old gentleman surveyed this tree of his youth with peculiar pride and pleasure, and no doubt there was a long line of associations with it, most pleasing to remember.

One who plants a good fruit tree, may well be considered a benefactor of his race. Bryant's beautiful poem about planting the apple tree, is worthy of a place in the children's memory.

"What plant we in this apple tree?
Fruits that shall swell in sunny June
And redden in the August noon,
And drop when gentle airs come by
That fan the blue September sky;
While children come, with cries of glee,
And seek them where the fragrant grass
Betrays their bed to those who pass,
At the foot of the old apple tree."

GLOXINIA.

OUR FLOWER GARDEN.

GLOXINIAS.

The Hybrid Gloxinias, recently raised in England, are much superior to the imported species, both in size and form, and their colors are almost unlimited, varying, as they do, from the purest white, through the different shades of pink to deep red, and from pale-blue to intense purple, with endless kinds of spotting and banding, with light and dark colors; in fact there are few flowers in which there is so much variety, and they also possess other points equally noteworthy. Gloxinias are, at this writing, in their full beauty. We believe no one in this locality knows how to grow them as well as Mr. H. A. Dreer, who annually makes a magnificent display of them (as well as Tuberous Rooted Begonias). We have seen plants covered with flowered and magnificent foliage, some of the leaves measuring seven and one-half by eight inches. It is now too late to give instructions for growing them, but those who have a stock on hand should remember that after flowering less water must be given, shading discontinued, and more air admitted so as to ripen the growth. When the leaves have died down, the sod should be allowed to become quite dry; keep them through the winter in a temperature of 50°, but cooler than that for any length of time is not safe, they generally winter best when the bulbs are allowed to remain in the soil and pots in which they have been grown, but as they become large and are in pots of a considerable size, this is not always convenient; in that case the roots should be stored in paper bags, filled with dry sand to preserve them from the air, otherwise they shrivel, and thereby receive serious injury. It is too soon now to sow seed, but the most expeditious way of propagation is by *leaf cuttings*. If the leaves are taken off now, when fully matured, with a portion of the stalks attached to them, and this portion is inserted in four or five-inch pots, drained and filled with half peat or loam and sand, with half an inch of sand on the top, and kept in a brisk heat, slightly shaded and moist, they will form healthy bulbs before winter. If the variety to be increased is scarce, several may be produced from single leaves by cutting the midrib through on the under side, in four or five places. Then lay the leaves flat on the soil in pots or pans prepared as above; over each place where the midrib has been severed, secure the cut parts to the soil with a pebble or a piece of bent brass wire run through the leaf into the soil; at these points small tubers will be formed which will make good flowering plants next season.

PROPAGATING DEUTZIA GRACILIS.

When this plant is well grown it will throw up young suckers from the roots, and these may be taken off in the autumn with a sharp knife, a portion of the root being attached, cut back to a few inches, and then they may be potted.

PINCHING PLANTS.

The chief object of pinching plants is to make those of straggling habits of growth assume a dense, evenly branched one, or to get the plants into some form different to that of its natural growth. In pinching out any Coleus or soft wooded plants, generally two shoots start from every point that is stopped, and if one wants to get a plant to assume a pyramidal form, broad and well filled up at the base, the cultivator must check the upward tendency of growth, in most varieties, by pinching out the points of the strongest shoots. Pinching out the flowering points is advantageous when we want to retard the plants without exhausting their energies, by allowing them to flower when not required.

PETUNIAS AFTER BLOOMING.

Petunias, when they have done blooming, should be thrown away, taking care, however, that some young plants have first been propagated from them by taking cuttings of the tops of the young growth; these cuttings root very freely in a hot bed. When *Abutilons* become old and leggy they should also be increased by taking cuttings of the young wood; these form roots very readily, and the young plants, if taken care of, will soon grow into a flowering size. *Tuberoses*, when done flowering, and after the leaves decay, require a season of rest. The pots containing the roots should be laid on their sides, and they do not require any water until they begin to flower next spring.

ASPARAGUS FOR ORNAMENT.

The *London Garden* says: "Among the plants grown for use in our gardens as vegetables, there are some—as the Globe Artichoke, Asparagus, and some sorts of Beet—which might well be employed for ornament also. Of all useful plants, however, none lend their leafy growth with better effect when planted with Irises, Lilies, Foxgloves, Poppies, and other showy and bright-colored flowers, than does the common Asparagus. Its light and feathery sprays are in reality more fresh and graceful than are those of the Bamboos, and some of our visitors are quite delighted with it, as seen in the flower borders here and there. We use it also in a cut state, along with ferns and other greenery, for relieving the bright coloring of cut blossoms of all kinds, and where flowers are cut largely for decorative purposes it will be found most useful. It is not easy to say why there should be a prejudice against the ornamental employment of useful plants, but that such does exist "goes without saying." As a friend said to me the other day, "If the apple tree did not bear apples, we should then grow it largely as an ornamental shrub or tree."

IPOMEA NOCTYPHYTON.

We have several times mentioned this beautiful climber, which is a desirable acquisition for anyone having a garden or a greenhouse. The plant requires a very warm place, and it is said that it requires a temperature of at least 60° to keep it over during the winter. It is a very rank grower, some branches increasing in length six inches in one day. As to soil it does not seem particular, we have seen it planted out in a shallow bench with only some moss and manure to cover the roots, and from a small cutting set in last may. Several strong branches have grown for a length of ten to twelve feet. It is very interesting to watch the flowers unfold at about eight o'clock in the evening. They look like a huge, pure white Morning Glory, and have a delicate perfume. The flower is not quite as cup shape as the Morning Glory, and the stem is very much longer. It should do very well in a large pot, and would be the flower for the working man who is busy all day, because he can enjoy this in the evening. We believe it is only propagated from cuttings.

A HANDSOME BEGONIA.

Of the many beautiful plants we have seen few can compare with the tuberous rooted *Begonia Pearcei*. The foliage of which is most remarkable by its splendid variegation of light-green and metallic-bronze. When held against the light it is still brighter. The flowers which stand well above the foliage are also of a peculiar color for Begonias, being a clear canary yellow. This is a plant for which, no doubt, there will be great demand, both for its flowers and decorative qualities.

ASPARAGUS PLUMOTUS.

This is one of the most elegant plants that one can grow in a cool greenhouse for furnishing an inexhaustible supply of foliage for arranging with cut flowers, a desideratum at all seasons. The feathery appearance of the finely divided, deep-green leaves has a charming effect, intermixed with cut flowers. One Philadelphia florist has a housefull of it, and no doubt they will go off with a boom.

ACACIAS.

The varieties of Acacias do not seem to meet with that amount of attention to which their beauty would seem to entitle them. All of them possess charming light-yellow or orange colored blooms, and hardy foliage that suffers but little from confinement in the dwelling-house. They are striking plants when grown in the form of standards, and not mutilated or weakened by being pinched back. Such subjects gain new and unexpected beauties if they are merely pruned once, as soon as the blooming period is over.

WINTER AND SPRING BLOOMING BULBS.

By the exercise of a little taste much pleasure can be derived from the cultivation of bulbs in the house, as well as in the garden. In the house they can be grown in a variety of interesting ways. Hyacinths, Narcissus, and Crocus may easily be grown in glasses. Pot culture, however, is more extensively used, besides looking quite natural. Of late we have been growing bulbs in moss, either in pots or boxes. The Due Van Thol Tulips look splendidly when several bulbs are grown together. A very pleasing way is to take a fair sized basket, and plant a variety of bulbs in it, say a row of Crocus on the outside, next a row of Tulips, and the center planted with one to three, or more, Hyacinths. The soil should be sandy, and have a few pieces of moss broken up fine, mixed with it to keep it to keep from becoming packed or heavy from frequent waterings.

Bulbs, when flowered in the house, should be kept in as moderately cool room as possible. In a warm room they will bloom too early, and the flowers will not last nearly so long. They should be kept in some spare room, not so frequently used, and consequently not kept so warm. (It must be remembered that the bulbs must form strong roots before coming in flowers, otherwise they will not expand well.) To have a succession of flowers, a variety of bulbs must be had, and they should also be planted at intervals, say every week from the beginning of September until the end of November, even later planting will have satisfactory results, but of course the earliest planted ones will be the best.

Hyacinths and Crocus will also grow freely in almost any medium capable of retaining moisture. It is said that they will bloom almost as well in sand as in specially prepared and rich composts. Vases, deep saucers, shells, and wire hanging baskets can be made use of for the purpose, either filled with moss, sand, or water, and by a succession of planting flowers can be had from December to May. One of the cheapest arrangements we saw last year was a lot of strawberry boxes, painted brown (merely dipped in the paint). In these Hyacinths, Tulips, and Crocus were planted. Some had three Hyacinths others three Tulips and six Crocus, and again, some had one Hyacinth, two Tulips, and some Snowdrops or Crocus.

SINGLE HYACINTH

After these baskets had stood in the closet for about a month, a quantity of Tradescantia Multicolor and other drooping plants were planted with the bulbs, and by the time the latter were in bloom the baskets were covered with a drooping mass of green, which made them look very pretty. Large, flat earthenware dishes may be conveniently altered into a Jardiniere by filling them with moss and water, and simply setting the bulbs on the top of the moss. Wire hanging baskets are capital, and if some roots of Oxalis are stuck in the moss through the sides of the baskets they will bloom splendidly.

A REMEDY FOR SNAILS.

Mr. Dreer's foreman tells us that he uses air-slacked lime to destroy snails whenever there happens to be any sign of them. He spreads it all over the soil, even of the most delicate Odiantums, and says it does no injury to the plants whatever, but destroys and keeps off snails and other pests.

DIOSCOREA DISCOLOR.

Have you ever grown this beautiful climber? if not, try it, and you will be pleased with it. It is a tuberous root, and requires a yearly rest, but it can be grown as well in winter as in summer. The foliage is handsomely variegated, the under side being dark maroon.

TIGRIDIA PAVONIA.

We were surprised to learn with what ease these curious flowers are grown and bloomed. Only two months ago some bulbs were bought which hardly appeared to be of blooming size. Some were planted in the open ground, and made strong growth. A few others were stuck in some moss which was packed around some potted plants set in a large window box. These were in

bloom on August 1st, having received no nourishment except what they could get from the moss. We simply mention this circumstance to show what can be done with them. The flowers are very interesting, most of them being of a golden yellow color, spotted in the center with orange red.

LATE-FLOWERING SINGLE TULIPS.

Single Tulips for the garden are cultivated more for their individual beauty than for the effect they produce in grouping or bedding. They are much prized by fanciers. In Holland during the existence of the "Tulip mania," fabulous prices were paid for bulbs of this variety, and even now, catalogues of celebrated English growers mention varieties priced at $100 to $150 for a single root.

JONQUILS

Are greatly esteemed on account of their fragrance and early flowering. The cultivation is about the same as that of Hyacinths. Three roots may be grown in a four or five-inch pot.

SCILLAS

Comprise a numerous genus of bulbous plants, most of which are preferable for in-door planting. They are all beautiful, and flower in the spring; indeed, some bloom even before spring commences. They should be planted when the bulbs are at rest, that is early in the Autumn, in any good garden soil, not too heavy; and any little attention will be well repaid with plenty of flowers. Scilla Siberica, of which we give an illustration, is a minute gem, of earliest Spring flowers, with striking and peculiar shade of porcelain blue, which quite distinguishes it from other species. In mild localities it is perfectly hardy. Scilla Peruviana is a noble plant where it is well grown. It must have rather a warm place to do well, and deserves a good position in the greenhouse.

A writer in the *Country Gentleman* describes a new method for growing and forcing Hyacinths in rooms. Procuring one of the large, coarse sponges used by coachmen, he made several incisions in it, and placed the bulbs in them. The whole was then placed in a vase filled with water, and a thimbleful of rape seed was scattered over the surface which covered it entirely with a fine moss mantle, adding greatly to its beauty and attractiveness. By using warm water they force readily and succeed admirably.

GROWING HYACINTHS IN GLASSES.

This is by far the most satisfactory way of growing Hyacinths, if cleanliness and neatness is desirable, and one does not mind the expense of glasses, which cost from one dollar per dozen upwards. When the different colored glasses are used they look especially pretty arranged on the parlor window sill, where they seem to be most admired by persons passing by. There are a few items that must be attended to to be successful in growing Hyacinths this way. First, do not use spring water, when rain water can be had as well. Next, place the bulbs in the glasses and fill them with water, so that it barely touches the bottom of the bulbs, and set them in a dark, cool, dry closet or cellar, where the water will not freeze. Look at the bulbs once in a while to see that the water has not evaporated too much, and if such is the case, fill the glasses up again, same as before. Remove any of the decayed scales. As soon as the glasses are well filled with roots they may be brought into a somewhat lighter place, taking care, at first, not to set them where the sun will strike them, but as soon as the leaves have made some growth, all the light and sunshine at command may be given them. Then turn the glasses around occasionally, to keep the growth of the leaves regular and well shaped. Some advise to change the water at least once every three weeks. We think this is only necessary in case the water gets an offensive smell, and this can be prevented to a certain extent by placing a piece of charcoal in each glass. If you do change the water, be sure to have the fresh water of about the same temperature as that in which they had been growing. Should the roots show any sign of decay, take the bulbs out gently and wash the

SINGLE HYACINTH.

roots in clean water, and give the glasses a good rinsing, put the bulbs back without breaking any of the roots, if possible. A little ammonia, or a good pinch of guano, dissolved in the water, will help the growth considerably, and increase the brilliancy of the flowers. If a large number of bulbs is to be grown in glasses, and the latter are found too expensive, a number of cheap, but wide bottles, could be used, and from them the flowering roots may be removed into the handsome glasses as the first to bloom fade.

TO GROW HYACINTHS IN POTS

Not many directions are necessary. The soil should be light and rich, such as may be formed of two-year-old cow-dung, and two parts sandy loam. If cow-dung cannot be had, then use some other manure, and rather a little more of it. A four-inch pot is large enough for one bulb, and a six or seven-inch one will answer for three bulbs. At the bottom of the pot put a piece of broken pot, and a few pieces of charcoal, and on the top of this some rough pieces of peat or turf loam, then fill the pots with the fine prepared soil to within a half an inch of the top, placing the bulb in the centre (or at equal distance apart, if three), press them well into the soil, and fill up sufficiently so that the crown of the bulb is only exposed. The soil may then be watered and the pots placed on a dry, level place in the open air and covered with six or eight inches of decayed leaves, sand, or soil. Leave them there until the middle or end of October. When wanted in full bloom by Christmas or the New Year, select the pots which are full of roots and bring them gradually to the light, as recommended above. We will give further instructions as regards the treatment of Hyacinths in our future numbers.

CULTURE OF HYACINTHS IN BEDS.

An open, airy place, and at the same time, if possible, sheltered from cold winds. A place where the sun shines the longest part of the day is preferable. Any good, well-drained soil, enriched with a few spadesful of manure will grow Hyacinths and Tulips well. Plant from September onward, and do it on a dry day. Set in lines, say eight or ten inches apart, which will leave space enough to hoe up the soil if necessary. The *crown of the bulbs should be four inches under the soil*, and it would be well to cover the bed with a few inches of leaves, straw, or other light substance that can be easily removed when the plants begin to grow.

DOUBLE HYACINTHS AND SINGLE HYACINTHS.

It is a wrong notion to suppose that double Hyacinths are handsomer than single. Of course, well-grown double Hyaciaths are perfectly beautiful, but they are by no means superior to the single, whose colors are more diversified, and the flower spikes of which are more compact and larger; besides, they are more easily grown, and therefore better adapted for he amateur.

We will mention for the benefit of those who are not acquainted with Hyacinths, that the colors include all the shades of red and blue, and a large number of various shades of white and yellow.

TULIPS.

Like the Hyacinth, the Tulip will thrive in almost any soil or situation. It is not desirable, however, to grow them in water, but very sandy soil, and even moss will do. For planting in the garden mixed with Hyacinths, Crocus, Snowdrops, etc., they are unrivalled; and for growing in the house in window-boxes, pots, or hanging baskets there are few things more beautiful.

The early dwarf Duc Van Thol Tulips are general favorites, their very brilliant colors and early blooming, alone, makes them so desirable. If planted early in September, as we recommended for Hyacinths, they may be had in bloom early in December. They are to be recommended for early blooming out of doors. With the various colors an admirable effect may be produced, either planted in row or circle, each of one color or of the different kinds mixed. The

EARLY SINGLE TULIPS

Are fully as desirable as the above. They embrace all the finest shades of purple, crimson, scarlet, rose, yellow, and white. The striped ones combine all the above colors and many more. We can recommend them highly, as they succeed with every one. If planted in pots, use from one to five bulbs in each. For out-of-doors use plant in October and November, and even later, should the weather be favorable. Set them about four to six inches apart, and the crown of the bulb should be about four inches under the surface. Next we have the

EARLY DOUBLE TULIPS,

Which, although they may be grown successfully in pots, are preferable for the flower garden.

Parrot Tulips are exceedingly singular and interesting, and their brilliant colors produce a striking effect in beds or masses.

Live Stock.

FALL CALVES.

Fall calves should never be kept for the dairy or for beef unless the barn contains more room than is necessary. The season is against them, and they will not pay for the care necessary to keep them in proper condition and growth. There may be exceptional cases in which it may be profitable to retain the late calves, but the early Spring is the more appropriate time, though it must be admitted that, as a rule, too many calves are sacrificed when young.

TRAINING A SHEPHERD DOG.

The first thing to do is to teach him to understand the call, and to obey. The task is then an easy one. Unless this is done while he is young he will chase the sheep, which induces him to kill them, the same as any other dog will do. He will be a model of innocence when the shepherd is near, but will not let an opportunity pass of killing sheep if his early education has been neglected. Teach him obedience at an early age, and he will be invaluable.

SETTING THE MILK.

It should be borne in mind that as the summer passes away, a change must be made in the manner of setting milk. The warmer the weather the shallower the depth, though many farmers preserve the strictest uniformity in depth, using the inch or two inch system, as the case may be, the entire year. A proper use of the milk pans, may not only enable the farmer to derive a greater profit, but also prevent loss by the failure of the cream to rise.

DRYING THE STOCK YARD PROFITABLY.

Now is the time to gather up all the weeds that were not eradicated at the proper time, and the best use for them is in the stock yard or pig pen. They will be trampled under foot and act as absorbents to a certain extent. As they will also raise the surface of the yard higher, they afford a high surface when the late rains saturate the ground. By using weeds for this purpose they return a profit to the farmer for his labor, but before hauling out such material it should be added to the manure heap, in order to ferment, which destroys the seeds.

SCOURS FROM FEEDING MILK

Cases often occur in which skim milk causes scours when fed to pigs, which is not so noticeable when buttermilk only is allowed. To avoid such difficulty the milk should be added to the contents of the swill barrel, and thickened with bran. It should then ferment before being fed. The next thing to do is to put some fresh charcoal in the trough every day, and the pig will be liable to no danger from scours. One of the most essential requisites of a pig, when it is fed on acidulous food, is a corrective, and as charcoal is the best substance for such purpose, it should always be made a part of the diet.

CROSSING NATIVE SHEEP.

Before the farmer determines on his cross he must fix upon his purpose. If his object be a heavy fleece, he cannot expect good results from the mutton breeds. While a Southdown will undoubtedly make an improvement on the common flocks in the quality of wool, yet, such wool will never be equal to the wool produced by a cross with the Merino, and those who breed to the Merinos must be satisfied with a good clipping of wool and a fair quality of mutton. Those who contemplate raising early lambs, should take these facts into consideration also. The Shropshires and Oxfords are best for such purpose, and to get the best result farmers must breed for it.

THE YOUNG COLTS.

As farmers prefer their mares to foal in the fall, the busy season being then past, they must be careful about feeding the mare and foal. A colt will stand by the side of his dam, when in the stall, and eat grain with her before he is two months old, but his system will not be fitted for so doing, nor can he properly masticate the food. It will be necessary, therefore, to feed all grain in the ground state, especially oats, to which young colts are very partial. By so doing many disorders will be avoided, and by the time the spring pastures are ready, the colt will be old enough to graze, and the mare in better condition for work.

MILK FEVER.

But few cases occur on the farm, and it is usually of a mild form. Only those cows that have been forced to an unusual production die of milk fever. It is similar to apoplexy in human beings to a certain degree. Rich diet, with stimulants, and the system taxed to its utmost, will, in the majority of cases, end the existence of any animal, and the surprise is more when it is considered that the cases of milk fever are few, rather than numerous.

FEEDING DUSTY HAY.

This is done continually. It is well known that the leaves of well cured hay crumble into dust, and more rapidly so as the season advances. No kind of hay is totally exempt from dust, and this trouble is best avoided by moistening all the feed which is allowed. Heaves in horses, frequent coughing, and difficulty of breathing, may be traced to dust in nearly all cases, and if the cutter is used as it should be, with the food well moistened and salted, the stock will keep in better condition.

HAY FOR DAIRY CATTLE

Although good clover and timothy hay is best, we advise farmers not to waste any of the long provender. By the proper use of grain and cotton seed meal, the most inferior kinds of hay or fodder may be made to do good service. Some dairymen mix the linseed and cotton seed meal, using equal parts of each, but our experience this season has been that one-fourth linseed meal to three-fourths cotton seed meal makes the best ration, provided the cow is allowed, also, ground oats and corn meal.

Dairy Calves.—Instead of purchasing cows for the dairy a pasture should be provided for raising calves. No dairyman can buy a cow that he knows to be suitable until it is tested, but if he breeds his best cows to choice bulls he will be able to secure a larger number of first-class animals than in any other manner. It should be a rule to send nothing to market except bull calves, until after every heifer has produced at least one calf, and herself been tested.

Use the Right Breeds.—We notice that on many dairy farms, where milk is sent to the large cities, that while the dairymen show a disposition to improve their stock, in a majority of cases the bulls used are Jerseys. Now this is a mistake, and only tends to disgust the average dairymen, who sells milk only, with the pure breeds. The Jersey is not a deep milker, her particular quality is producing butter, and in that respect she will always give satisfaction. If our dairyman really wish the best results in the production of a cow that yield large quantities of milk, they must use only the Holsteins or Ayrshires.

THE SMALL BREEDS OF HOGS.

Although the majority of the farmers are partial to the large breeds, there are some advantages in favor of the small Yorkshires and Suffolks, not possessed by the Poland Chinas or Chesters. Every one who raises stock must acknowledge that an animal which has ceased to grow, fattens more readily than one which is not matured. The tendency at the present day is to breed for small carcasses (except in the neighborhood of the large pork packing cities), as such meat is more in favor, and realizes higher price than larger carcasses, but unless the small hogs can be raised at a cost equivalent to the production of pork, the larger sizes will be preferred. Now if we consider that the small Yorkshire and Suffolk *mature early*, it at once becomes apparent that they are more easily fattened. While the large breeds require time to mature the food consumed must contribute to bone and tissue, though a proportion will also be devoted to fat, and in the meantime a hog of a smaller breed begins much earlier to convert nearly all its food into flesh. If we have a litter of pigs to farrow from a small breed, at the same time with a litter from a large breed, in proportion to cost of food, from April to December, the gain will be nearly the same, although the pigs of the larger breed may weigh more than the other, but the difference will not be very great. If the pigs are kept over to the second year, the larger breed will be much more profitable, but for the first year the profit will be the greatest from the smaller breed, and this may be verified by any farmer who will take the pains to keep an account of the *expenses*. The small breeds grow fast, fatten early, and are fit for the butcher long before the large breeds. The comparison is not made as to which will grow the faster, or which will make the larger hog, but which will yield the largest profit, the profit being that sum derived after *deducting the cost*, whether the pigs weigh one hundred pounds or three hundred. If the boars of the small breeds are used on large coarse sows the pigs will be hardier, for the pure breeds are bred too fine for general farm purposes, but the crosses are excellent, and always give satisfaction.

The old idea that the trotter is a cross between the thoroughbred and common stock is a mistaken one. All the recent winners and record makers have had a preponderance of trotting blood in their veins, and horsemen now look for both dam and sire having most trotting ancestors. It may have been true in the past century, when the trotter was first known, that thoroughbred blood was mixed in them, but they are now as distinct a race, with their peculiar gait, as the thoroughbred or Arabian. We venture to say that in forty years from now the trotter will beat the time of the running horse.

White Clover.—This is an excellent pasture grass for cows and sheep, and a piece of ground should be seeded to it for a special reserve.

The Poultry Yard.

(EMBODYING RESULTS OF ACTUAL EXPERIENCE.)

HATCHING CHICKS EVERY MONTH.

By P. H. Jacobs Hammonton, N J.

Although custom has confined the hatching of chicks to the early spring months, there is no reason why they may not be hatched and raised with profit the entire year. There is not a month in the year that does not present advantages and disadvantages, and the most successful persons often meet with loss when unexpected, and success when the obstacles seem greatest.

September is an excellent time to begin hatching, not because there will be a sale for broilers when they are six weeks old, but because they can be raised with less care. In such case the poultry raiser must take into consideration the fact that the best prices are not attainable until after Christmas, and the chicks must pass through the beginning of winter The broilers that bring the highest prices are those that are fat, compact, and nicely feathered, and when they first come into market should weigh from one-half to three-quarters of a pound. How to raise chicks hatched in September, and yet manage to have them small enough for sale in January, is best done by crossing a black-red game bantam cock on small, compact common hens. The game blood gives vigor, the flesh is the best of all table fowls, and the bantam size prevents rapid growth, but allows of quick feathering and age before the weather becomes too cold. As the chicks will have made sufficient growth during the fall to enable them to withstand the severity of winter, they will be able to endure much more than the chicks from standard fowls of the same age. The same rule that applies to September may hold good for October, but November demands a cross of a larger kind, for the chicks will not grow too fast after frost. We should cross the hens with a cock of a hardy breed, and one that feathers up well, such as the Plymouth Rock (or Dominick, if the hens are large), but avoid such breeds as Hamburgs or Black Spanish, as they are too tender for winter.

The first consideration for the chicks is *dryness*. The slightest dampness is worse than cold, though *warmth* is also absolutely essential. The breeder will find that his duty will be shoveling snow, thawing drinking fountains, and occasionally resuscitating chicks that have been chilled, but after he has attended to them faithfully he will be amply rewarded by the high prices obtained. Chicks hatched in November, December, and January, are more readily sold at the weight of half a pound. February and March chicks sell best at three-quarters of a pound, and April hatched chicks at a pound, the price averaging about fifty cents a chick, the half pound selling at one dollar per pound, the three-quarters at seventy-five cents per pound, and *pro rata*.

Although the difficulties in winter may seem arduous, the prices are a remuneration, but the largest and easiest profits are derived from chicks hatched in the spring months—March, April, and May, owing to the expenses being lighter in comparison, the chicks not being subject to such extremes of heat and cold as during the winter and summer. The best month for selling is April, and the poorest, September and October.

That chicks may be raised profitably at all times may be made apparent from the fact that the price seldom becomes less than twelve and one-half cents a pound, even in the dullest seasons, though adults often sell for much less, while the actual cost is about five cents per pound. The summer months are usually considered the most unfavorable for hatching young chicks, but the cause of failure may be attributed to lice, which rapidly multiply during warm weather, the mortality being greater than in winter or spring. This difficulty is easily obviated, however, by proper management, and as the increase of carcass is greatest during the first three months of a chick's existence, a fair profit may be realized even at low prices.

To classify each month, in a condensed form, in regard to the advantages and disadvantages, we may state that in September chicks may be hatched, brought to a good condition, and sold in January at a fair profit, but the breeder must buy all the food and expect to do hard work before they reach the market.

October enables the breeder to have the chicks feathered before the cold season sets in, and they may be sold with those hatched in September.

November chicks will bring good prices about the beginning of February, but they demand the closest supervision, and unceasing care.

December chicks come at a time when they must not be allowed to roam at will, for the cold, if allowed to injure them, brings on roup, and they gradually drop off. With plenty of warmth and sunlight, however, they may be carried forward with but little loss.

January chicks are those that produce the early pullets for winter laying, but they must be raised without the snow and ice to injure them. It is the extra care required that makes them valuable.

Both January and February are the months for raising the April market chicks; the best breeds for the purpose being those possessing strong constitutions, heavy bone, and close feathering. All chicks raised in the winter months grow faster the greater the proportion of artificial heat supplied.

March chicks get the benefit of the first growth of vegetation in warm sandy sections, and a variety of food is more easily obtained than previously. A cross of the Leghorn on common hens is now the best, as the chicks will feather rapidly and come into market with greater attractions, owing to the easy maturity of the Leghorns. Chicks hatched this month sell best in May, when about one pound each in weight.

April and May are twin months, the conditions being nearly the same. The chicks will receive a greater variety, and can begin to forage. They reach the market about the middle of June and first of July, up to which time the prices will be from fifty cents down to twenty-five cents per pound for two-pound chicks, but the cost of production will be less.

June, July, and August are considered unfavorable months, for reasons stated above, yet, in proportion to the cost of production (estimating care, labor, and price of food), the profit from hatching chicks, for the capital invested, is quite a large sum it rightly noticed, the principle obstacle, as mentioned, being lice.

In attempting to illustrate that hatching chicks may be made profitable at all seasons, it should be considered that while the prices are greatest for those raised during the winter that transportation to market, cleanliness, and freedom from colds is more difficult, and that by keeping away the vermin in summer the lowest prices are apparently more than they seem to be if we allow due importance to the value of quicker growth, smaller amount of food consumed, and the saving effected by the foraging of the chicks, and the feeding to them of much material that would otherwise be wasted. Above all things give strict attention to the merits of the breeds, and use as cardinal rules for success—*warmth*, *dryness*, *cleanliness*, and *variety* in feeding. If these suggestions are followed the chances of success will be largely increased.

MOULTING IN THE FALL.

As the hen begins to molt, the number of eggs secured becomes less than previously, but as all the hens do not usually moult at the same time, a careful comparison will convince the breeder that more eggs will be obtained than during some of the winter months. We wish to give a few special hints to our readers in regard to the moulting hens, as many mistakes occur by not taking advantage of natural results.

As soon as a hen begins to moult she stops laying (though there are sometimes exceptions), and she is sent to market. If we will but calculate that it requires three months during which time to complete the moulting process, it is plain that the hen that begins now will finish about the first of December. Being then in full plumage, and her troubles over, she is prepared to begin the winter, and should lay. If the commences to lay on the *approach* of winter, she will continue to do so until spring, and will return a large revenue owing to the high prices then obtained for eggs, and will also be among the first to sit in the spring, when it is desirable that the early broods be hatched, mark the fact then, that instead of sending her to market that it will pay to keep her as a winter layer. But the moulting hens are made to give place to the early pullets, and we consider such a course injurious, as pullets often begin to lay before they are fully matured, and a repetition of the process annually, sooner or later brings on loss of vigor and hardiness in the chicks. The eggs from the early moulted hens hatch best, and the hens are better sitters and more reliable than the pullets.

It is time to rid the flock of the moulting hens when they postpone the shedding of feathers after the advent of cold weather, for such hens will not lay until Spring, no matter how well they pass through the ordeal, nor will the pullets lay if they do not begin early. It is well known that pullets and cockerels do not moult the first fall, but they continue to grow until over a year old, which affects the laying qualities of the pullets to a certain extent. The breeder may hasten the moulting of the hens by giving them, three times a week, a little meat and ground bone, with an occasional stimulant of a little red pepper and tincture of iron. The object should be to get them to moult as soon as possible, and not to send them to market. If good, strong, well-grown cockerels are obtainable, no objections may be in the way of selling the cocks, and yet it is advisable to keep a cock that has proved himself valuable, another season.

THE BROOM IN THE POULTRY HOUSE.

It is a disagreeable task at all times to clean out the poultry houses and coops, but, like every other undertaking, much depends on the systematic manner in which the work is performed. We have seen persons labor hard all day, in the midst of filth, with shovel and hoe, cleaning the poultry house, and when the job was finished but little appearance of cleanliness was added to it. There is an easy, neat, effectual way of cleaning the poultry house, which, if adopted, removes the dread and disgust of the work, and makes it a pleasure instead of an annoyance. The first consideration is the construction of the floors. Dry dirt will not answer, for the reason that it absorbs the impurities, and the filth can only be removed with the dirt, thus entailing the necessity of changing the entire floor and substituting fresh material. We have found the use of the broom to be the cleanest, easiest, and best method of removing the droppings, but in order to do so, the floor must be hard. Wood is the best material, but a wooden floor is liable to become a harboring place for rats, unless it is well closed underneath, or raised sufficiently to allow of a cat or terrier to run in and out under it. When this is done the cold air comes up into the poultry house in winter, and makes the wooden floors objectionable. Cement is better, for it not only prevents vermin from entering, but also the drafts. The cheapest way to make such a floor is to take 1 barrel of lime, 2 of sand, 1 of fine gravel, 1 bushel of cements, and two gallons liquid coal tar. Mix the engredients dry, then add water, and spread evenly on a hard surface which has been graveled. The coal tar may be brought to a proper consistency with coal oil. It keeps away lice, and colors the cement. Let the floor remain undisturbed for twenty-four hours, and add another coating in order to stop the cracks.

To clean such a floor first dust it well with dry earth, plaster, or sand. A mixture of road dirt and plaster, equal parts, is best. Dust it over every portion of the floor, and dust it over the walls and in the nests. Three times a week take a broom and sweep the floor, dusting again after sweeping, and it will be surprising to notice how nicely and easily a poultry house may be cleaned out in a few minutes. Another advantage is also secured, which is, that the droppings will need no preparation for preservation, as it will only be necessary to put them in an old flour barrel and keep the barrel under cover. Such a method gives the lice but little chance for securing possession, and no disagreeable odor is at any time manifested, while the work can be done much better than with the, shovel, spade, or hoe.

THE INFLUENCE OF CLIMATE.

If poultry raisers would take into consideration the influence of the climate of the sections in which they are located, they would secure much

(*Continued on page* 16)

The Household.

WORKING DRESS FOR WOMEN.

By Experience.

The constraint of limbs, and its heavy weight are the chief objections to womans' dress. The weight drags on the waist and prevents the free use of the muscles in such labor as washing, ironing, bread making, bed making, and house cleaning. In these occupations the arms are constantly extended, so that a band around the waist hinders their free play. If womans' dress were always made without this constriction, there would be far less disease and distress among them; therefore, in a working dress it should not enter. Let the under garment be all in one, the under skirt be attached to a loosely-fitting body, and the dress be cut like a princess dress, or wrapper, extending from the shoulder down. Let the skirt be very short, or made to loop up, by sewing strings twelve inches apart and one under the other, at spaces around the dress. Let the underskirt be arranged in the same way, or the outside skirt can be short, and an extra one of the usual length can be made to slip over the other if it is necessary to stop work in haste, or to appear before visitors.

Now if any woman not used to such a dress will try it, she will never be likely to use the old kind while working. She will feel no drawing back at every attempt to move forward, and the fatigue in consequence will be lessened to a great degree. Still better, for house cleaning and washing, is it to have the dress made as short as a bathing or Bloomer costume. In carrying water, cleaning windows, or floors, all the convenience of such a dress may be perceived. We knew of two ladies who adopted this dress for house cleaning times, and who said, emphatically, that it lessened one half the fatigue usually experienced.

Woman needs to learn economy in motion, which man understands by the study of machinery. Good planning helps wonderfully, as well as method, and though some may work with apparently more rapidity by heedless ways, yet it will be found, in the long run there is no greater dispatch, and not near such good work as that done by method. We have often noted this, and one deliberate woman we knew, whose work was always done on time, was the wonder of the household, until it was found that she "made every stone tell."

Young girls are especially benefited by a loose fitting dress, as it allows not only free action, but free growth. How can any mother, feeling true interest in her children, allow them to be cramped in tight-fitting or outgrown clothes, when their health, nay their very life in some instances, depends on free exercise. This is well known where there are consumptive tendencies, in the family. We have known of such whose lives were prolonged by allowing free exercise in the open air, and all children with such tendencies, should seek outdoor employment for a livelihood.

The shoes enter largely into the comfort of labor. They should fit neatly, and be kept nicely mended, as walking around in a loose, or trodden-down shoe tires the foot twice over, and especially should they have a large flat heel, so that in standing the body be kept in equilibrium and not tilted from side to side, to cause sprained ankles, or raised unnaturally on the heels, to bring on prolapsis, not to say anything of the crop of corns and bunions produced; for bunions are the result of either high heels, which throw the weight on the big toe joint, or of shoes too short, which cramp them in a similar way. Children acquire them in this way. Shoes with elastic sides, called Congress boots, are the best for walking or standing, and though they cost a little more at the outset, they make it up in superior wear. For stout or busy people the Congress boots are much to be preferred, as they require no buttoning or lacing, and are put on as easily as a man's boot. Those who are obliged to stand much, will find that a shoe made one size too large for them, will give them great comfort and prevent corns and bunions; for the foot expands by standing, and requires the extra room for ease. We knew of two ladies who stood in stores, who tried large shoes, and broad heels, after suffering tortures with their ordinary fit of shoes, besides enduring an accumulation of corns, and in one case bunions. The result was excellent.

Garters are best placed above the knee, as then they do not constrain the muscles just under the knee. Thus placed they give more comfort than garters attached to the waist, for these pull the foot back at every step, and to little children must prove injurious, as they impede free motion, as any one will find by trying the garter attached in this way.

Short dresses for the street have been the fashion for some time, and one would think the good sense, for which most American women are noted, would keep them so; but fashions must change, or the designers of them think they must, and so they are being somewhat lengthened again, let all women protest, both for health and convenience. The constant propelling of the dress by the foot is as fatiguing as the walking that is done. By watching, any one can detect the labor it requires to carry and push forward womans' dress. Heavy draperies should be avoided for this reason alone. There is no real grace to be had when the body is constrained by the dress, the shoulders pushed upward and outward until the arms hang out akimbo, and if thin, present their worst appearance, added to this a waddle, produced by a tight waist, or a narrow skirt, kicked forward until all its ruffles are in a whirlpool, and you have the *grace* of a tight-fitting dress. To have *grace* we must have *ease*; easy motion is generally graceful. Let us also add the grace of religious duty to our ideas of health and dress, and we need fear no relapse into false fashions and forms.

Round Shoulders.—1. Suspend two ropes with ring handles from a doorway, and swing by the arms three minutes at a time three times a day. This will cure round shoulders within three months. 2. Remove both bolster and pillow from their usual place under the head when one is sleeping, and have one or both placed under the shoulder blades. This brings the head a little below the level of the dorsal region, and curves the spine in direct reversal to the curves of the round shoulders, and as during sleep, relaxation of the spine ensues, the posterior spinal muscles are permitted to recover some of the contractibility they lose during the day if proper supports be not worn. During the day let the patient recline upon the front of the body, lying at full length, as children do, and resting on the elbows. This favorite position with children should be encouraged, as if steadily practiced it is a sure prevention of deformity. This position is one of the greatest helps to symmetrical development in children.

People learn wisdom by experience. A man never wakes up his second baby to see it laugh.

THE FARM AND GARDEN RECIPES.

To Clear Blackberry Wine.—Add a cup of milk to each gallon (after all fermentation is over), and as soon as it settles pour it off.

Ginger Bread.—Two and a half cups of molasses, 1 of brown sugar, 1 of sour milk, 1 of lard, 2 tablespoonfuls of ginger, 2 of soda, 3 quarts of flour.

Ice Cream.—One gallon of fresh milk, yolks of 4 eggs (well beaten), with a tea cup of sugar, add to the milk, and sweeten and season to the taste, and freeze. If richer cream is desired, put a quart of cream and 3 of milk.

Green Corn Pudding.—Twelve ears of corn grated, or push the grater down each row and scrape out the kernel. 1 quart of sweet milk, quarter of a pound of butter, 4 eggs (well beaten), pepper and salt to taste, mix well, and bake in a buttered dish.

Sweet Tomato Pickle.—Slice and boil twenty to twenty-five minutes in strong ginger tea. Measure the tomatoes of the stewing. To every two measures put one of sugar: cloves, allspice and mace to your taste. Cover with vinegar and boil until clear.

Croquets.—Boil a chicken until tender, take out the bones and chop fine, take some of the liquor it was boiled in, a piece of butter size of an egg, some flour, black pepper and a little onions, then add the chicken and put away until cold, make in cakes, dip in egg with bread crumbs and fry brown.

Cookies.—One cup of butter, 2 of sugar, 5 of flour, 3 eggs beaten light, 6 teaspoonfuls of milk, with a small spoonful of soda dissolved in it; stir the butter and sugar together until light; add the egg and a little cinnamon and nutmeg, then the milk, last the flour; roll out, cut in round cakes, and bake in a quick oven.

Lemon Jelly Cake.—One and a half cups of sugar, half a cup of butter, beat to a cream; half cup milk, 2½ cups of flour, 2 teaspoonfuls baking powder, 3 eggs well beaten; bake in sheets or in jelly tins. *Jelly*—One cup of sugar, 1 egg; grate the yellow rind and use with the juice of 1 lemon, 1 tablespoonful of water, 1 teaspoonful of flour. Place the dish in a kettle of boiling water and let it thicken; when cool, spread between the cakes.

Baked Codfish.—Pick up the fish and freshen a little as for cooking, then into a dish put a layer of cracker crumbs, then one of fish, over each layer sprinkle pepper and butter, continue until you have two layers of fish and three of crackers; lastly, beat two eggs with milk enough to cover the whole. Bake about three-quarters of an hour.

Cabbage Salad.—Chop one large cabbage very fine; put into dish in layers, with pepper and salt between. Take two teaspoonfuls of butter, two of sugar, two of flour, two of mustard, one egg, and small teacupful of vinegar. Stir all in saucepan and let come to a boil. Pour over cabbage while hot, and cover dish. When cool is ready for use.

Muffins.—Three pints of flour, 3 eggs, 1 pint of sweet milk, made into a batter as stiff as you can stir well with a spoon, add two tablespoonfuls of yeast and half one of salt, set to rise, in the in the morning stir in a tablespoonful of lard or butter (melt it) and a teaspoonful of soda. Bake in a quick oven. They are very nice on a griddle if you have no rings.

Coffee Cake.—Three eggs, well beaten, two cups of brown sugar, one cup of butter, one cup of milk, one teaspoonful of soda, two teaspoonfuls of cream of tartar, work this to a stiff dough, and roll out to about half an inch in thickness, sift ground cinnamon over evenly, then roll up like jelly cake, cut slices about half an inch thick from the roll, drop into granulated sugar, and bake thoroughly with sugared side up.

Cottage Puffs.—One cup milk and the same of cream; 4 eggs beaten stiff, and the yolks strained; 1 tablespoonful butter chopped into the flour; a very little salt; enough prepared flour for thick batter. Mix the beaten yolks with the milk and cream; then the salts and whites, lastly the flour. Bake in buttered iron pans, such as are used for gems. The oven should be quick. Turn out and eat with sweet sauce.

Tea Biscuit.—One quart flour, 1 teaspoonful salt, one half teaspoonful sugar, 2 teaspoonfuls Royal baking powder, 1 tablespoonful lard, 1 pint milk. Sift together flour, salt, sugar, and powder; rub in lard cold, add milk, form into smooth consistent dough. Flour the board, turn out dough, roll out to thickness of three-quarter inch, cut with small round cutter; lay them close together on greased baking tin; bake in a good hot oven twenty minutes.

Cucumber Catsup.—Thee dozen full-grown cucumbers, 8 onions, peel and chop as fine as possible (some prefer grating, but I do not), sprinkle 1 gill of salt over, put them on a seive and let them drip eight hours (or all night if fixed in the afternoon), 1 tea cup of white mustard seed, half cup ground black pepper, a little grated horseradish, mix well and cover with strong vinegar, close tightly and it can be used in three days. If preferred, the horseradish can be left out.

Lemon Meringue Pudding.—One quart milk, 2 cups bread crumbs, 4 eggs, 1 cup white sugar, 1 large lemon, juice and rind grated; soak the bread in the milk, add the beaten yolks with the sugar, rub to a cream, also the lemon. Bake in a buttered dish until firm and slightly brown. Draw to the oven and cover with a meringue of the whites whipped to a froth, with three tablespoonfuls of powdered sugar and a little lemon juice. Brown slightly; sift powdered sugar over it and eat cold.

Excellent Icing.—To one pound of granulated sugar, put two wineglasses of water, let it stand until well saturated, put in a kettle over a slow fire and let it simmer until a thick syrup, stirring it all the while. Have ready the white of two eggs well beaten. Pour out the syrup and let it cool enough not to cook the eggs, then beat in the eggs and beat until cool. Be particular not to let the sugar get too cool. Season to taste with lemon. This will ice a large cake, and thin as it is put on.

Dried Apple Fruit Cake.—One packed pint of apples put in soak at night, in morning chop *fine*, put them in a brass or porcelain kettle, with 1 cup New Orleans molasses, 1 of brown sugar, 1 greted nutmeg, 1 teaspoonful of ground mace, 6 cloves, and one-third of an orange peel, broken small. Cook rapidly until *very* stiff, stirring constantly. Let this stand twenty-four hours, then make cake:—Four eggs, 1 teaspoonful soda, and 2 of cream tartar, 3 cups of sugar, 1 of sweet milk, 1 teaspoonful of mace, and heaping quart of flour, sift soda and cream tartar in the flour. Mix well and bake as for other fruit cake; slowly for two and a half hours.

ODDS AND ENDS.

SKETCHES OF CHINA AND JAPAN.

ARTICLE II.

The European settlement at the foot of a rocky range called Kahchio, is the place where the American, English, French, and Dutch consuls live. The range of rocks are intersected by various ravines, which are used as paths for the inhabitants in traveling from place to place. A number of Missionaries' homes are located here. In 1842 Europeans first came to the neighborhood of Swatoo, China. In 1851 they formed a settlement on Double Island, which now is the home of the pilots. In 1860 Swatoo was declared open to the Americans and English, and a year later the natives allowed them to live in the city. Swatoo is 180 miles north of Hong Kong.

Mogibay, about four miles from Nagasaki, Japan, is the place where, in the Seventeenth century, about 37,000 Christians were exterminated by order of the ruler of the place, one Taico Sama. About 300 years ago thousands of men, women, and children were massacred by being driven from the cliffs of Pappenburg at the pike's point, and crushed to death on the rocks beneath, because they would not trample on the cross of the Saviour. The island of Pappenburg is about one mile in circumference, and presents a beautiful appearance.

Until 1869 no Christian was allowed to set his foot upon the island, and none but the Dutch were allowed to trade in the country.

It is said that when the Dutch asked Taico Sama, the stern ruler, after the Imperial edict was issued forbidding any but natives of the country to remain on Japanese soil, what the shape and situation of the ground should be that was to be given to the Dutch merchants, he contemptuously flung out his fan. They took this for granted that he intimated that it should be that shape, and so on an artificial island, connected with the shore by a bridge, and watched by an insolent guard who prevented all communication with the neighborhood, excepting in rare cases, and at an exorbitant expense to the merchants, they—the Dutch—built what is now called "Dessima," said island being of fan shape. Dessima is now a great place for Japan cricketing. The houses are of the Dutch style of architecture.

I herewith make some interesting extracts from the private diaries of the late Dr. Samuel P. Boyer, U. S. Surgeon, which I have in my possession:—

On the 22d of November, 1869, we anchored at Shanghai, China. On the 25th, it being a cool day, Mr. Wilson and myself took a drive around town, and had a lively time. We drove over several natives who were either too lazy, indifferent, or deaf from smoking opium to hear us and get out of our way, although the driver yelled like the "Old Harry."

The streets are crowded all the time. All women have small feet, except Coolie women, who have quite large, inferior extremities. The unformed bones of the infant's feet, at a very early age, have to be broken, and the toes are then bent beneath the soles of the feet; in this way the feet are bandaged and not allowed to grow, the consequences are very small feet, but huge, unwielding ankles, and no calfs. The pain must be great, judging from the alteration in the direction of the bones. The pain, I am told, often kills the infant, yet mothers pride themselves in their own feet, and subject their offspring to the same treatment. In order to walk, some of these beauties are compelled to totter with the help of a stick, which, with a white powder used to blanch their countenances, called forth the following verse from an inspired Oriental poet:

"Pale as rice—
Graceful as a bamboo?"

Every now and then one meets a wheelbarrow with two seats on each side of the wheel, occupied by the ladies, and propelled by a Coolie. They can thus travel for miles at very little expense; twenty-five cents for ten miles is a fair price. Chinese woman have very little expression—all look alike; when you see one you have seen them all. I prefer a Japanese woman. Chinese women are fond of opium, and they love to luxuriate in filth.

The streets of Shanghai are narrow and very dirty. The cost of living among the inhabitants averages from $1.50 to $2.50. The dead are buried anywhere—along the wayside, in the yard, or any open field.

In a popular Chinese medical work I found a catalogue of 1012 medicines, of which there are from metals and stones, 133 kinds, grasses and vegetables (including roots, leaves, flowers and seeds) 313 kinds, trees 117, from the human body 20 kinds, from animals 91 kinds, from fowls and birds 34 kinds, from bugs, worms, snakes, shellfish, turtles, flies, &c., 99 kinds, fruits 40 kinds, of the "five grains" 38 kinds, of the cabbage, turnip, and melon families, 62 kinds. Chinese druggists in this city claim to have as high as 1000 of these varieties of medicines upon their shelves.

A portion of the medicines taken from the human body are as follows:—Hair (cut fine, and used in plasters), curly hair, dandruff, teeth fillings, ears effluvia, pairing of finger and toe nails (reduced to ashes by burning), bone of the forehead (reduced to ashes), beard of the upper lip, blood, the gall, &c.; all this medicine from the human body is procured from the dead bodies of felons, who have not been claimed by friends. In this connection I might also say that the dead bodies of very young children are often simply sewed in matting and tossed into the boughs of trees, or exposed on the surface of the earth, among the tombs, for dogs and vultures to feast upon. The largest part of the medicines used by Chinese physicians, and sold by the druggists, consist principally of vegetable substances. It is hard to say whether the Chinese medical system is allopathic or homœopathic; it seems mixed.

THE FLOWER MISSIONARY.

By J. E. McC.

There lived in a thriving, new western town a toiling, noble-hearted woman who managed, in the midst of her busy life, to become a real benefactor to the community in which she lived. A devoted lover of flowers, she always found spare minutes in which to cultivate the choicest and sweetest she could obtain. It seems wonderful how such plants thrive for their real lovers. It seems as if there was a magic in the touch of a loving hand that was good for flowers as well as for the little human plants.

This good house-mother rejoiced to share her treasures with those who had none. Far and near were little doorway bowers which she had instigated, covered with hardy climbers, which gave an air of taste to even a cabin home. Scarcely a home spot but what had its flower border blooming from early spring until the frosts came, and it was largely through her influence and help that the desert so "rejoiced and blossomed like the rose." In too many new settlements the time is so absorbed in the hard tug for every day wants that little attention at first is given to matters of mere taste. But this good woman-missionary felt that the culture of these sweet gifts of God would be a rest to many a weary woman, and lift her heart out of the dull round of wearisome cares. She knew, too, that their presence would exert a refining, softening influence on the children of the household, and that a love for flowers would, in a measure, counteract many allurements not so safe and health-giving.

She has long since passed away, but her good work lives in many beautified homes; in many hearts which her influence blessed. Quiet and unobtrusive as her work seemed; simple as were her little gifts of a bush or a flower plant, with the needed directions for their culture, it was not unnoticed by Him who metes even the "cup of cold water." Her spirit was akin to that of the old gardener who, rather than see his beautiful flowers and shrubbery wasted when they multiplied too much for his grounds, would plant them in waste, wayside places where they might delight some eye or be taken home by some one who could appreciate them.

Your gift of a rose bush or a clump of pansies to a poor child may be worth much more to him, in the final results, than a gift in money.

ORIGIN OF THE "BONES."

The history of music plainly shows that the elements of musical art were in a manner systematized from the very earliest ages of mankind. The Chinese have records of one of their Emperors who fixed the twelve degrees of the chromatic scale, at the wake-and-call-me-early period of 3468 B. C. The potentate in question, was named Fou Hi, the first. He invented several instruments, improvements upon which have made the fortune of many an unscrupulous invader of Chinese patents in these our times.

Among his instruments were of course the bones, which, when rattled by Fou Hi, gave forth celestial harmony. His bones were a peculiarly prime order of article, better than those in use in these degenerate days. The lowness of the standard of national taste in America to-day, was never more distinctly shown than in the utter indifferance of the average auditor as to what a minstrel's bones are made of, so that they rattle lustily. Fou Hi with that nicety of taste invariably observable in the fabrication of choice articles by the Oriental people, always insisted upon having his bones made of the right shank of infants of good ancestry, specially massacred in the neatest way, for the purposes of manufacture. The bones were the first instrument Fou Hi invented, but his genius soon took a wider flight and he dropped them for another, namely, the lyre. The inheritance of bones as a musical instrument, left by Fou Hi, was carefully cherished by the Greeks. It was varied in form by them, and called the "platagi," a word which signifies "clapping," and was principally used with other instrument to mark the time for dancers. Instead of two bones held together between the fingers and rattled, the Greek platagi was formed of a long bit of light wood, split up part of its length, the shorter piece hung on loosely at the middle, and the upper end serving as a handle by which the performer could rattle it conveniently.

EASTERN BRIDAL DRESS.

The wedding dress is even more a matter of importance with an eastern bride than with us. The preparation of her toilet, in the presence of female friends, often occupies a large part of two days. The costumes are often rich and gorgeous beyond expression. Fashion, as interpreted by an oriental milliner, quoted by Dr. Van Lennep, prescribes the characteristics of an ideal wedding dress. It should measure six yards from the shoulders to the end of the train; the long sleeves should sweep the floor; the material is silk; it is elaborately embroidered by a party of professional embroiderers under the direction of a chief. The sum paid for superintending the needle work on a single robe was $500, while the the charge for the work done by the subordinates was $2,500, and the entire cost of the dress was $10,000, nor must it be forgotten that labor in that country is very much less expensive than in this.

LATOUT d' AUVERGER.

At Carhaix, in Brittany, is a bronze statue of Latout d' Auvergne, by Marochetti. His real name was Theophile Malœret, he was born here, and died at the battle of Newburg, in 1800. Auverque was a brave conscientious soldier, whose merits often made him a fit subject for promotion, which, however, he steadily refused, prefering to serve his country in the rank in which he had enlisted. In consequence he received the title of "the first Grenadier of France," and to honor his memory, after his death, his place was always retained in his chosen regiment, and at regimental roll-call his name was always the first called, and the reply was as uniformly, "dead on the field of honor."

The best melons in the world grow in Persia.

Cæsar threw a pile and trestle bridge across the Rhine in ten days.

Elm piles driven by the Romans at London, werein good order when removed to build the abutments of London Bridge in 1829.

"He who buildeth in the street
Many masters hath to meet,
Who will build upon the walk
Needs must let the people talk.'

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EDITORIAL COMMENT.

September. The growing season is now nearly over, but our work is not. Hours of study, of intelligent thinking over the problems of agriculture, and pearls of sweat were the price which we had to pay for success in the producing part of our business, and it were folly to expect that the preservation and safe keeping of the crops, once grown, could be obtained as a free gift, and without effort, care, and perseverance on our part. As long as the crops are in the farmer's hands they are like water in a sieve.

Woodchucks (Ground Hogs) eat up the still standing or shocked corn in the field, rats, mice, and other vermin make havoc in your grain mows and granaries, rain water leaks through your stacks, early frost threatens to damage your corn and garden vegetables, all these and many other things claim a large percentage of your crops, and should receive your careful consideration.

Hay is not so very plenty, and the farmer will do well to save all his fodder in the best possible shape. Cut your corn as soon as the stalks commence to turn yellow, when the grain is just ready to glaze, rather than wait until the crop is dead ripe. Get ready for "Jack Frost" as quickly as possible. You know he hardly ever defers his visits, at least in the Northern States, until October. Be ready so you can receive him smilingly.

Recognizing that your crops generally lose in value every day that they are unsold on your hands, let it be your first aim to convert them into nice crisp greenbacks at your earliest opportunity; sell when a fair price is offering. Pay your debts at once, so make everybody around you happy, and do not forget to spend a part of your surplus in improving your farm and home. Remember your hard-working wife, and the necessity of making home attractive for your children.

In order to know how profitable the farm is, it is necessary to know what it costs to raise every bushel of wheat, corn, oats, or other produce raised on the farm. He should know how many pounds of feed it takes to fatten the stock for market. If he knows what it costs him to raise every bushel of feed, and then knows how much he has fed, and knowing what the stock cost him before he commenced to feed or fatten, and he knows what he has received; he can then tell how much he has made. You say it is some trouble. So it is; but it is some trouble to do business in a business-like way, the best we can do.

The manufacturer knows how much iron and what it costs, how much wood and what it costs, how much paint and what it costs, and how much labor and what it costs for every wagon or farm implement that he makes. If he did not he would be uncertain as to what price he should ask and how much profit he is making.

The successful merchant knows what every article he keeps to sell costs him; he knows the amount of freight it costs him to bring it to the store; he knows what his expenses for clerk hire, for insurance, and how much to allow for shrinkage, and when he sells he knows just how much profit he has made. At the present time a manufacturing or mercantile business carried on after any other plan would break up the richest business men.

Can farmers who are wide awake and who farm not only for pleasure but for profit, afford to follow any other plan? A careless farmer who farms on a small scale, and who raises all he wants to eat and wear and who is not obliged to know whether he is making anything more than a living or not, as that is all he expects to make, is generally satisfied, whether his living is good or bad. But the farmer who wants to make all he can; who must know what pays him best, must know what things cost before he can expect to know aoything about the profits.

The different branches of farming, as now carried on successfully, require as much energy and business tact as any other line of business, and in order to make a success, as should be done, a knowledge of what it costs to raise different crops is very essential. To each farmer this must, to a considerable extent, be a separate matter. One farmer can with his soil and implements at one price, while another with different soil and treatment the cost would be greater or less as the case may be, so that each farmer must keep a correct account, and know for himself just what it costs him to raise the different products of the farm, and the best and most profitable manner of disposing of them.

A good rotation. Southern farmers grow the greater part of their wheat on corn stubbs. As soon as the corn is fit to cut, strips six or eight rows wide are cut through the field at a distance of about sixty feet from each other. These are entirely cleared from the stalks, thoroughly harrowed, and drilled in wheat. The whole crop is then shocked upon these strips, and the rest of the field prepared and sown in a like manner; 200 or 300 pounds of phosphate are usually applied per acre.

We recommend this practice to farmers in all sections where corn ripens before wheat sowing time. The removal of the corn crops upon these strips involves a little additional labor in harvesting, but think of the easy preparation of your field for the wheat crop, and of the land rendered clean in consequence of the destruction of the weeds in autumn. Where corn does not mature much before October, good results will follow the practice of harrowing and sowing to rye, which should be done just as soon as the crop can be removed from the field. Treat potato fields the same way. Rye may be utilized in various ways, and grown for the hay and straw, for early pasture, or for green manuring, and is a most profitable cropping way.

Digging potatoes by hand we consider to be about as hard and tedious labor as there is connected with the farm. We should rejoice in finding a digger that will do the work well on all sorts of soils. For well cultivated, mellow soils, free from stones and weeds, where hand-digging is comparatively easy, we might get along without the implements, and where wanted most for stiff, stony, and weedy, or rough land, the digger is a failure.

If you can get a fair price for your potato crop at digging time, *sell them directly from the field.* The potatoes then are sound and heavy, and the advised method avoids all loss and much handling over. At this writing we expect and hope for a fair crop and paying prices.

Men who are looked upon as authorities in such matters are sometimes guilty of thoughtless remarks, which, being taken as genuine truth, often work mischief. In early spring, when potatoes could hardly find a market at any price, Dr. Hoskins inflicted upon the readers of the *Rural New Yorker* the statement that "the farmer could not afford to sell them off the farm for less than forty cents, and at little profit at that, all things considered." The doctor probably knows that the tuber contains from 2 to 2.^{50} per centum of albumen, and from 16 to 23 of starch, varying according to quality, a total of 18 to 25.^{50} per centum, while corn has 13.^{65} per centum albumen, and 77.^{74} starch, etc., or 91.^{39} pounds of solid nutriments in every 100 pounds. When corn is worth 60 cents a bushel, all the nutriment contained in 60 pounds of potatoes varies in value but from 12 to 15 cents.

While we admit that the digestive machinery of farm stock utilizes a larger percentage of the nutritive solids in succulents than in concentrated foods, yet we cannot put the average feeding value of one bushel of potatoes at much, if any, above 15 cents. We would sooner sell our potatoes for 20 cents, if we could not get more, than our corn for 60 cents per 60 pounds, and where farmers grow potatoes largely, more than they can feed, it is better to sell them at some price rather than have them spoil on their hands.

Our common farm land is worth $100 per acre, and with the application of $12 worth of special potato fertilizer, a good farmer should not raise less than 200 bushels per acre. $40, that is 20 cents a bushel, will pay for all the labor and expense, including seed, manure, interest on land, and marketing, and when sold for 40 cents, leave a net profit of $40 an acre. What other crop could do that, one year with another?

THE FARM AND GARDEN has very decided views on politics, and is not afraid to express them. It holds that the farmer should not belong to political rings, nor to the wire-pulling fraternity in general, nor run his legs off and neglect his work for the nomination to any office. Yet, farmers should organize, always be present at their party caucus, break down the corrupt rings, and try to nominate worthy candidates; also, other things being equal, they should give a good, substantial farmer the preference. The best men in the community generally go to the polls to eat the mess that rogues have cooked up for them.

In presidential campaigns it has become the habit of the party machinists to supply the enthusiasm there may be lacking, through picnics, and pole raisings, and torch light processions, and to fire up the wavering faith with sky-rockets and bad whisky. Certainly it is everybody's duty, which he owes to his country and to posterity, to try to learn which one of the great political parties claiming his support in the coming struggle, is most deserving it. Such information cannot be had by listening to stump speeches, which are generally made up of concentrated lies and soft soap, and are an insult to your intelligence. Avoid such gatherings, as they involve a waste of time, money, and energy which can be better spent in securing your crops before the approaching winter.

The above are the political views of the FARM AND GARDEN, widely expressed. It is partisan only as an organ of the great party of American husbandmen, and knows nothing about Republicans or Democrats. We have our *personal* views, but we consider them our own individual property, and decline to part with them in this journal for love or money. Study both sides of the question, read papers of all party colors, and decide intelligently.

This time it was Mr. Woodchuck who, though neither invited nor made welcome, came to visit our garden. We did not find very much fault with him as long as he had shown his good taste by feasting on the rankest clover in the meadow, but when he began to investigate our abilities as a gardener, and the tenderness of young squash shoots, and Ivory Pod wax beans, we thought him a little out of his proper place. Seeing him run to his burrow near a rail fence, where he could not be dug out very handily, we dug up the main entrance as far as practicable, and placed a half-pound dynamite cartridge, properly adjusted with cap and long fuse, as far in the hole as we could reach, stopped up all the openings I could find, and lighted the fuse. He never was seen outside of that burrow again. Cost of material, about fifteen cents, and sure pop every time.

As soon as your hens stop laying, sell them. Prices are better early than they will be later. Your hens will not lay again this spring, and if you keep them much longer they will require a new coat, which is expensive. Save your feed and sell them. In regard to spring chickens we think that ten cents a pound for three pounds each is better than six or seven cents for four pounds each. Sell early.

Sell as soon as you can get a "fair price" is the favorite advice of writers, and we indulge in it occasionally. But what is a fair price? Forty cents a bushel for potatoes may be considered a fair price in one season, and a low one in the next. The farmer should not be a speculator, that is, only in a limited sense, but he certainly needs good judgment.

Philadelphia seedsmen are the most enterprising in the world, and we are proud to note that Mr. W. Atlee Burpee, of W. Atlee Burpee & Co., and Mr. Herbert W. Johnson, of Johnson & Stokes, have both been successful in their European tours. The new vegetables and flowers of the old countries have been investigated and examined, and next season will show what has been brought back by these energetic young men.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of THE FARM AND GARDEN, *even though he takes no other paper can feel in a measure acquainted with all the leading publications.*

From "Poultry World," Hartford, Ct.

A POINT IN INCUBATION.

In putting the eggs in the drawer, put the large end up. Lay the thermometer on the eggs, the bulb lying between and touching the eggs. Have the other end of the thermometer a little the highest. Let me impress on you the importance of keeping the thermometer on the eggs, and the egg that the thermometer touches must be fertile. You want to get the heat of the fertile eggs, and not of the egg chamber. The difference between a thermometer lying on the eggs, but the bulb not touching a fertile one, and one where the bulb does touch a fertile egg, is several degrees and right here, is, I think, the cause of a good many failures with incubators.

From "Iowa Homestead," Des Moines, Iowa.

We noticed a farmer, a few days ago, loading two large brood sows in a wagon. He had no shute, and they had to be lifted in by main force. The yard was full of other sows with young litters. And yet with some help he did it without a squeal or the least excitement in the yard. An ordinary man would have caught them and lifted them in, and every mother would have been excited, and perhaps a half dozen sucklings trampled to death in the melee. Instead he coaxed them into a box-stall, then placed a large crate in the door, to which they went readily, and then lifted the crate with some help, and emptied them into the wagon, where they lay down as quiet and contented as if under their favorite tree in the pasture

From "Western Ploughman," Moline, Ill.

Suppose you pay $1.00 per day for help, and a good shovel costs an equal amount; but you retain the old one because you think it too good to throw away, although the man is only capable of doing three-fourths of a day's work with it. How much have you made in ten days by the saving? Suppose a new hoe costs sixty cents, yet you put the same man to work with the old one with which he can do three-fourth of a day's work. How much have you saved in ten days? An old rusty hoe will quite frequently cause a difference of a fourth of our labor. There is no rule of labor or economy about a farm that pays so large a per cent. on the investment as that of taking care of, and keeping in order the tools we work with. A few minutes will suffice to clean off a hoe when we put it aside, and instead of getting heavy with dust and accumulated earth, it will get brighter and brighter with constant use, and be a pleasure to handle instead of an extra burden and hindrance. This is a strong argument in favor of good implements.

From "Canadian Horticulturist," St. Catherines, Ont.

EXPERIMENTS WITH CELERY.

One of the most popular, perhaps, with the exception of lettuce, the most popular of salad plants, is celery. It is not many years ago when celery-growing was one of the mysteries of gardening, so far as current opinion went, and the carefully-grown plantings were transferred to deep trenches at the bottom of which much manure had been spaded, while a laborious process of earthing up was successively pursued. Market gardeners, however, who are usually the first to introduce new processes of growing, on account of the competition they have to meet, found that the celery grown upon the surface and earthed up once for all at the latter part of the season, furnished profitable results, and this latter method seems now mainly the one pursued for commercial purposes. In the private garden, however, the trenching is in many cases continued, and it, therefore, seemed to us desirable to know the comparative merits of these two methods, for if surface planting is equal in its product to the trench planting, it is far to be preferred on account of the less labor involved.

From "Gardeners' Monthly," Philadelphia.

HOW TO GET RID OF MOLES.

The ground mole has been for a long time a constant source of annoyance to gardeners and farmers, and the question has often been asked, "is there no way of getting rid of this pest without the tedious process of trapping it?" Which at best is only a partial relief. To this question I answer, yes. The remedy I have known for many years, and I wish to give the public the benefit of it through the columns of the *Gardener's Monthly*. Like everything else that is given gratis, perhaps some will be found to deny or contradict the good effect of this remedy, but I challenge contradiction and demand a fair test from the public. One pint of the seed of the castor oil bean (Ricinus Communis or Palma Christi) is sufficient to clear any garden of an acre or less, for the season, if properly dropped in their runs, which is simply to thrust the forefinger into the mole hill, and then drop a bean there, which he will be sure to eat next time he comes along; at the same time covering up the hole made by the finger, with a bit of earth, chip, stone or clod, so as to make the run tight as before, and keep out the light. This plan I have found effectual in all gardens where I have tried it. It is not quite so satisfactory in grass lands, because it is often hard to find all their runs in the grass. Also, in planting corn in fields where this pest abounds, if a seed be dropped occasionally in the hill along with the corn, the mole will eat the bean in preference to the corn, and as sure as he eats it that is the last of him. If this plan be adopted when the moles first begin to run, which is generally after the garden is made and nicely planted, they are easily got rid of, and no trap of any kind need ever be introduced into the garden. This saves much time, labor and annoyance.

From "Poultry Keeper," Chicago, Ill.

WHY THEY DIE IN THE SHELL.

From the investigations we have made, and with the co-operation of those who are operating incubators, we have become inclined to the opinion that one of the difficulties of artificial hatching is that the temperature is kept too high about the nineteenth or twentieth day. Some of the best results have been secured when the heat was maintained at 104° and even at 106° at time of hatching, but later trials show that at the start the heat should be rather high, about 105°, and then allowed gradually to reduce to 102°. When the heat is high, the moisture should be supplied plentifully, as the greater the temperature the more moisture required to saturate the air in the egg drawer. Should the heat be high about the time of hatching, a fever is created, and the chick becomes exhausted by reason of the heat, the lack of oxygen, and insufficient moisture. Too much or too little heat causes the chicks to come out weak, and as the chick for the first ten days is not easily killed, either by high heat or other causes, after the second week the moisture must be amply provided, the eggs cooled well every day, the heat kept at 102°, and the turning done promptly twice a day.

From "American Agriculturist," New York.

I admit for argument sake that even the cur has his legitimate uses on the farm, and it is not quite the fair thing to exterminate him because he is the greatest hindrance to sheep raising. The most devoted dog fancier and breeder of pups, must admit that he is a dangerous animal to have around, and that the owner of a dog, of whatever degree, ought to guard the public against the evils of his running at large, and be held to strict responsibility for the damages to his neighbor. In many ways the dog is a heavy tax to his owner, and a terrible nuisance in the community. Every farmer having room for sheep, and wishing to raise them, wants legislation against dogs before embarking in this business. Statistics show in part the thousands and tens of thousands of sheep killed by dogs in every wool-growing State, but cannot show the loss to this industry, because of the multitude of farmers who fear to raise sheep on account of this annual slaughter. It is one of the most profitable and helpful branches of agriculture in all the older States. Supplying lambs and sheep to butchers pays abundantly, and wool is a good crop to raise at long distances from market. There is nothing like sheep to keep down brush and briars, and to improve the quantity and quality of the grasses. Many farms now growing to brush in all the Eastern States, might be made profitable if only the dogs were out of the way.

From "Breeders Gazette," Chicago, Ill.

THE ARAB HORSE.

For a number of years the belief has been prevalent among people who have given the matter of breeding race-horses but cursory attention, that the Arab horse was nearly, if not quite, the equal in point of speed of the thoroughbred runner, and they have always maintained in the most dogmatic manner that when it came so the question of endurance the "fleet footed courser of the desert," as the novelist delights to call the Arab, was far and away the superior of any other member of the equine family. As a matter of fact there has been a vast amount of nonsense written about the Arab. The late A. Keene Richards, of Kentucky, tested the matter in the most thorough manner, making several trips to the Arabian deserts and paying long prices for the best specimens of the breed that money could purchase. The stallions thus secured were mated with thoroughbred mares, and the mares bred to thoroughbred stallions. The costly experiments made by Mr. Richards were total failures. In England a Mr. Blunt has long held views similar to those of Mr. Richards, and he too spent money freely in testing the theories which on their face seemed so plausible. Finally he induced the stewards of the Newmarket meeting to arrange a stake for Arab horses, and the same was run not long ago, the distance being two miles. There were eight starters, the winner being a three-year old that carried 108 pounds; an aged horse that had won a number of races in India being second. The winner had previous to the race, been tried at two miles with a couple of thoroughbreds that ranked but little above selling platers, and they beat him nearly half a mile. This race shows conclusively that the much-vaunted speed of the Arab exists only in the imagination of people whose enthusiasm ran away with their judgment, and that however valuable he may be for saddle and work purposes, he is not a race horse in the sense that the word is now used.

From "Poultry Keeper," Chicago, Ill.

A SECOND INCUBATOR TRIAL.

We lately gave the experience of Mr. A. H. Craig, Caldwell, Wis., with his incubator, and we now present a statement of the second trial made by him, written to the *Sentinel*, Milwaukee, in which he says: "I set it with 200 eggs, or 100 White Leghorn and 100 Brown Leghorn eggs. After ten days I applied an egg tester and found seventeen Brown and fifteen White not fertile. This left eighty-three and eighty-five respectively. From the eighty-three Browns I hatched seventy-five chicks, all but four of which are now in fine promise. The eighty-five Whites gave thirty-two chicks. I cannot account for the difference in hatching unless my treatment of the Whites gives the reason, which was that some little complaint had come to me that the shells of this variety were quite tender. To obviate this, I fed heavily on shell-producing food and the chicks could not break their shells. Fifty of these eggs were filled with matured chicks, but they could not get out. This partial failure requires some experimenting for the future, which my next trial may prove. Some writers or experts claim such failures due to the toughness of the shell caused by too much wetting; others say failure is due to the eggs being kept too dry. I shall try both next time, and also a little scheme of my own. I might mention a little trial of seven eggs of the Partridge Cochin variety, which were tested between trial No. 1 and No. 2. After No. 1 had been set ten days, seven eggs were put in to experiment on. These were taken out and handled three times a day, and, when replaced, were put in another part of the incubator. After No. 1 had been cleared, and No. 2 was nicely under way, seven chicks hatched and are doing nicely. Here again is a contradiction. Writers tell us we must not handle the eggs very much, as an oily substance from the hands will fill the pores of the egg shell, and prevent air from keeping life inside. Now, for one, I do not believe handling eggs will hurt them, for certainly, if it did, these seven could not have stood the severe test given them. If this incubator business is not getting stale, I will report my next experiment. The oil for experiment No. 2 cost sixty-five cents. In a former communication I stated that I would make a new machine to hold 1200 eggs, but as I could not supply the demand and have to spare, I concluded to wait until next spring.

From "The Druggist."

POISONOUS PLANTS AND FLOWERS.

There are many plants whose leaves, flowers, and seeds contain virulent poisons, which every one should know, so as to avoid them and keep children from them.

Buttercups possess a poisonous property, which disappears when the flowers are dried in hay; no cow will feed upon them while in blossom. So caustic are the petals that they will sometimes inflame the skin of tender fingers. Every child should be cautioned against eating them; indeed, it is desirable to caution children against tasting the petals of any flowers, or putting leaves into their mouth, except those known to be harmless.

The oleander contains a deadly poison in its leaves and flowers, and is said to be a dangerous plant for the parlor or dining room. The flowers and berries of the wild bryony possess a powerful purgative; and red berries, which attract children, have proved fatal. The seed of the laburnum and catalpa tree should be kept from children, and there is a poisonous property in their bark. The seeds of the yellow and the rough-podded vetches will produce nausea and severe headache.

Fool's parsley has tuberous roots, which have been mistaken for turnips, and produced a fatal effect an hour after they were eaten.

Meadow hemlock is said to be the hemlock which Socrates drank; it kills by its intense action on the nerves, producing insensibility and palsy of the arms and legs, and is a most dangerous drug except in skillful hands. In August it is found in every field, by the sea shore and near mountain tops, in full bloom, and ladies and children gather its large clusters of tiny white flowers in quantities, without the least idea of their poisonous qualities. The water hemlock, or cow bane, resembles parsnips, and has been eaten for them with deadly effects.

The water dropwort resembles celery when not in flower, and its roots are also similar to those of the parsnip, but they contain a virulent poison, producing convulsions, which end in death in a short time. The fine-leaved water dropwort and the common dropwort are also dangerous weeds.

The bulbs of the daffodils were once mistaken for leeks and boiled in soup, with very disastrous effects, making the whole household intensely nauseated, and the children did not recover from their effects for several days.

CORRESPONDENCE.

When a man does not stand up for himself and his vocation he need not think any one else will stand up for him. I am one of those farmers who read, especially what I can borrow or what does not cost me anything, and I sometimes talk hard about agricultural writers. It seems as though they thought that everybody had nice smooth land to work. I never in my life read an article that told how to work such land as I am compelled to work to get a living. On my hard cobble-stone land, I can hardly find gravel and dirt enough to cover corn and potatoes, and when I take up a paper and read how many acres a team can can plough in a day, and about clod-crushers and levelers, I am provoked. Why my friends of the pen, just come where I live and make me a visit, and while you are here I will give you a treat. I will have John yoke up the old mullies and we will go out and plough, and all that you plough more than half an acre a day, I will agree to pay you handsomely for. If your friends could look over the stone wall and see your head bob, bob, bob, they would think you were running for office, and trying to make friends with everybody so as to get their vote. Somebody please give us who are poor in every sense of the word, mind and farm, a piece in your paper that will just hit us.

J. J. R.
Hannibal, N. Y.

✢

Henry Hink, of Wood Park, Louisiana, asks how to kill ants. Equal parts of white arsenic and sugar, well mixed, will poison ants by the thousand, but is a dangerous poison. Weak carbolic acid will drive them away.

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F. L. B., San Francisco, Cal.: 1. Does it in any way injure eggs, *i. e.*, as far as *hatching* them is concerned, to be transported by rail to any distance whatever? 2. Which is the best food for young chicks; soft food like corn meal and soaked bread, etc., or hard food, as fine cracked corn and cracked wheat? Answer.—1. If eggs are jarred or shaken with any violence so as to break or loosen the yolk, they will not hatch. Otherwise, rail transportation does not injure the hatching of the eggs. 2. We have found opinion widely differing on the subject. Our belief is that if the leavings of soft food are cleared up, and not allowed to ferment, it is the best. It is liable to produce disease when spoiled by being left in the rain and on the ground.

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Downingtown, Pa., Aug. 18, 1884.

EDITOR FARM AND GARDEN—

Dear Sir:—A friend of mine has called my attention to an article in the August number of your magazine, the FARM AND GARDEN, which reflects severely on the good name of my honored father. I know that you admitted the article thoughtlessly, and with no intention of doing an injustice to a good man. Moreover, I know that for those who knew my father, no contradiction would be needed, but for the sake of his good name among many others who did not know him, but yet feel an interest in the missionary work of our church, it may be best that I should ask you, in justice to the sainted dead, to publish the true account of the story which you have associated with his name.

I am told by high authority that this same story has been repeated and attached to the name of nearly every missionary in the East. Now it could not be true of *all*, even if it were really true of any one of them. A captain in the United States Navy stated at a public meeting, at which my informant heard him, that hearing this story so often repeated, he had thought it worth while to trace it to its source. He did so, and located it in a *town in Japan*. My father never lived in Japan, nor had a house built in that country. So it will be seen how untrue and unjust it is to associate the story with one whose integrity, self-sacrifice, and holiness, are witnessed to by all who knew him.

Thanking you for your cheerfully given permission to make this correction, I am,

Very truly yours,

THOMAS BOONE,
Rector of Christ Church, Savannah, Ga.

ADVERTISEMENTS.

Please mention THE FARM AND GARDEN.

AUTUMN LEAVES.

New York girls are seen kissing horses. Horses in New York are not easily secured.

"That's your lay, is it?" inquired the rooster of the hen as she cackled over her latest production.

A Frenchman is teaching a donkey to talk. What we want in this country, is a man who will teach donkeys not to talk.

"But," said the serenaded man, "I must go out and make a speech. Something must be done to stop the playing of that band."

An advertiser in Vanity Fair offers "A dream for sale at £5." Here is a good chance for some horse fancier to buy a night mare cheap.

Generally the party who sings "I would not live always" the loudest, is the one who gets between the feather beds during a thunder storm.

An American lady married to an Italian prince a year ago has already left him. Some American girls are too proud to travel around with a tambourine all day.

We have an exchange on our list which is very wealthy. It said in last week's issue "We are paying off the national debt at the rate of $100,000,000 a year, and yet we do not feel it."

THE FIEND.

He drops in now to call upon
The editor or printer,
And closes carefully the door
He left ajar last winter.

In the ruins of Pompeii, the remains of a man with a satisfied smile on his face and four jacks grasped in his dried-up hand, have been unearthed. The workmen are now digging away vigorously for the other fellow, to see what he had.

"I wish my wife wasn't a politician," said Snifkins sadly.

"Why?" asked his friend. "Is she a Democrat!"

"No, she's a bolter; She won't let me in after 10.30 o'clock at night."

A gang of Italian laborers near Saratoga were recently cut down ten cents a day. Instead of striking, they cut an inch off their shovel blades at night. The boss asked what it meant, and one of the men replied, "Not so much pay, not so much dirt lift; all right, job last the more long. Italian no fool like Irishman; he no strike."

"Wake up?" exclaimed Mrs. Mulberry in a loud whisper, as she punched the slumbering Mulberry in the short ribs with her elbow the other night; "wake up; I'm sure I hear burglars in the dining room." "Don't disturb them then," said the drowsy Mulberry, turning over on the other side. "Be just as quiet as you can, and may be they will eat some of that fruit cake you have in the pantry."

First Gotham St. Contractor—"I hear the cholera is fearfully bad over in France."

Second Street Contractor—"Yes; and it may come here if the streets are not cleaned."

"Just as I was thinking."

"Something must be done."

"Yes, something must be done, thats a fact, and quickly done, too."

"Can you get word to the other contractors today?"

"Oh, yes, easy. I know where they meet to play checkers."

"Very well; tell them all to come round to my house at 8 o'clock this evening."

"But what for?"

"To help pray for rain."

AN IMPORTANT DISTINCTION.—"Miriah, I am shocked that you should even think of having those Simpkins girls as bridesmaids at your wedding."

"Why, mamma, they are two of the sweetest, nicest, most highly-cultivated young ladies in the city. They have traveled all over the globe, and are received everywhere."

"But just think, Miriah, of the stigma which attaches to them. Before the war, their father, who afterwards got rich on an army contract, lived on a farm, and actually made and sold butter. Just think of it!"

"But does not my father make and sell butter, too?"

"No indeed. Why you shock me! How could you think of such a thing? Your father is a manufacturer, and the product he manufactures is not vulgar butter, but oleomargarine, a highly prized and very important article of commerce.

PUBLISHERS' DEPARTMENT.

Entered at Philadelphia Post Office as Second Class Matter

Messrs. S. H. Moore & Co., whose advertisement appears on second cover page, are an old and reliable house. Patronize them if you want anything in their line.

We have one of the new Singer Sewing Machines advertised by E. C. Howe & Co. in this number, and we know it to be all right. The firm is a good and reliable one. If they do not deal justly with you we will be responsible to the full extent of your loss.

P. C. Lewis, of Catskill, New York, makes pumps and syringes for spraying fruit trees, grape vines, vegetation, etc., with insect poisons. These same pumps are valuable for fire extinguishers, and useful in many ways. We give this information in response to many inquiries for something of the kind. Write Mr. Lewis a postal card and say we recommended him, and he will treat you well.

On page 9 we offer our *new* specifications for making incubators. These are complete directions which will enable any one with a knowledge of simple tools to make a complete and successful incubator. Beale's "Profitable Poultry Keeping" and Halsted's "Artificial Incubation" are two useful and valuable books which every one who raises a chick should have. The price of specifications is 32 cents, of "Profitable Poultry Keeping" $1.50, of "Artificial Incubation" 75 cents, all by mail.

DAIRYMEN GETTING RICH.—Progressive dairymen who are only satisfied with the best results, are adding to their wealth and conferring a benefit on society, by the rapid improvements they are making in the art of butter making. This class use Wells, Richardson & co's improved Butter Color, and know by actual test that it fills every claim made for it.

Pennsylvania Horticultural Society will have their annual Exhibition in connection with Agricultural State Fair, at Philadelphia, open September 9th.

KNABE PIANOS FOR BROOKLYN SCHOOLS.

(From the Baltimore Daily News.)

The award of the contract to supply the Brooklyn, New York, Public Schools with twelve Pianos, has been made to Messrs. WM. KNABE & CO., this being the entire number required, the award was made after a test of merit. The Board of Education having determined to secure the Piano which they believed to be the best in the market, without regard to the difference in price. After a thorough examination and comparison, the Knabe Pianos were unanimously chosen.

We take pleasure in recommending our readers to MESSRS. SEEDS & FERGUSON, Commission Merchants of Twelfth Street Market, Philadelphia. We are personally acquainted with the firm and know them to be prompt and reliable.

THE BEATTY ORGAN AND PIANO CO.

A WONDERFUL BUSINESS REJUVENATED AND ESTABLISHED.

(From Frank Leslie's Illustrated Newspaper.)

The name of Daniel F. Beaty, of Washington, New Jersey, is tolerably well known to the majority of the people of the United States in connection with the manufacture and sale of musical instruments. By liberal and widespread advertising, and by dealing direct with the purchaser, he built up a most extensive business in organs and pianos. It was his ambition to erect and own the largest organ factory in the world, and he succeeded in so doing. But the hindrances and losses incident to a disastrous fire in 1881, and the want of adequate capital, combined with a lack of business method, led to a serious entanglement in his affairs. Although he made and sold over seventeen thousand (17,000) organs last year, his embarrassments, which dated their origin years before, became so serious that he finally sold his business to a corporation composed of his creditors. It is understood that this company, with ample capital, has undertaken to make good as far as possible all the obligations of Mr. Beatty, giving preference to the purchasers of organs and pianos whose goods are still undelivered, and to whom it is shipping daily their instruments. The company is under the presidency of Mr. I. W. England, of New York, his manager being Mr. W. P. Hadwen; and the gentlemen composing the directors and stockholders are among the best known and most responsible business men in the country. All new orders, we are assured, are filled on receipt with instruments of the best quality; while arrearages are being manufactured and shipped at the rate of not less than 100 a week. On such a basis, supplying a superior article at a moderate price, free of agents' commissions, the new concern ought to achieve a great success.

(Continued from page 9.)

better results than to trust to the breed under all circumstances. We often receive inquiries asking which is the best breed for market and which the best for egg production. If we were living in a State south of Mason's and Dixon's line, we would take our chances for securing eggs from the Leghorns, Houdans, or any of the non-sitting breeds or crosses from them. North of that line we would prefer the breeds that possess full fluff feathers, such as the Cochins, Brahmas, and Plymouth Rocks. The reason is that the combs are not so easily frosted in the South and the active Leghorn is very suitable to that section, while the contented larger breeds are more easily confined within doors, during the long Northern winters. Then, again, some sections possess a humid atmosphere, while in other localities the climate is dry. Extremes of cold and heat are often affected by the humidity of the atmosphere, the cold being more keenly felt the greater the proportion of moisture. Thus, we may safely raise Leghorns in a cold climate, if it is dry, and we may raise the Asiatics in a warm climate if the changes from cool to warm temperatures are not too sudden and variable. The best fowl is the one most suitable to the climate.

DESIRABLE CROSSES.

As chicks may be hatched with profit this month, we give a few crosses which will be found serviceable, according to the purposes desired.

For good vigorous layers, possessing average size, with hardiness and beautiful plumage, cross a Brown Leghorn cock with Partridge Cochin hens, and the next season mate the pullets from such cross with a Belfast Red or Black-Breasted Red Game cock.

For capons, mate a colored Dorking cock with Dark Brahma hens, and the product is the most compact, heavy, and salable capon of any cross, being of excellent table quality, large size, and easily fatted.

For market chicks, cross a Plymouth Rock on Brahma or Cochin hens, and the next season mate the pullets from the cross with a Wyandotte cock.

For producing a very large fowl, cross a Houdan cock on Light Brahma hens, and mate the pullets of the cross the next season with a Plymouth Rock cock.

For early maturity, cross a White Leghorn cock with Light Brahma hens, or a Black Hamburg cock with Langshan hens.

For fowls that quickly fatten, cross any two of the large breeds, and continue such crosses from other large breeds on the produce.

For winter layers, cross a Dominick cock with light Brahma hens, or a Houdan cock with Langshan hens. Next season cross the progeny with a Wyandotte or Plymouth Rock cock.

SCRATCHINGS.

Nests.—The cheap shaving baskets make excellent nests, being light, easily cleaned, and more convenient in many respects than boxes.

Fattening Geese.—There is no better food for fattening geese than turnips. Chop them fine and feed in the raw condition. With a small amount of grain as a variety, the geese will quickly become fat.

Selecting Young Leghorns.—See that the comb is perfectly straight, with fine separations, each at even distance from the other, the earlobes white, smooth and large, the body well carried, and the legs a golden yellow.

September Work.—Now is the time to lay in a supply of fine dry dirt for winter use, as well as a quantity of vegetables. If the preparations are not made at the time when the season is moderately warm, many inconveniencies will occur after the snow begins.

Mating Ducks.—It is useless to keep ducks in pairs, as two or more ducks may be allowed with each drake, thereby permitting of the sale of surplus stock. Ducks should be allowed to forage, as they will not do well in confinement, especially when the drakes are numerous.

Langshan Chicks.—It may be noticed that sometimes the feet are yellow, but this passes off as they grow larger. The true Langshan, when matured, has pink color between the toes, dark legs, and moderate feathering to the outer toes. When first hatched they are black and white.

Eggs At This Season—The moulting hen may be induced to lay occasionally by giving them a stimulating diet but do not allow them too much fat-producing material. When moulting they sometimes become excessively fat, which should be prevented, unless they are to be sent to market.

Grass Seeds for Chicks.—Save the millet seeds, as young chicks are fond of it. An armful of cut hay in the yard gives the hens good exercise scratching for seeds. Hungarian grass seed is also excellent, as well as the seed of broom corn and sorghum. They afford variety, and are beneficial for that purpose, as well as the nutritive value.

Roup Medicine.—An experienced breeder states that he has always been successful in treating Roup, debility, and bowel disorders, by mixing equal parts of quinine, powdered saffron, and red pepper. For a sick fowl, a small pinch of the mixture is moistened with tincture of iron, and given twice a day.

Temperature for Incubators.—The great difficulty with incubators is to be able to know the exact temperature at which the eggs should be kept. After repeated experiments, we have secured the best result when the heat was maintained at 105° the first week, 104° the second, and 103° the third week. And yet there is more to learn.

The Turkeys.—Do not attempt to fatten your turkeys yet. The best place for them is on the range, and they will then only need an allowance of food when they come up at night. To fatten them too early is not beneficial. They can be made serviceable in tobacco fields, as they destroy all the large green worms they can get.

Plymouth Rocks.—A large number of persons who keep Plymouth Rocks give no consideration to the purity of the breed. Feathered legs indicate something wrong. For crossing on common hens, only the pure-bred, clean-legged cock is suitable. The half-bred cock only produces mongrel chicks, and adds no improvement to the flock.

Prepare For Winter Laying.—Every pullet should be hastened forward as rapidly as possible between now and frost, as the principal growth will be made before winter. After that time the demand for warmth will cause them to be retarded, and laying be deferred until the cold season is over. Give plenty of bone meal and meat scraps for a few weeks, and do not confine them too early as the range is the best place for pullets.

A Cheap and Nutritious Food.—One of the cheapest and best of soft foods, is to soak ground oats in hot water over night. Early the next morning add a pint of milk, buttermilk, or clabber to it, stir, and thoroughly mix, thickening it with one part bran and two parts corn meal. With the addition of a little red pepper and salt, as well as a tablespoonful of bone meal for every ten hens, it forms a complete egg food, being not only excellent for adult fowls, but also for growing chicks.

The Wyandottes.—Although this breed is now considered a pure one, the results of the first cross from which it was produced—Silver Spangled Hamburg and Dark Brahma—are manifested every season, for occasionally the legs will have a tinge of feathering, and the young stock give indications of the Brahma. If bred from a succeeding season, a reversion again occurs to the Hamburg, and the breeder may consider himself fortunate if he secures a perfectly marked specimen.

Feeding Laying Pullets.—As long as an early pullet is growing, she may be fed highly, but the comb must be noticed in order to be watchful of the first signs of the scarlet color which indicates that she is about to begin laying. At this period she will become too fat if fed on much grain, and if very fat she will not lay. After she has commenced to lay, however, she should receive all she desires. The critical period is that between the maturity of the pullet and the beginning of egg production.

The Farm and Garden.

Vol. IV. OCTOBER, 1884. No. II.

TO ALL WHO RECEIVE THIS NUMBER.

Subscriptions may begin with any number, but we prefer to date them from January of each year.

Renewals can be sent now, no matter when the subscription expires, and the time will be added to that to which the subscription is already entitled.

Notice is always sent of expiration of subscription. If not renewed it is immediately discontinued. No notice is required to stop the paper, and no bill will be sent for extra numbers.

Remittances may be made at our risk by Post Office Order, Postal Note, Registered Letter. Stamps and Canadian Money are taken, but if sent in ordinary letter are at your risk.

Receipts.—The fact that you receive the paper is a proof that we have received your remittance correctly. If you do not receive the paper promptly, write us, that we may see that your address is correct.

Addresses.—No matter how often you have written to us, please always give your full name, post office, and State. We have no way to find your name except from the address.

Names cannot be guessed, so write them plainly and in full. If a lady, always write it the same—not Mrs. Saman'a Allen one time and Mrs. Josiah Allen next. If you do not write Miss or Mrs. before your signature do not be offended if we make a mistake on this point.

Errors.—We make them; so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us any way. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

ADVERTISING RATES.—From issues of February, 1884, to December, 1884, inclusive, 60 cents per Agate line each insertion.

Subscriptions to this paper 50 cents a year, payable in advance.

CHILD BROS. & CO., Publishers,
Nos. 418, 420, 422 Library Street (first below Chestnut),
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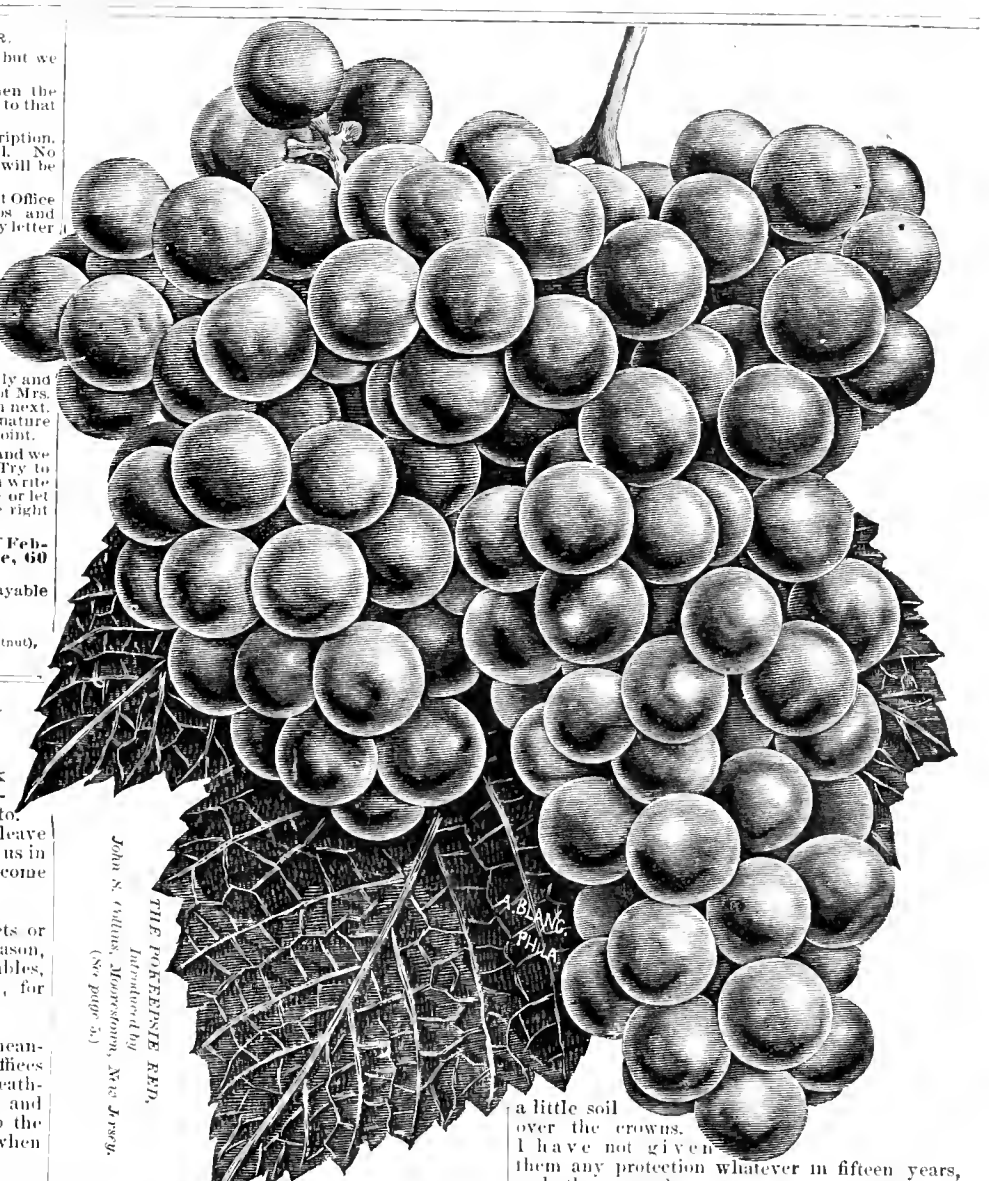

THE POKEEPSIE RED,
Introduced by
John S. Collins, Moorestown, N. J.
(See page 3.)

FAREWELL TO THE GARDEN FOR 1884.

By Joseph.

A few weeks more at the most, and Jack Frost puts in his appearance to stop all further operations in the garden by a decisive veto. We must finish up our work and prepare to leave for this season, the modest bench assigned to us in nature's grand workshop, and which has become endeared to us during a long occupancy.

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A light covering of straw, paper, blankets or sheets during the first frosty nights of the season, may often save us a fair supply of vegetables, such as tomatoes, cucumbers, melons, etc., for some weeks after the first heavy frost.

✝

The hoisting of a cautionary signal flag, meaning "the cold wave is coming," at post offices and stations, as proposed by our national weathermakers, is a step in the right direction, and may be the means of avoiding much loss to the farmer and gardener. It is well to know when to put on a little more bed clothing.

✝

When you see the white flag with black square in centre, and you have no means to protect your vines, pull up the tomato plants and hang them under shelter. They will continue to ripen their fruit. Or pick the half matured fruit, and spread on the floor or a shelf in the garret, and have ripe tomatoes for many days.

✝

Last spring, J. A. Everitt called my attention to his new "Standard Market and Shipping Tomato." The name perfectly paralysed me, and I would never have gotten over it, had I not seen it fruiting in Everitt's garden a few weeks ago. This tomato certainly ranks with the best, as far as prolificacy and beauty of shape and color is concerned; and in regard to its keeping qualities, Everitt tells wonderful stories. Its name, therefore, seems to be all that can be said against it.

✝

But now, good Lord, deliver us from novelties, unless they are better than our old standards.

✝

Vegetable oysters (salsify), are nearly ironclad. It is often recommended to lightly cover them with litter during winter, or at least draw a little soil over the crowns. I have not given them any protection whatever in fifteen years, and the crop has never been damaged except very slightly in one (rather open) winter. It is not worth while for me to take extra pains with salsify

✝

Celery should be secured before heavy freezing, but not handled when frozen or even when wet with dew. Do not try to winter it in trenches, unless these have good drainage.

✝

To store celery in your cellar or root house, take up the plants with the roots, trimming the ends of roots to within on inch or so from center, remove all decayed leaves, and set the plants upright, in rows not less than eight inches apart, in moist sand or soil, the deeper the better. New rootlets will form.

Do not read all the spaces like this. One of them was put in by mistake, and found too late to be taken out

GARDENING IN FLORIDA (Continued).

By W. C. Steele, Mayport, Fla.

I closed rather abruptly last month, and will reopen the subject just where I left it, without any further prelude.

String beans are a very popular crop, as they require much less manure and labor than most crops, and mature in a shorter time, often being ready for picking in six weeks from planting. Being easily grown, the profits are correspondingly small, averaging probably from $50 to $75 per acre.

Upon moist soil or where there is any means of watering artificially, cucumbers are very productive, the returns sometimes running up into the hundreds of dollars per acre. But being very sensitive to frost and drouth, this crop is not so largely planted as some others. I have heard of one man who has contrived a system of irrigation by means of which he has made the cultivation of cucumbers a success. He has rows of wooden troughs across his field five feet apart. They are supported on posts, at about two or three feet from the ground, and run as nearly level as possible. They all connect with a larger trough running along the side of the patch, which is filled as needed by pumping water from a well. The cucumbers are planted under the rows of troughs, where the leakage keeps the soil always moist.

Irish potatoes generally do well if planted early on suitable soil, and a good crop is very profitable, as the price is always high. But the following account of a potato crop, as related to me by the grower, shows the discouragements often met in this business here. A piece of new land, just cleared, was planted to Irish potatoes. The seed and fertilizers cost $88. There was no rain from planting time until the crop was ready to dig. When marketed the potatoes brought $18. Thus it is seen that the "Golden Opportunities" do not always yield a *golden* harvest.

A Personal Request.—That every reader of this paper will send us a club of new subscribers. We will thank you for four and would be glad to have more.

Although sweet potatoes are one of the principal crops of Florida, yet they are not shipped to Northern markets very much. Though very large and of excellent quality, our sweet potatoes do not sell readily at the North. The reason probably is that there is a prejudice against any but yellow sweet potatoes, while ours are white. So far no yellow variety has been found that will succeed as well in our soil and climate as the white. As the white is fully equal to the yellow in quality, and superior in size, it is only a question of time when Florida sweet potatoes will be as popular as Florida oranges. A neighbor sent some to Boston last fall. The first lot could hardly be sold at all, and many were actually given away to get customers to test them. But after that there was no difficulty in disposing of all he had to send at good prices.

In my account I have not tried to to cover up the disadvantages, or make things appear better than they really are. The future will very probably be better than the past, as the last three years have been unusually dry, while last winter was the coldest for ten years. Florida is not an earthly paradise, but it is a very pleasant place to live. I have lived in, or traveled over, more than a dozen States, extending from New Hamshire to Wyoming Teritory, and have seen no place that suits me as well as this. The longer people stay here, the better they like it; I mean the majority, of course, there are exceptions; there are some who are never satisfied. Very few who have lived here for several years would be be willing to go North permanently on any terms.

Some think that the summers must be terribly hot, but I do not find it so, and I have heard several people who have been here for years, say that they like the summers better than the winters. If a change of air seems necessary at any time, on account of health, or for any other reason, it is only a few miles to the sea-coast, where fresh ocean breezes and surf-bathing can be had, equal to any at Long Branch, Brighton, or Rockaway.

I said in the beginning, that industry, patience, perseverance, &c., &c., were *necessary* to success. This is *undoubtedly* true, but at the same time it is also just as true of *any new* country.

As a rule, it requires plenty of money, or else *lots* of hard work, to succeed in Florida; but no more than is necessary in Kansas, Nebraska, or Dakota. I feel sure that a given amount of labor will produce greater results here than on the Western plains. The soil is not so fertile, but you are not obliged to work hard six months to get fuel and woolen clothing to keep from freezing the other six. You may be working in the soil every day of the year, and have some crops growing *all* the time from January 1st to December 31st.

After you have a place well established here, you may pick fresh ripe fruit from your own trees or vines every day in the year.

See the list, strawberries from January to June, blackberries from April to June, figs in May, a second crop in August, and sometimes a third in October or November, peaches from May to September, grapes from July to September, guavas from July to November, Japan persimmons from October to January; oranges, lemons, and all the varieties of the citrus family from September to May. And all these in a climate where it seldom freezes at all, and where the lowest degree of cold, in the most severe winter for ten years, was twenty-six degrees above zero, and that only lasted a very short time early in the morning of two days.

Many who have very little strength at the North, soon find themselves able to do all the work necessary to make themselves a home in this genial clime. But I might go on indefinately when writing upon this subject, so I will close with a word of advice to those contemplating a change of location. Visit Florida before deciding, and remember that you can do as well on the *east* side of the St. Johns river, within twenty or thirty miles of Jacksonville, as you can by going one hundred and fifty miles farther south.

NO EXCELLENCE WITHOUT LABOR.

The Experiences of a Virginia Farmer.

No. 3.

It seems from the condition of this place this system (or rather lack of any system) was successively practiced by the various tenants who have occupied it, and from many months I learn it is considered a "mighty poor farm." The creek bottoms have been plowed for corn, as the ridges indicate, and so left, which makes a rather rough surface from which to cut the grass that has taken possession of it, making a very rank growth. Of course some weeds make up a portion of the growth, but what will not make food for the horse and cow will come in nicely for mulching and bedding, so it is all cut and saved. If one does not "make hay while the sun shines" it will not be made, or in other words, but once a year can we save the vegetable growths that make up our support through the year.

Here in the South it is thought that to make much hay is out of the question. As here on this farm, there are many available acres on others, that if properly put in condition, would yield tons of the best of hay yearly, with no extra expense save to see that it is cleared of anything that is left by the occasional overflow, which only makes it each year richer. To plow such land for any crop is surely not profitable. Much of these lands can be mown a second time and very large and fine crops of hay secured, which is far less expensive than a crop of corn.

We want fertilizers for all our lands, and where such a chance exists to secure hay at only the expense of cutting, fed by the yearly overflow of the streams, it should be made available at the earliest possible time. Every rod of land where grass will grow readily is of more value than two rods of land that is cultivated. It certainly will pay well to clear up all damp spots, if but a few rods in a place, and devote them to grass. Winter food for the stock will be realized with comparatively little labor.

After a two months' drouth the rain comes gently but plentifully. Where the soil has been kept stirred and is in a loose condition, the rain will all be absorbed as fast as it falls, but where there has been little or no cultivation because it was "so dry," much of the water will run off and not do the plants the good it would if a mellow soil was ready to receive it. Our neighbor stopped working his land because he was afraid to disturb it while so dry. The crops treated by each of us now show the results of the two methods. The neighbor called in just after dinner and was surprised to see us all busy. He had nothing he could do to profit he thought, so the day was lost to work. We were mending some tools, looking over onions, &c. He remarked that he had not thought of its raining quite so soon, and by forgetting the need of a little ditch by some turnips he had sown not long before, but which had come up nicely, the water had run across the small patch and did not a little harm.

"Well," said I, "why *forget* when it is so easy to keep a memorandum of everything to be done, even if weeks in the future. When I see anything that is to be done and I cannot do it at once, I note it in my book that I always carry with me. If but a leaf of paper and pencil in one's pocket, there can be no excuse for forgetting necessary work."

This is a rule every one should adopt if time, labor, and loss in values are desired to be saved. When one has the many items of work where they can be read at a moment's wish, that which is most needful can be selected, and no time lost in thinking of what to do. Habit will soon make this an easy duty, and by it so many little unnamed items will be remembered *in time*, that soon it will be seen that there *is* excellence in all timely labor.

Thud, thud fell the strokes upon the well-filled and easily-shelled heads of grain. The noise could be heard only a short distance, because the threshing was being done on the ground. The grain had been drawn when *but just bound up*, and not being over-ripe, did not shell out much, and at once set up in small shocks where it was to be threshed out. There was no floor, for the barn was but a stable. A stack of hay was put in a long, square form near the grain, and one day one of the boys suggested in a timely, yet unsuspecting way, that "by the side of that stack was a good place to make a smooth place to thresh it out." Dry dirt was being gathered for the stable, so the top of the soil—say two inches deep—was taken off with a long-handled, square-edged, sharp shovel (filed for the purpose). This was not far from large oak trees, and leaves had rotted here for years. The soil was very dry and loose, and made the cutting off of the grassy top quite easy.

This done the floor was ready, and when the time came to pelt out the rye that we preferred to thresh with the flail, so the straw could be saved, we spread down a square of common muslin, sewed together in four strips, 24 x 12 feet. Around the edge, on three sides, we laid bundles, with the heads just reaching to the edge of the cloth, that all the grain that was scattered away would not fall on the ground, and besides much of these bundles would be well shelled out by the walking over them, and occasionally pounding as we threshed. We hung out rope along the side of the stack by pegs stuck in the hay, and on this, with clothes pins, fastened bags like a curtain, that prevented the grain lodging in its sides, thus we saved much of the little harvest, probably not a half-peck was wasted. The grain was very dry, whenever we had seen any inclination of the shock leaning over, or a top coming off, it was at once fixed, so no straw was blackened by lying on the ground, nor showers soaking uncovered grain. Even in our little harvest excellence responded to labor.

TOBACCO CULTURE.

By Thos. D. Baird, Greenville, Ky.

The first requirement for a successful crop of tobacco is plenty of good plants, and to secure these I select a rich, rather sandy loam in bottom land; at or near water courses, is best. Such land is rich enough without manure to grow good plants. To manure the beds too much makes the plants tender, and less likely to live when transplanted. If brush is handy I make a heap and burn it at a blast, but if brush is not convenient after raking off the ground, green poles are laid five or six feet across the bed, to serve as ventilators. Wood is piled on these across one side of the bed, six or seven feet wide, of sufficient quantity to burn, and then set fire. After it has burned the ground sufficiently it is moved on the poles another width, and more wood added, and so on, until the ground is burned over. I am careful not to burn the ground too much. As soon as the ground is cool enough it is dug up some three inches deep, and the soil well pulverized, all roots are carefully raked off. The bed is marked off so as to sow the seed more regular. The seed is put in about one quart of cold, sifted ashes, before sowing, about one and a half spoonfulls of seed to thirty feet square. After the seed is sown if the soil is tramped with the foot to firm the soil, the seed will germinate better. The bed should be covered with brush

to keep off stock, and to shield from keen frosts. This brush must be removed after the plants get of some size.

The best soil, according to my experience, for growing tobacco is a rich loam of a red color. Black loam is inclined to make dark tobacco. The ground should have a liberal dressing of well-rotted manure. The soil should be broken deep and thoroughly pulverized. If a good breeze comes after the first breaking, all the better, it will clear the soil of cut worms. Mark off three feet and a half each way. In making hills begin at one side and make a cross, and then walk back; in this way the hills are made more regular. To make a cross, both going and coming, the hill will be zigzag. In setting I prefer a medium season to a heavy one, if to be had. If I can have a choice of plants I would take a yellowish looking plant of a stocky growth, they will live better and take root in the soil sooner, I think. Avoid a long shanky plant, it will not give satisfaction.

The cultivation should commence as soon as the plant begins to grow. The soil should be loosened around the plant with a hoe, care should be used not to break the plant loose. Tobacco should be cultivated once every week until too large to get between the rows with a horse, and it will make heavier and finer crops. From my experience in growing it I find there is a certain stage in its growth that it should be topped to make the best tobacco. If you will notice the first four or five leaves grow smaller as they near the top, trim off these smaller leaves at the bottom as soon as the plant can be topped at ten leaves above, then we have the best part of the plant. Some growers top tobacco at sixteen leaves, but from observation in this respect I find tobacco not so heavy or as large leaf by this plan, besides having more leaves to work and strip.

Due attention must be given to worming. Destroy all eggs that can be found. They are usually on top of the leaf. It is more tedious to keep the small worms off, but if they are left to grow larger they injure the tobacco more, and worm-eaten tobacco is not only injured in looks, but loses in weight. Keep the suckers off, that the strength of the roots may go in the leaf. Tobacco will usually sucker four times, but will sucker at the ground until cut, or rather until the roots die they must be kept off until the tobacco is cut, I have left them to grow sometimes when my tobacco was late, they cause the tobacco to ripen earlier, and they do not draw as heavily as the first suckers.

A TOOL HOUSE.

By W. D. Boynton, Appleton, Wis.

Very few farmers have a place built and designed expressly for the storing of tools, while it must be admitted that there is quite a large class that do not furnish any shelter at all for their farm implements. The mower, the horse-rake, the harrows, plows, and seeders, are found alongside the fence, or behind the barns, where they are exposed to the sun, rain, and snow, during the few years that they hold together when so treated.

The more prudent and intelligent, who have learned by experience that tools exposed to the weather will not last more than half as long as those that are kept housed, either erect a building for the purpose, or utilize the nooks and corners of other buildings, wherever available space can be had.

The latter method is by far the most common. We find farm tools stored in all imaginable places,—the wood-shed, the corn-crib, the barn-floor, and even over the pig-pen, or in a corner of the stable. This is much better than allowing the tools to remain out doors, but still a very inconvenient, and often expensive method of storing. Fowls are roosting upon or over them; stock often get loose and are injured upon them; while they are more or less in the way at all times.

A building designed for the storing of tools may be built at very small cost. The construction is so simple, that any farmer who can use a saw and hammer, may do the work himself. It may be in the form of an inclosed one roof shed, or a neat double roof building, finished to suit the taste and purse of the builder. Whatever it is, it should be storm proof and dry. I have seen many tool sheds that were open on the front, like cattle sheds. These may be very convenient for running wagons and machinery in and out, but they are very poor protection against driving storms, which in winter will often pile such sheds half full of snow. Swinging or sliding doors should be provided in front for large, heavy machinery that the owner does not wish to take to pieces for storing.

The tool house should have a good solid floor, so as to avoid the dampness from the ground, that sometimes seems to affect the whole contents of a building. The building should be deep enough to allow reapers, binders, mowers, horse-rakes, wagons and buggies to be backed in and completely covered. In the usual narrow shed, the tongues and shafts of the implements must be left sticking out to the weather. Twenty feet is a good depth for a tool house or shed. The length of the building must, of course, be governed by the amount of machinery to be housed.

A work shop partitioned off one end of the building is a very convenient arrangement, as there is always more or less repairing to be done in connection with the machinery. With a little practice, and a full set of tools for the work, the farmer could save many of the dollars that he is annually paying to the wagoner and blacksmith, and that too, during weather when he could not work in the field.

MY EXPERIMENTAL PLOT.

By Thomas D. Baird, Greenville, Ky.

From two unavoidable circumstances my experimental plot will not be as interesting as I had hoped to make it. From a long continued wet spell the grass got such a hold that I had my plot plowed to kill the grass while the soil was too wet, which caused it to bake, and I was taken so badly with rheumatism I could not take notes its progress.

My early cabbage had 40 pounds of fertilizer broadcast and well mixed with the soil. The ground was large enough for 600 hills, 18 inches in the rows, rows 3 feet apart. Fifty pounds of fertilizer were put in these 600 hills. These cabbages were set out the second day of May. First heads used June 27th. The remarkable feature of it is the market being very dull the cabbage have not all been sold, and those yet standing are nice hard heads, no sign of bursting yet, and this the 15th of September. They are the Early Jersey Wakefield variety.

My Peas:—The Early Sunrise and Cleveland's First and Best did not give satisfaction. The Sunrise had a large bloom but did not mature its fruit. Bliss' Abundance and Everbearing peas were splendid. The Abundance were in bloom six days earlier, but except this, I saw but little difference if any. The vines were some two feet and a half high, very rank. I did not stick them but they will do better with sticks. The pods are long and filled with large peas, six and eight peas in a pod; flavor excellent. With me they both ceased bearing at the same time. Some of the vines had fifty pods on them at one time.

For early market or family use I find the American Wonder ahead of all others; of good size pods and pea of excellent flavor. The next is Carter's Premium Gem. This pea is not as early as the American Wonder, but is as well flavored and more productive not quite as large.

My onion seed was sowed 29th of March; three varieties, Red Weathers field, Yellow Globe, and White Giant Rocco. The tops were dead by the middle of August, with bottoms two to three inches in diameter.

My Beans:—The Canadian Wonder was a very rank grower, pods some eight inches long, filled with large beans, but with me they were tough and not very productive. Lemon pod proved to be a very heavy vine, bean of excellent quality, very prolific. The Crystal White I find to be one of the finest snap beans I have met with, exceedingly productive, retaining their juicy succulent flavor for many days after they are ready to pull. The pods are nearly transparent, very fleshy; in habit of growth they are very bushy, branching out. For family use or late market they are very tender and crisp and unexcelled.

My potatoes yielded thus:—Stem end, 10 eyes, cut any way, yielded 80 potatoes, weighed 12 pounds; middle, 10 eyes, 92 potatoes, weighed 16½ pounds; seed end, 10 eyes, 88 potatoes, weighed 15 pounds. Eyes cut deep, stem end, 10 eyes, 94 potatoes, weighed 14½ pounds; middle, 10 eyes, 102 potatoes, weighed 15½ pounds; seed end, 10 eyes, 110 potatoes, weighed 12½ pounds.

THE BEST IS BEST

By Eben E. Rexford, Shawton, Wis.

I have often urged, in the various periodicals devoted to agriculture and gardening, to which I contribute, that our farmers and gardeners should obtain the best kinds of vegetables and grains, and grow nothing of inferior quality. I have said that I believed it to be the best of economy to pay a little more,—or a considerable more, if necessary,—and secure seeds of improved varieties. This belief I repeat, and it grows stronger every year. I have attended several fairs this fall, and in my conversations with our best farmers and market gardeners, I have had my belief corroborated by a narration of their experience.

Four new subscribers from every subscriber now on the list will make the FARM AND GARDEN the largest and most influential farmer's paper. It is but a little thing to ask, and we are anxious for you to do it.

One gardener told me how much more he had obtained for his tomatoes and early peas than a neighboring gardener had, simply because he had planted a superior variety, while his neighbor had contented himself with old varieties. He had been obliged to pay more for his seed, but the crops had sold for enough more to make up for all extra expense and give him a much larger profit. He had not been able to fully supply demands, while his neighbor had found it difficult to get rid of his at any figure. Another man told me his experience with potatoes. He had invested a good many dollars in superior varieties. His neighbors had told him he was foolish to do so, for the kinds they intended to plant were just as good, or, if not quite so attractive, perhaps, would bring just as much in market. He had his new potatoes on exhibition alongside the old ones of his neighbors, and he showed me, with commendable satisfaction, a large number of orders that he had taken, while his neighbors had not taken any. *He* knew it paid to get the best.

I see this same thing illustrated among my neighbors in stock. Some of them, a few years ago, concluded that it did not pay to keep on with "scrub" cattle. They satisfied themselves that it was a paying investment to get a better grade of cows if they wanted to make butter, and that it would pay to change breeds if they intended to raise cattle for market. They bought thoroughbreds at prices that made them the laughing-stock of their less progressive neighbors. What was the result? It brought dollars into their pockets where they had only had shillings from the old "scrub" stock. They found that it cost no more to keep the better grade than the inferior one, and they found that the returns in butter or beef trebled. They can sell a yearling for more, to-day, than their conservative neighbors can sell one of their best cows for.

It is the same with horses, with hogs, with sheep, with anything you raise on the farm or in the garden, be it vegetable or animal. Buyers want the best and are willing to pay good prices for it, for they recognize the fact that the best is the cheapest.

ORCHARD AND SMALL FRUITS

THE WILSON JR. ONCE MORE.

In July last Wm. Parry, of New Jersey, brought to this office a bunch of Wilson Jr. blackberries measuring twelve inches across and sixteen inches deep. We spoke of this in THE FARM AND GARDEN, and now we give a reduced picture taken from a photograph of the bunch shown us. As our own eyes have seen it, we must believe it.

A PRACTICAL MODE OF PLANTING STRAWBERRIES.

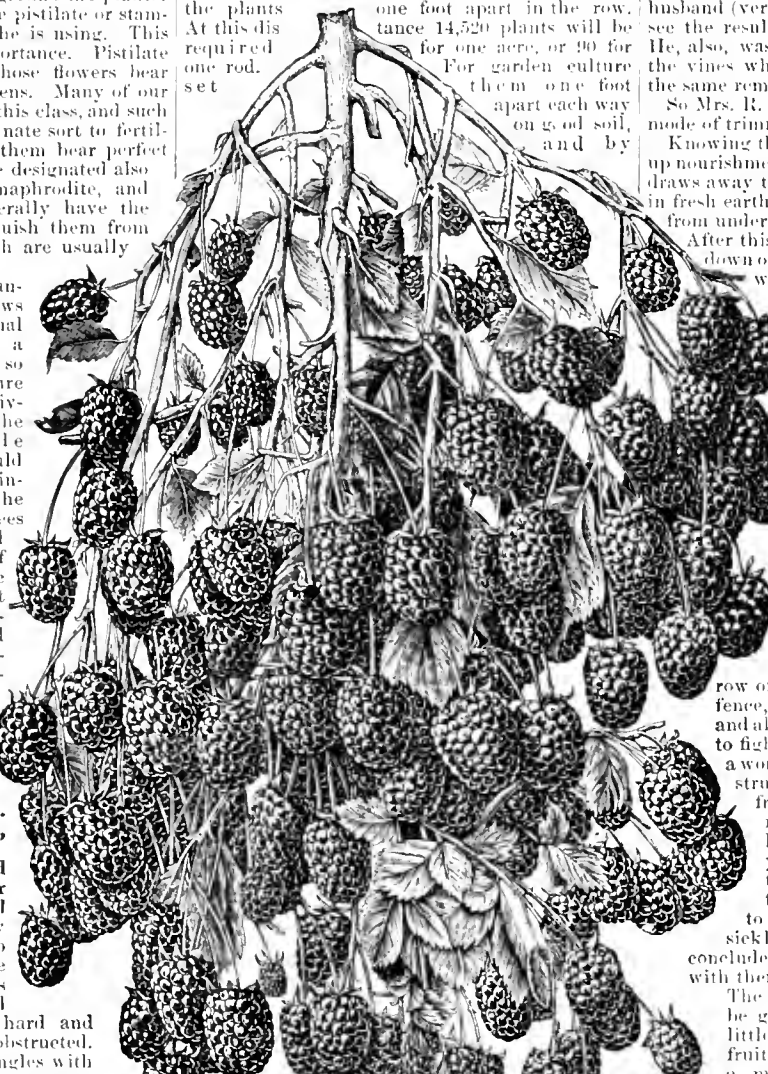
By Chas. S. Rowley, Lucon, Ill.

Before a plant is put in the ground the planter should inform himself as to the pistilate or staminate character of the variety he is using. This is a matter of the greatest importance. Pistilate varieties are special kinds whose flowers bear pistils only, and have no stamens. Many of our most valuable varieties are of this class, and such require the presence of a staminate sort to fertilize their blossoms, and make them bear perfect fruit. Staminate varieties are designated also by the titles of perfect, hermaphrodite, and male; and in catalogues generally have the letter "h" or "s" to distinguish them from pistilate or female sorts, which are usually marked "p."

We usually commence a plantation with from one to eight rows of a staminate sort, then an equal number of the pistilate, then a repetition of a staminate, and so on through the plantation, care being given that the outside row should be staminate, as the first were. This mode guarantees the proper fertilization of all the pistilate varieties, no one of which will bear alone, while the staminate sort will; but it is always better that a plantation should consist of several varieties, both male and female. We plant them in sections, of alternate sets of rows, so that pure plants can be dug from the middles. Pistilates may be safely set as far as twenty-four feet from the staminate and receive all necessary fertilization. This being fully understood, we come to the planting.

Lord Nelson hung out the flag on the battle morn. "England expects every man to do his duty." We hope you will think it your duty to help increase the subscription list of the FARM AND GARDEN.

The most simple, easy and practical way that I have ever found to set strawberries and plants with small roots, is by use of the spade, and the help of an assistant. In using the spade all contact of the hands with the soil is avoided, and though the ground may be hard and compact, the planting is not obstructed. The blade is set at right angles with the line, its left corner being nearest to it. In this position the blade is sunk to the guard, after which the handle is moved back and forth once or twice, so that when the spade is withdrawn there will be an aperture, in the shape of a wedge. In making these spaces you are to remain on the right hand side of the line, and your assistant occupies the opposite side, carrying in his left hand a bucket of water and plants; using his right hand to grasp the plant at its collar, with the thumb and forefinger. Giving the plant a sudden flirt, while its roots are wet, will spread them out in something of a fan shape; these he places to their full extent in the aperture made by the spade, setting the crown so that it will be just at the surface of the opposite bank, in which position it must be held while you force the nearer bank or side of the opening next to you against the other, by pressing with your foot, thus enclosing the plant in the solid clasp of the vise-like enclosure. All this is very easily done, requiring but a few moments practice to become an adept at it. If you have no helper, it is a good plan to go a short distance over the line at a time, making the spaces, then follow with the bucket of plants, holding each plant in position while closing the earth with the foot. We have set a great many thousands of plants in this manner, and find it not only simple and practical, but also the very best and most successful method we have ever tried. A few of the advantages gained by this manner of planting are as follows:—



A Cluster of the Wilson Jr. Blackberry.

The plants come fresh from the water, and so escape any of the ill effects of sun or wind, so detrimental when dropping a long row ahead of the planter, a mode which I most heartily condemn. Having come out in a fresh state, their roots go to their full natural depth, in cool moist earth, especially opened for the reception of each plant, and immediately closed again, in a firm and solid manner, which, if well done, makes a plant as firmly set in its new place as it was where it grew, for such a plant cannot be pulled out easily, often breaking in two before it will give way at the roots. I would especially recommend this as the most favorable mode for fall planting. With an assistant, I have frequently planted 5,000 strawberries in a day of ten hours, by this method.

The best distance to set strawberry plants, if for field culture is in rows three feet apart, with the plants one foot apart in the row. At this distance 14,520 plants will be required for one acre, or 90 for one rod. For garden culture set them one foot apart each way on good soil, and by autumn these will be a solid bed of plants, which will give a splendid crop of the finest fruit the ensuing season. In field culture there are certain practical modes of culture, and the manner and time of renewing the plantations, that I have not space to give in this article.

TRIMMING GRAPE VINES.

By Anna Griscom.

For some years the vines had been regularly trimmed by experts, and once by a skilled amateur, who finished up the long list.

There was no result of these trimmings but luxuriant growth, so luxuriant as to produce the suggestion that they might run to New York, over a hundred miles. Discouraged by the many failures for years, Mrs. R. concluded that she would now try the trimming herself. As she was a good logical reasoner, she had often hit on methods that were not only original, but quite successful.

She commenced by picking out all the canes which were wanted for the principal bearing branches, and placing them to her mind; all else was rigidly cut away. After this was done, all the outgrowth from these canes was cut close to each cane, leaving not one bud in any case. After this extraordinary proceeding, a farmer neighbor happened to call, and asked who had trimmed the grape vines. "I did," was the reply. "Well," said the neighbor "I took you for a woman of good sense, but a lunatic could have done as well as this. "Come and see them in the fall," was the cool reply of Mrs. R.

When fall came, Mrs. R. happened to meet the neighbor, who asked after the grape vines. "Come and see them," said Mrs. R. The neighbor came and when she saw the formerly barren vine loaded down with fruit, her astonishment was great. On her return home, she sent her husband (versed in the culture of the grape), to see the result of a woman's whim in trimming. He, also, was astonished, and said had he seen the vines when trimmed, he would have made the same remark his wife had.

So Mrs. R. proceeded each year, with the same mode of trimming, with excellent results.

Knowing that it is the fibrous roots that take up nourishment for the vine, Mrs. R., each spring, draws away the earth from about these, and puts in fresh earth all about them, which she obtains from under the grass sod in a neighboring lot. After this is done, she turns the sod upside down over the roots, this is in turn covered with the garden earth. In this way the strength of her vines is renewed from year to year, and show no decrease of vigor.

In another case (at Pottsville,) the grass cut from the plot which the vines bordered, was placed on top of the ground about the vines. The consequence was that these vines (the Concord), throve and bore fruit, while those of the neighbors, of the same kind, were either winter-killed, or were barren of fruit.

OLD CURRANT BUSHES, AND HOW TO IMPROVE THEM.

By E. E. Rexford, Shiocton, Wis.

In many gardens you will see a row of currant bushes standing along the fence, with grass growing among them, and almost hiding them. The bushes have to fight for an existence, and it is often a wonder that they do not give up the struggle. The worms take most of the fruit, which, if it were allowed to ripen, would be small and poor. "I like currants," a farmer said to me yesterday, "but it does not pay to try to raise them, they do not amount to enough to make it worth while to bother with them." I looked at his sickly, starved bushes, and mentally concluded that he had never "bothered" with them much.

The currant is a healthy fruit, and can be grown in large quantities, with but little trouble. I know of no other small fruit which will produce so well with a moderate amount of care. Three years ago my father took an old row of bushes in hand, and the results have been most gratifying. He removed the grass from about them, and spaded the soil up to about the depth of a foot, working in well-rotted manure about the plants. Then he went to work and cut out the old wood from every bush, leaving only the growth of that year. We kept the plants clean through the summer, and they grew wonderfully. They said to us as plainly as if in words, that they were willing all along to grow, if they only had a chance. As soon as the opportunity was presented, they took advantage of it. The next spring he put a lot of old mortar from a room which had its plastering removed for a new coat among the bushes, and this helped to keep the soil light and open. We kept all weeds down, and no grass was allowed to grow. The result was a large crop of fruit, and the fruit was so large and fine that many of his neighbors thought he must have planted a new variety, and asked for cuttings. This proved what good cultivation will do, and that is simply this: That it will *apparently* work wonders. There is, however, no wonder, and nothing at all strange about it. Give any plant a fair chance and it will do well under proper treatment and conditions. While the currant bushes of our neighbors were covered with worms, his had none, and he feels sure that their exemption from this pest was attributable solely to the fact that the ground was kept free

from weeds and grass in which the worm lays its eggs, and thus perpetuates its existence among the bushes. The matted grass about the roots affords it a good lurking place, and if you take it away he will seek for more congenial quarters. Last year he cut out the growth of the year before, leaving only the new growth for future bearing. The bushes have a strong, healthy look, and are proofs in themselves of what can be done toward renovating an old and neglected stock of plants. Instead of having plants set along the fence where it is impossible to get at both sides of the row with a plow or cultivator, I would have them set where it would be easy to work on both sides of the row. Put coarse litter about them in fall, and spade it in well in spring. Keep the older growth cut out, and keep the ground clean and mellow, and you can raise from a dozen bushes all the fruit an averaged sized family will care to use in its season.

WHO TELLS THE TRUTH AND WHO DOES NOT.

[From THE FARM AND GARDEN for August, 1884.]

Park Beauty proves to be Crescent Seedling · another variety whose popularity has emanated from the same source as the Jumbo(?).

[From the *Fruit Recorder* for September, 1884.]

We are always willing to meet any fair opponent, but when men like J. T. Lovett, of N. J., charge us with being the first disseminators of the "Park Beauty" strawberry, they state what they *know* is *incorrect*. A glance at our catalogue will show that Illinois parties were its first disseminators, and further, we are not troubled as to the great value and distinct character of the Jumbo strawberry by any incorrect statements or comparison he (Lovett) may make. The animus of the whole thing is too plainly seen by all knowing ones.

Do I say in the above that the publisher of the *Fruit Recorder* was the *first* to disseminate the Park Beauty. Nor can he say that he has reference to something else, as the quotation from the FARM AND GARDEN is the only item I have penned in regard to the matter. Nor can the publisher of the *Fruit Recorder* truthfully say he is not the person who gave the variety popularity. He claims to publish a hundred thousand catalogues and gave it more than a half page space in last springs issue, with large cut running across the page showing seven berries; besides numerous "puffs" of a strong odor in his monthly catalogue, otherwise known as the *Fruit Recorder*. The animus on my part was simply to warn others not to pay high prices for these old varieties under new names, as I had done; "merely this and nothing more." It strikes me that the intention on his part is so lucid that *one* does not have to *know* much to be able to see it. Perhaps when writing his retort this noble knight of the quill did not expect to see the two items placed beside each other.

J. T. LOVETT,
Little Silver, N. J

A DISH OF GRAPES.

At frequent intervals through the year we have treated of the grape vine, its importance, and how to grow it; and it is fitting and proper that we should sit down to a dish of the fruit of the vine as the season is closing. It is not good to begin with the best. There is the "Ives," the bunch is small and the grapes are few and imperfect. In some localities this variety is considered good, but in many other places it is not worthy of the name it occupies in the vineyards. The "Irving" seems to be too late for many places along the fortieth degree of latitude.

The "Taylor" is more noted as a foliage grape than for its fruit. The clusters are small and generally sour. It is good for wine and has been the parent of some fine Southern seedlings. If you wish to grow a grape vine for a fine shade, try the Taylor.

Some clusters of the "Herbemont," grown in a Northern vineyard, are before us, and will remain there as far as the eating goes; they would be safe even in the midst of a group of grape-hungry boys. This is a Southern grape of the *Aestivalis* class, and though it does not do well at the North, it is one of the best in the Southern States, where it furnishes the basis of a fine wine.

The "Delaware" is much enjoyed by many but we do not find that it satisfies like some others. It does well in many localities, especially the East.

Here is a cluster of the "Catawba," and all who have tasted a well-grown and properly ripened berry of this sort know how fine it can be. The superiority of "Catawba" is only equalled by its unreliability; it does its best only in the most favored places. By its side is a cluster of the "Concord." This is the best known of all grapes, and is truly "the grape for the million." It is a hardy sort, rampant grower, succeeding wherever any grape will grow, and yields an abundance of showy fruit. The quality is not as high as many, but this lack is balanced by other important qualities.

The "Wilder" has most of the good qualities of the "Concord," while the fruit is larger and much better. The "Barry" is another of the Roger's Hybrids, closely resembling the "Wilder," but a little later.

"Martha" is a white grape, and it is unnecessary to say that white grapes are raging now; it is a seedling of the "Concord," and an improvement upon it in quality. It is one of the best of white grapes.

If you want all the foxiness and flavor of the native grape, try the "Perkins." The skin is tough and a pale red color. The plant is strong, prolific, and the berries market well. While in the Amber division let us look at the "Salem." Mr. Rogers considered this one of his best, and was the first one of the Hybrids to receive a name. The bunch is compact and the berries large. The "Agawan," "Essex," and "Lindley," all resemble each other and the "Salem" in color and general appearance. They are all of the Rogers group, and valuable additions to the Amber class.

The "Clinton" is of the *Cordifolia* class, and like the "Taylor," a rampant grower and fine for shade. If the season is prolonged the fruit is good, otherwise sour, though produced abundantly in close clusters. The "Clinton" has been the parent to better grapes, and like the "Taylor" which has been the progenitor of white wine grape, it should be held in grateful remembrance.

The "Enmelan" is good enough for any one when the soil and season have done what they could to perfect it. The clusters are not particularly showy, either in form or size of berry; but there is real merit within the dark coats.

The "Iona" is a seedling of the "Catawba," and where grown to perfection, is even better than its Amber parent. This is saying a great deal for a grape, and is about the same as saying, for our taste, that it is the best of all native grapes. The clusters are loose, and every berry may be perfect.

We hope this dish of grapes may induce those having a place for a vine to plant one at the earliest opportunity.

G. RAPES.

PO'KEEPSIE RED

Illustrated on page 1, was originated by A. J. Caywood & Son, and is being introduced by John S. Collins of Moorestown, N. J. A cross of Delaware and Iona; vine resembling Delaware in wood and foliage, but a much better grower; will succeed where the Delaware will not; clusters average from size of Delaware to twice as large, and in excellence of fruit is the first one ever introduced in America that can be called perfect. By perfect we mean nothing objectionable in it to eat, in skin or flesh; much better in quality than Delaware. The best wine-makers say it makes a higher white and red wine than any American grape. Originator says he has fruited this grape for many years, but has not offered it because of the propagation and dissemination of other new fruits. No grape was ever before so widely known or wanted before sale, and wanted in the North because of its extreme earliness, ripening its whole crop here in August. Is hardy, ripening its wood well in the province of Quebec.

Turn back to page 1, and see that by sending us 4 new names, at 5c cents each, you can get the paper for yourself free for one year.

We have examined the apple crop in parts of New York, Pennsylvania, Maryland, East and West Virginia, and are compelled to say, that the fruit, as a rule, is not first-class. The most specimens are imperfect and very inferior. Here will be a great temptation to put up unmerchantable fruit for sale; such fruit as the producer is ashamed to expose to the buyer's eyes. Do not hide it in the middle of the barrels. Grade your fruit, and pack uniform quality all through the barrel. Be honest, and save your reputation

OUR LOWER GARDEN.

October is the very best month for planting winter or spring blooming bulbs, whether in the garden or for blooming in the house. We have also spoken about several varieties in our last number, and will devote our floral space in this number to several others which will be found very useful and attractive, as well as ornamental. Among the best we may mention the

NARCISSUS.

It is a very fine class of early blooming flowers, including the well-known Daffodil and Jonquil. Most of the varieties are hardy, and should be planted in the autumn, like the Hyacinth, but may remain in the ground a number of years, after which they will become so matted together as to make a division of the roots necessary. The single Narcissus is extremely hardy, and popular as a border flower, and the central cup being of a different color from the six petals, makes the flowers exceedingly attractive. Some have the petals of a light yellow, and the cup orange; others have the petals white and the cup yellow; while the Poet's Narcissus (*Narcissus Poeticus*), sometimes called Pheasant's Eye, is snowy white, the cup cream color, with a delicate fringed edge of red, which gives its latter name. The *double* varieties are very desirable. The common Daffodil is well known under that name, though not so well known by its true name, "Van Sion."

Blaine and Logan.—While the campaign orator tells you the importance of voting for them, take around a copy of the FARM AND GARDEN, and get subscriptions. One friend sent us 51 new names taken on last election day.

The Polyanthus Narcissus, however, are the most beautiful class of Narcissus. The flowers are produced in clusters or trusses of from half a dozen to three times that number. Like the others, they show every shade of color, from the purest imaginable white to deep orange. They are not quite hardy in this climate, unless planted in sandy soil and well covered before winter, and then they often fail; but, for flowering in pots in the house, they are unsurpassed, and nothing can be more satisfactory for this purpose. They will also flower well in glasses of water, like the Hyacinth, and it is desirable to grow a few that way.

MUSCARI (*Grape Hyacinth*).

These are very pretty bulbous plants of the lily family, all of the easiest culture and flowering in spring and early summer. They can be planted out in the garden where they will do very nicely, or be grown as window plants in pots or boxes. In all cases they thrive best in rich, deep, sandy loam, and are easily multiplied by separation of the bulbs every three years. M. Botryoides is a well-known and deservedly favorite bulb, which has distinctly dressy appearance, from its white teeth on its blue globose clusters. It grows about

SONERILLA.

nine inches in height, and is therefore very suitable for a front line in a border. The varieties Pallidum and Album are very distinct and even more beautiful. The former has pale sky-blue clusters.

FEATHER HYACINTHS. (*M. Com. Monstrosum*).

Is quite distinct from any other Hyacinth, growing one foot or more in height; its flowers, of a beautiful mauve color bearing a close resemblance to purple feathers, being cut into clusters of wavy filaments. Though comparatively speaking, this species is now seldom seen in gardens it is in every way qualified for a place in it.

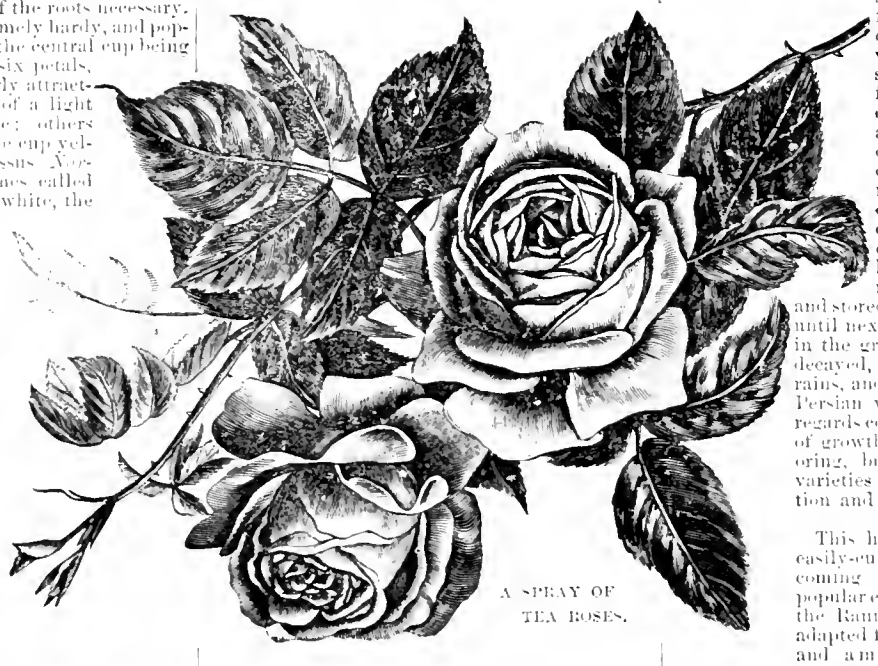
MUSK HYACINTH. (*Muscari Moschatum*).

Has in clusters, flowers of a dirty yellow hue, and very inconspicuous, but it amply atones for its shortcomings in this respect by its delicious fragrance.

MUSCARI RACEMOSUM.

With its dark purple clusters and its strong smell of plums is a familiar old kind. Its leaves are long and weak, almost lying prostrate on the ground; whereas, in M. Botryoides and its varieties they stand boldly erect. It will hold its own anywhere, and, if permitted, will spread over a good deal of ground.

All the above Muscaris will grow finely in the house under various modes of culture.



A SPRAY OF TEA ROSES.

COLCHICUM AUTUMNALE.

Commonly known as Autumn Crocus. The flowers appear before the leaves, are of a rosy-purple color and rise two or three inches above the surface, in clusters of about six. It flowers from September until November. There are several varieties of this plant, the principal being the double purple, white and striped; Roseum, Rose Lilac, striped with white; Pallidum, pale rose; Album, pure white; and Atropurpureum, deep purple.

COLCHICUM PARKINSONI.

Is a most distinct and beautiful plant, distinguished readily from any of the foregoing by the peculiar checkered markings of the violet purple flowers. It also produces its flowers in autumn, and its foliage in spring. All the colchicums are well suited for appropriate places in the rock garden, and they thrive well in any soil, provided it is not too poor or too heavy. But to have them to perfection, choose a spot of a sandy character; in fact, such a spot as is likely to dry up during summer, here they will luxuriate and enjoy the autumn, winter, and early spring rains.

IXIAS.

Probably because they are considered tender and require treatment under glass, these charming South African bulbs are not grown as much as they ought to be. They yield an abundance of bright bloom in summer for cutting. For culture out-doors, choose a light loamy soil, thoroughly drained, and with a due south aspect. Plant from September to January at a depth of three to four inches and one to three inches apart. As early plantings make foliage during the autumn, it is necessary to give protection during severe frosts, and this may be accomplished by hooping the beds over and covering when necessary with mats. Ixia Maculata is a very pretty variety to plant in pots for early winter blooming.

RANUNCULUS.

The Persian Ranunculus are among the choicest of garden flowers we have, and are now used extensively by florists for forcing, being, for the most part, of the simplest culture. The varieties are innumerable and are divided into various sections, such as the Dutch, Scotch, Persian, Turkish, and French. Each of these represents a distinct race, but all are beautiful and well deserving of any amount of care and attention in their cultivation. They are well adapted for cultivation in pots, and anywhere or in any position in the garden, but best when seen in bold masses. The culture of the Ranunculus is generally considered somewhat difficult, though it is simple if a few essential particulars are observed. The soil best suited for the Ranunculus is loam, thoroughly mixed with a third of its bulk of good, decayed stable manure. The situation should be open, but not exposed. The prepared soil should occupy about fifteen inches in depth of the bed, and should be put in a month or so before planting. This takes place toward the end of February or beginning of March, but in mild localities it may be done in October, if good protection is given to insure against freezing. Plant about 1½ inches deep, placing the claws of the roots downward, and about 5 inches apart. After planting, a top-dressing may be given, gently beaten with a spade to obtain a firm surface. As the Ranunculus delights in a moist soil, water should be plentifully supplied if there is a deficiency of rain, and in no case must the roots be allowed to become very dry. Another light top-dressing of artificial manure or guano will be beneficial just as the foliage develops. When the flowers are passed, and the leaves fade away, the roots must be taken up, dried, and stored in a cool place in sand until next planting season. If left in the ground after the foliage is decayed, the roots are injured by rains, and are never strong. The Persian varieties are the finest as regards compactness and symmetry of growth, as well as beauty of coloring, but the Turban (Turkish) varieties are of a hardier constitution and freer growth.

ANEMONES.

This highly-ornamental class of easily-cultivated hardy plants is becoming better known and more popular each succeeding year. Like the Ranunculus, they are well adapted for pot and border culture, and among early-flowering plants, are unsurpassed for variety and richness of color. They succeed well in any moist and well-drained, fertile soil, and are usually set about 6 inches deep in rows 6 inches apart, and may be planted in October or November. For pot culture use a rich, porous compost, and secure good drainage. Four good roots are enough for a five-inch pot. Set the pots in a cold frame or other cool situation until the roots are started, after which they may be removed at pleasure to wherever intended to bloom.

There are many different varieties of Anemones, viz.: Double and Single, French Double Chrysanthemum-flowered Anemones, Anemone Fulgens (Scarlet Wind Flower), which is of the richest scarlet, and blooms from March until May. No hardy spring flower can compete with it as regards brilliancy and color, which, when

STANHOPEA OCULATA.

lighted up by bright sunshine, becomes perfectly dazzling. To insure success, it should have a liberal supply of manure incorporated with the soil, which should be mulched with stable manure before frost sets in. The flowers of O. Fulgens will be found to expand beautifully in water, and last for a week or more if cut when just coming into bloom and kept in a moderately warm room.

SNOWDROPS (*Galanthus.*)

The first flower of spring is the delicate Snowdrop. With the first of March it makes its appearance through the snow. One never tires of its modest beauty, whatever may be its surroundings. The leaves complete their functions so early in the year that they may be planted in grass that is repeatedly mown as well as on banks in pleasure grounds or half-wild places. The bulbs may be inserted a couple of inches into the turf, and the spot afterwards made firm and level, especially if it be on a trimly-kept lawn. There are about half-a-dozen species in cultivation, all of which bear a strong resemblance to each other. The common G. Nivalis is recognized by its dwarf, narrow leaves and small flowers. The Crimean Snowdrop (*G. Plicatus*) has very broad leaves, the margins of which are curiously turned down or deflected, and the flowers are larger than those of Nivalis.

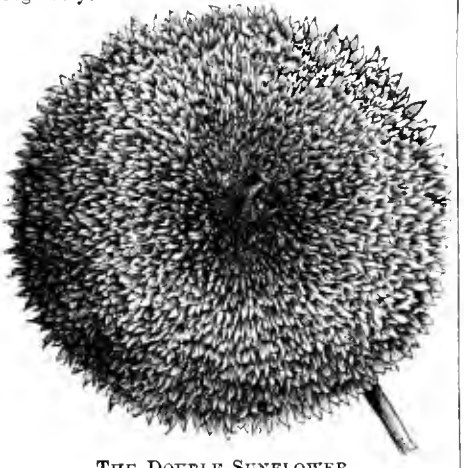
GALANTHUS ELWESI

Is the finest, perhaps, as well as the largest. The flowers are almost three times the size of the ordinary variety. It is very desirable for forcing or growing in the house, and has a delicate fragrance. Although not new in England, it is only being introduced in this country this year.

The Snowdrops may be planted, say a dozen in quite a small pot or saucer, and will bloom very readily. They are perfectly hardy, and may remain several years in the ground without being removed. The

SNOWFLAKE (*Leucojum*)

Is sometimes called the large Snowdrop, from its resemblance to this delicate flower. It is much larger and more robust in growth. The flowers are white, drooping bells marked with green both inside and out, and are produced in clusters of from four to eight blooms on each stem. They are excellent subjects for rockwork, thriving in any rich and well-drained soil. Imported bulbs make little show for the first year, but after that time, when established in sandy loam and peat, in a somewhat shady border, they flower regularly.



THE DOUBLE SUNFLOWER.

WINTER ACONITE (*Eryanthes Hyemalis.*)

A valuable small plant, with yellow flowers, surrounded by a whorl of shining green divided leaves, and a short blackish underground stem resembling a tuber; three to eight inches high; flowering from January to March. It grows in any soil, and often naturalizes itself freely in grass, and is very beautiful when the flowers peep in early spring, looking like golden buttons. A few roots scattered here and there, will soon form a carpet glowing into sheets of yellow in winter or spring. We may so enjoy it without giving it positions suited for rarer and more fastidious plants, or taking any trouble about it.

TRITELEIA UNIFLORA.

This is another bulbous plant that deserves more attention than has hitherto been paid to it. It is delicately colored, free-flowering and hardy. The flowers are of an iridescent white with bluish reflections, and marked on the outside through the middle of the divisions with a violet streak which is continued down the tube. They open with the morning sun, are conspicuously beautiful on bright days, and close in dull and sunless weather. They come into flower with, or before Scilla Siberica, and remain during the last days of April still in effective bloom, when the vivid blue of the Aquil has been long replaced by green leaves. It flowers profusely in pots, and will flower boldly in the most unfavorable position. There are several forms which differ in the shade of their flowers. For rockwork borders or edgeing they may well be recommended. When planted for house culture four or six bulbs may be placed in one pot in a medium rich soil mixed with some sand, and this may be done during autumn, keeping them first in a cool place. After flowering stop watering until fall, and then plant them in the open ground. The bulbs are very cheap and can therefore be procured in quantities.

TULIPA GREIGI.

Of all the known species of tulip this is perhaps the most showy and desirable as a garden plant. It blooms freely in April or May, its large goblet-shaped flowers being generally of a vivid scarlet color; but there are also purple and yellow flowered forms. The bulbs are so extremely hardy that they will withstand with impunity freezing and thawing, and even when the leaves are half-grown they will endure a temperature as low as zero without any protection. The plant is a vigorous grower, attaining a height of from nine to fifteen inches, and bearing flowers from four to six inches in diameter, when fully expanded; and three or four lance-shaped glaucous leaves, with undulated margins, the whole of the upper surface being boldly blotched with purple or chocolate brown. Varieties occur without spots; and others with yellow and spotless flowers. It grows freely in any light rich soil in an open sunny position, and rarely requires transplanting. Any one who admires handsome flowers should not fail to get at least a half dozen bulbs.

THE SUNFLOWER. (*Helianthus.*)

In the neighborhood of Philadelphia, sunflowers have been grown this year in enormous quantities, and well they deserve it. As an ornamental plant they are of much value, their robust growth rendering them suitable for many situations where plants of smaller growth would be quite lost. The large double variety, of which we give an illustration, is especially desirable, not growing over five feet in height, and producing dozens of flowers on a plant.

DIANTHUS CHINENSIS. (*Chinese Pink.*)

This species has given rise to a beautiful race of flowers. It is an annual, biennial or perennial, according to the way it is grown or sown. If sown early, the plants will flower the first year; if late the second. On dry soils, if the winters be mild, it will live for two or three years. The varieties both single and double are now very numerous and beautiful; they may be classed under D. Heddewigi and D. Laciniatus. The forms of Heddewigi, the Japanese variety, are dwarf and very handsome, while there are also the double flowered forms of it, particularly Piadematus which are very double and large. The laciniated section have the petals very deeply cut into fine fringe, and of this class there are also double forms. Sow under glass in February with very little or no bottom heat; give air freely during open weather and plant out in April in well cultivated soil, which need not be rich. Place the plants from nine to twelve inches apart each way, and they will form compact tufts which will be covered with blossoms.

STANHOPEA OCULATA.

This is the most curious of Orchids and one easy to manage. It is always grown in baskets, through the *bottom* of which the flower stem will creep. They are strangely shaped, resembling some kind of an animal; the color is creamy waite, spotted with violet crimson. The fragrance of the flowers is so strong that some people call it sickening. Being of the easiest culture, we would recommend it to those who love rare flowers. Something that everybody has not.

DICENTRA.

There are about half a dozen cultivated species of which the following are the finest:—

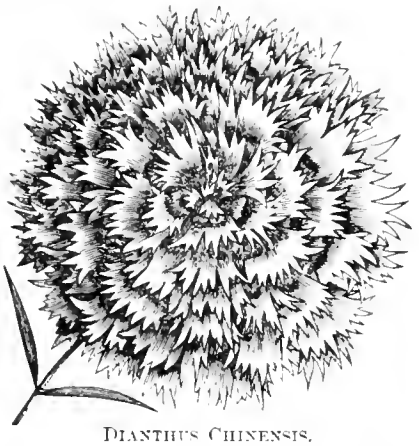
Dicentra Chrysantha. A fine plant, forming a spreading tuft of glaucous rigid foliage, from which arises a stiff leafy stem, three feet to four feet high, bearing long branching panicles of bright golden yellow blossoms, each one inch long. It flowers in August and September, the seedlings do not bloom until the second year. The hardiness of this handsome plant has not been fully tested in our northern localities.

D. Eximia combines the grace of a fern with the flowering qualities of a good hardy perennial. It grows from one foot to twelve feet high, and bears its numerous reddish-purple blossoms in long drooping racemes. It is useful for the rock garden and mixed border, and enjoys a rich sandy soil.

D. Formosa is similar to the preceeding, having also fern-like foliage, but is dwarfer in growth, the racemes are shorter and more crowded, and the color of the flower is lighter.

D. Specabilis is a beautiful and most important plant for the garden decoration. It always elicits admiration when it is seen in bloom, and although it is so well known, we cannot help referring to it again, now that it is a good time for planting the roots, or at least in a few weeks from now. Its singularly beautiful flowers, which open in early summer, gracefully suspended in strings of a dozen or more on slender stalks, resemble rosy hearts, and have received from many the name of bleeding heart.

October was a good month last year for subscriptions. We will kindly remember you if you will do your fellow subscribers in making this year four times as large.



DIANTHUS CHINENSIS.

It succeeds best in warm, light, rich soils, in sheltered positions, as it is liable to be cut down by late Spring frosts. There is a "white" variety, by no means so ornamental, now offered by several prominent florists which is worth growing for variety sake. Plants of Diecentra Spectabilis can be procured at very low figures, and nothing will better repay a little outlay than this pretty species.

TRITONIA AUREA.

Though usually grown as a greenhouse plant, it is a valuable open air flower. The bulbs should remain out of the ground as short a time as possible. They are not entirely hardy and therefore require a good protection. The brilliant color of the flowers make them very desirable.

SONERILLA.

On the opposite page we present a small cut of this beautiful wardian case plant, to show its habit of growth. We have described it before.

A SPRAY OF TEA ROSES

Is always welcome in winter. Few people know how readily plants can be forced into bloom by Christmas or New Year. Look over our former numbers and try it.

LIVE STOCK.

FEEDING SWINE.

By John M. Stahl, St. Louis, Mo.

The yearly slaughter of hogs in the United States is about 52,000,000, producing 4,000,000,000 pounds of meat, of which, about 1,000,000,000 pounds are sent abroad. It will be seen that the production of pork is enormous for even such a country as ours, and that between the use of the very best methods and those only fairly good, there may be a difference of millions of dollars.

A glance at the receipts noted in the market reports, shows that the greater part of the hogs are marketed in the season from November to March, inclusive. This is because it is most convenient and profitable for the farmer to fatten, and for the packer to dispose of, the hogs at this time. And while summer packing is making rapid strides, so many more hogs are fattened in the fall and early winter, that I shall consider my subject only as it is applicable to this time.

Let a person start at the east and traverse our country at this season, and, unless he has been accustomed to it by long observation, he will wonder at the great waste everywhere apparent in the fattening pens, and he will find this waste increasing as he goes westward. We have what are known as "the fall rains," which, though not heavy, fall so slowly and find the ground in such condition that they make a great mud. Yet, not one farmer in ten has a feeding floor of any kind. The food is thrown to the hogs in the mud, increased by the manure of the hogs and their rooting for stray grains. By such a course of feeding much food must be lost. After the hogs have been fed all they will eat (the common practice in fattening) for a couple of weeks, they become so sated that they will not hunt for the food in the mud and manure, and it is lost. I have seen hogs fed many a time when fully half of their food was lost. Not only is food lost, but the eating of the hogs under such circumstances is sure to impair their health and occasion further loss.

The easiest way to make profitable pork is to stop this waste. A good feeding floor is made by laying boards on a level, smooth patch of ground. No foundation of any sort is used. This is apparently slovenly, but the boards soon become fixed, and they do not rot faster than when laid on cross pieces. When the hogs are disposed of, pull up the boards and stack them up against the fence until the first rain has washed them clean, when they can be put away in the dry or used for any purpose desired. Such a floor can be laid quickly, and the boards are at your disposal as soon as the hogs are marketed.

Some say that it is better to put the boards over the hogs than under them, and in some cases I am sure it is. The ground under a shed will soon become so hard and smooth that no grain will be lost, and it can be kept clean as easily as a board floor, while the hogs have the advantages of a shelter from rain and snow while eating; and rain and snow make the floor of board more or less nasty. Often old sheds can be utilized for this purpose; and a shed of straw or any other substance that will shed rain and snow is just as good as boards, and often much less expensive. The gain would pay for the shed ten times over.

The profits may be further increased by saving the manure. It is estimated that as hogs are generally fed by farmers while fattening, one bushel, or fifty-six pounds of corn, makes ten pounds of pork. From my experience and observation I know that this is a liberal allowance of pork, take the country over. As the animal takes only ten pounds of matter away in its body, it must void forty-six pounds for every bushel of corn consumed. If the farmer will make a little calculation on this basis, he will be surprised, I am sure, at the amount of manure he can save if he will. In the case of hogs, a little more than half of the manure by weight is liquid; and in nine cases out of ten this is wasted *in toto*.

Fortunately, hogs always have a particular place in which to deposit their voidings. Advantage can be taken of this. If they are confined in a pen with a tight floor (and the floor should be tight), the liquid manure can easily be drained into the compost heap, for it will be deposited, like the solid exercment, in one corner. When the hogs are confined in a lot, as is generally the case in the great pork producing States, as soon as they have selected the spot for their droppings it can be littered with straw, which will absorb most of the urine. But little straw should be used, and it should be changed every morning. If sawdust can be procured, it is all the better. In this way the solid and liquid voidings can be removed to the compost heap together. If the hogs are provided with comfortable, sheltered sleeping quarters, they will not lie on the straw or sawdust, which would prove injurious.

I am clearly convinced that hogs are best fattened on a clover field, no matter how late it is in the fall or even in the early winter. As long as the weather is pleasant they can be fed in a new place each day: the feeding ground will not become foul, and all the manure, solid and liquid, will be left upon the field. There must be sheltered sleeping quarters in one corner of the field; and a shed of straw or something else, to feed under in bad weather.

A correspondent of a western agricultural journal lately attempted to prove that corn was an unhealthy food and, *per se*, the enemy of the farmer. While he did not prove this, he succeeded in establishing the fact, that as corn is commonly fed in the great corn-producing States, it is productive of much disease. This is not the fault of the corn, but the way it is fed. There is no better food for fattening swine than corn; but that is no reason why it should be fed exclusively. The health of animals demands a variety of food; and failure to comply with this demand will produce disease just as surely in the case of swine, as of human beings.

Feed corn, but also other food. Let corn be the principal ingredient of the ration, but not the only one. Turnips are a good substitute for corn, and are better yet used, when fed in connection with corn and other grains. I have known splendid droves of hogs to be fattened on boiled turnips and corn meal. The turnips must be boiled to be of much value; hogs will not eat enough of them raw to become fat on them. If a couple of large iron kettles are placed near the feeding troughs (for the boiled turnips must be fed from troughs) the trouble of cooking will be little. Either bran, shipstuff, or oats may be mixed with the turnips in place of the corn meal.

Although there is not much nutriment or fat forming substance in pumpkins, it will pay handsomely to grow them to mix with the food of fattening hogs. Corn, especially if old, has an astringent tendency, and hogs fed largely upon it are apt to become costive. Pumkins are gently laxative, and will correct the astringent properties of the corn. They are best fed raw.

I need hardly remind the reader that the best way of all to economize food and to make profitable pork is to provide shelter from cold and wet weather.

SHEEP ON ENCLOSED AREAS.

Sheep will not bear confinement, which makes them a prey to dogs. Being naturally great foragers, they stray off, and cause too much labor and care. A large flock takes up quite a space, and during their rambles they keep the grass very close and trample the fields hard. It is claimed that sheep cannot be raised on turnips, as is done in England, with hurdles. While we do not have many of the natural advantages desired, yet we can grow two crops of grass which enables farmers to hurdle sheep profitably, provided they will construct a fence that can be easily removed, or made in such manner as to be cheap. By sowing down oats or rye in the early fall or latter part of summer, after the annual drought is over, sheep may be hurdled upon it until the cold season is well advanced. A later crop of rye may also be put down for early spring use. By using hurdles the sheep may be confined within limited areas until the provided pasturage is gone. In the spring the early rye will keep the sheep well provided until a crop of peas are grown. Then, by sowing Hungarian grass, and keeping it down with the sheep by the use of hurdles, a complete and plentiful pasture may be provided from early spring until late in the season. Of course, during the winter the sheep must be fed, but they will do well on cut straw and sliced roots, if given a small quantity of oats night and morning.

By thus hurdling the sheep the grass has a chance to grow on the locations not pastured, and by frequently changing them the food is of a better quality, while less land is required for the amount of wool and mutton produced, to say nothing of the fact that the sheep will always be under observation, and therefore protected from dogs. A movable shelter may be given them if necessary, but during the warm season, if the weather is dry, they will only require enough brush overhead for shade. When hurdling sheep, the greater profit would probably be secured from the mutton breeds rather than from those bred principally for wool.

STOCK NOTES.

CLEANING THE STABLES AND PENS.—A plentiful use of compost, in the shape of marl, dry dirt, or sod, will not only prevent foul odors, preserve cleanliness, and render the manure of better quality, but it will save labor at the time of application, to say nothing of the health of the animals being promoted.

COOKED FOOD FOR HOGS.—An excellent mess for hogs may be prepared by cutting clover, beet tops, cabbage leaves, or young grass, and boiling the mass in a wash-boiler or cauldron. By adding a little salt, and thickening with cornmeal, not only will the food be very nutritious, dietary, and highly relished, but will cost very little.

YOUNG STOCK.—Young stock should have an allowance of corn meal at least once a day from now until spring, in order that they may not become reduced in flesh. Meal is fattening, and although the young stock may be well provided with hay and grain, yet the meal should not be omitted. Oats are best fed when ground, and the hay should be cut and moistened.

EARLY LAMBS.—This is not the month for early lambs, but it is not too soon for breeding the ewes, should any come in, as the earlier the better. Before determining to allow the ewes to breed early, due preparations must be made for the lambs that may be expected, as they will be dropped during the most critical period of the winter. The high prices for early lambs, however, amply repay for the care demanded.

HUNGARIAN GRASS FOR HORSES.—Hungarian grass makes excellent feed for horses, but as some farmers, owing to pressure of work on other parts of the farm, allow the grass to seed before cutting, it becomes deteriorated in quality, owing to the grass perfecting the seed, rendering the stalks hard and woody. The seeds are not easily digestible, and sometimes mat into balls, causing death. Hungarian grass which has been frequently mowed, however, and not allowed to seed, is equal to any hay that can be grown.

THE BROOD SOWS.—Large, heavy brood sows, though as prolific as those that are smaller, usually smother one-half, if not all, of the litter, before the pigs are able to keep out of the way. A board is no protection for the first two or three days. If the litter is a valuable one, the better plan is to have an attendant to take them away, after they have fed, keeping them in a warm place. They may be returned to the sow every two hours, and in a week or ten days the pigs will be strong enough to protect themselves.

FALL COLTS.—Mares bred in the fall will endure good service without injury, and the foal, being dropped in the fall also, will be old enough by spring to allow of being separated from the dam when the busy season arrives. Colts will eat grain when about two months old, and may be turned on the pasture when six months old, provided grain is allowed them at night. Fall colts, however, will be injured in growth if not provided with good warm quarters in winter. During the day an open shed facing the south, with a large yard for exercise, will be found an advantage.

THE CAPACITY OF THE UDDER.—It is not the large udder that indicates the quantity of milk that may be expected, as there are many cows with udders which are apparently large, but composed of thick skin, and are deceptive in form. The udder should be soft and velvety, with prominent veins, and milk ducts extending well forward, while the teats should stand well apart, be uniform in size, and well shaped. The capacity does not depend so much upon the size as upon the shape, and if the cow is a good feeder, yields largely, and is milked regularly, there need be no fear of over-distension of the udder, as nature has adapted it to suit the requirements.

The Poultry Yard.

(EMBODYING RESULTS OF ACTUAL EXPERIENCE.)

DISEASES AT THIS SEASON.

There are but few chicks hatched during this month, as a rule, and consequently no yards are troubled with gapes; nor is the cholera so prevalent as during the summer months. The roup, however, is with us all the year, and especially during the fall months. Of course, where fowls are well fed and housed, they are neither so much subject to the disease nor too enfeebled to overcome it, but nevertheless the roup often exists, unknown to the poultryman. To detect its presence, go into the hen house after the fowls are on the roost, with a candle or lantern for light, and observe if any of them are breathing hoarsely. The disagreeable odor from roupy fowls is also easily noticeable. A sick fowl will show a discharge from the nostrils, and if the throat is sore the beak will be open. The comb will also appear pale or black. Take the sick fowl and place it in a warm location, and give a spoonful of castor oil. The next morning give two drops each of tincture of iron, tincture of red pepper, first mixing with it a small pinch of sulphur and assafetteda. Repeat this morning and night until the fowl is better, washing the nostrils also with a *dilute* solution of copperas.

THE POULTRY HOUSE.

If the poultry house has been well ventilated with large cracks, the time has arrived for closing them and rendering the interior as warm as possible. On damp days, which are more trying to fowls than cold weather, there should be plenty of light admitted, as fowls detest a dark and gloomy place, preferring to remain outside rather than stay where it is not cheerful. The nests should be so arranged as to permit of being easily removed and cleaned, and the roosts should all be of the same height. The old-fashioned manner of arranging the roosts in the shape of steps, with the back higher than the front, does not accommodate the fowls, as each one will endeavor to get on the highest perches, thereby crowding each other off, causing falls and diseased feet. The first consideration is to make the coops dry and warm. A cement floor is better than anything else, as it can be swept off, and arrangements should be made for easily feeding and watering the fowls in cold weather without compelling them to come outside. It is not necessary to build an expensive coop, but it should have a good roof and a dry floor, with no chances for draughts to enter.

LAYING IN OCTOBER.

We know of a breeder who keeps a flock of pure White Leghorns, and although the breed is not famous for winter laying, yet he has secured, since the first of last January to the first of October, nearly twelve dozen of eggs from each flock, the best records being in the months of January, February, and March (three very cold months). His hens are no better than those of his neighbors, but he feeds for eggs. He has always managed to get plenty of eggs in winter, even when eggs were scarce, and his secret is only that which we have made known many times here. It is to allow plenty of meat, vegetables, and pounded bones, with *warm quarters*, which should be kept clean. He once received sixty cents a dozen for eggs, during a season when they were scarce, and stated that he found a profit in feeding his hens at that time on chopped beef at twenty cents a pound. While we would not advise such expensive food, yet we are satisfied that a cheaper form of meat would more than repay its cost when fed to poultry in winter. It should be accompanied, however, with other food of a desirable quality, and as every condition must be good, strict attention should be given to all the details.

SHOWING AT THE POULTRY FAIRS.

As some of our readers may wish to enter into competition at the poultry shows, we will endeavor to post them a little in order that they may be able to select the proper fowls for exhibition, and will also outline the method of judging the fowls: Suppose you have some particular breed, the Light Brahmas for instance (though the same course is pursued with all breeds), the judge will first examine the head, in order to observe if the plumage is white and the beak yellow. Then the comb will be noticed, and if it is not pea-shaped and even, with a bright red color, he will cut it a point or so. This is called "scoring." He then examines the wattles, earlobes, neck, back, saddle feathers, breast, body, wings, tail, fluff, legs, and toes. He will require the colors of each particular part to be what are required in a pure-bred fowl, not omitting the heavy feathering of the legs. When he is done he may have cut (or deprived) the fowl of a certain number of points from the possible 100 (perhaps 8), and by subtracting the "cuts" from the 100 total, gives the score at 92 points. Thus, when birds are exhibited, the prizes are not awarded to the largest or strongest, but to those that score the highest number of points.

We have, from time to time, given descriptions of the breeds in these columns, and trust our friends have improved their opportunities. What we wish to impress upon them is the advantages of exhibiting at poultry shows. A beginner may not be able to take many prizes, but he will have an opportunity of comparing his fowls with those on exhibition, and thereby learn where the defects exist and what changes in breeding are best. If not favorable to exhibiting fowls, pay a visit to the shows and make close observation, but the most information is derived when the visitor is an exhibitor, as then the greater interest is taken, especially in the breed to which the attention of the visitor has been bestowed. In breeding poultry a full knowledge of the different breeds, and their characteristics, should be attained, and more can be gained by inspection than by study. It would be well if every breeder could be an exhibitor.

EGG FOOD AND CONDITION POWDERS.

No tonic or condition powder possesses value in the matter of forcing egg production, unless they are composed of substances that supply a deficiency in the natural food of the fowls. It is not to be implied that *natural* food is lacking in quality, but as we, in our judgment, allow them that which we suppose to be most natural, errors often occur, even on the part of those who are experienced. Tonics are invigorating, because they are stimulating, but if the giving of tonics is not followed by a full supply of all that the system demands, the fowls become more debilitated than before receiving tonics. The best tonic is tincture of chloride of iron, or a solution of copperas added to the drinking water. Having thus added the tonic to the drinking water it becomes more or less disinfected, and assists in preventing disease.

Egg foods are compounds composed of those substances that approach as nearly as possible to the materials that serve to make an egg. They are lime (for the shell), albumen (for the white), and carbon (for the yolk). We can furnish lime in two forms—from ground oyster shells or ground bone. The first is carbonate of lime, and the second phosphate of lime. The principal constituent of albumen is nitrogen, which may be derived from lean meat, milk, linseed meal, and many of the grains. Carbon is plentiful in the grains, and especially in corn. Nearly all the substances named, however, contain proportions of nitrogen, lime, and carbon. To combine an egg food and condition powder, therefore, we may use a pound each of ground bone, ground meat, and ground oyster shells. Then add half a pound of linseed meal, one-quarter pound of sulphur, one-quarter pound of fenugreek, and an ounce each of red pepper and ginger. One-half pound of salt may also be added. Here we have five pounds of not very expensive articles, which are stimulating, invigorating, and nourishing, a teaspoonful to each hen every other day being sufficient. A better mixture may be given, but more expensive. The five pounds mentioned above should not cost over five cents a pound. With warm quarters, and regular feeding, the above, with the use of the tonic, will induce the hens to lay, and is equal, if not better, than many compounds sold at a high rate.

POULTRY SCRATCHINGS.

Milk for Drink.—If plenty of skim milk or buttermilk be placed where the hens can get it there will be no necessity for allowing water, and it will assist materially in increasing the number of eggs.

Advantages of Coal Tar.—A quart of coal tar in half a barrel of water should always be kept on hand. Stir it up well, and sprinkle the water over the floors of the coops or against the sides, and it will kill lice and purify the coop.

Use Wholesome Grain.—A bushel of good, sound wheat is better than a two bushels of screenings. Musty grain, though eaten by poultry, is not good food. During the time when eggs are desired the pure wheat and matured corn is better than a surfeit of inferior grain.

Changing Feed.—If fowls are kept on a single diet they will not always accept at new kind to which they are not accustomed. They should then be deprived of all other food until they eat up that which was placed before them, when they will afterwards show no objection, but eat the new as well as the old.

Preserving Eggs.—One of the best methods of preserving eggs is to use wood ashes. Pack the eggs in a box without allowing them to touch each other, small end downward, and use plenty of ashes. They will keep several months, and if turned two or three times a week it will be so much the better.

Disinfecting Nests.—If the earth is used for the bottoms of nests, sprinkle it with a few drops of carbolic acid in a cup of water, or crumble up a cigar stump very finely and scatter over the earth. Either process is cheap, and not only assists in disinfection, but makes it disagreeable to the lice, should they appear.

New Material.—Very often the fowls refuse food to which they have not been accustomed, such as buckwheat sunflower seed, or pop-corn. If they refuse to eat such when placed before them, the best plan to pursue is to allow them nothing else. Hunger will imitate them, and once they begin but little difficulty will be experienced afterwards.

The Incubators.—As progress is being made in every direction, artificial hatching has progressed at a rapid pace also, and many of the obstacles heretofore in the way are being overcome. The time will arrive when the hen, as an incubator, will be overlooked for the wholesale method, and as there is a wide field for operations no doubt many persons of small means will be largely benefitted.

Utilizing Old Fruit Cans.—By cutting an old fruit can in half, the lower portion may be used for holding ground bone, charcoal, sulphur, or ground shells. They can be easily nailed to the coop or in any sheltered location, where the fowls may at leisure eat what they desire from them. If they are trimmed off at the top, a hole cut near the bottom, and the can filled with water and inverted over a tin plate, they answer well as drinking fountains.

The Breeds of Ducks.—There are ten varieties recognized, consisting of the Pekin, Rouen, Aylesbury, Black East Indian, Gray Call, White Call, Colored Muscovy, Crested White, and White Muscovy. Of these the Pekin is the largest, the Rouen the most beautiful in plumage, and the Aylesbury the most prolific. The Muscovy makes an excellent cross on the common kinds, but the offspring is sterile. The others are more ornamental than useful.

Fences.—Fences are more expensive than coops, and must be built as cheaply as possible if a large number of yards are intended to be used. Lath is the cheapest material that can be used; but dear if the fences are not properly made. In a former article we suggested that lath fences be made six feet high by using half laths at the bottom and full-length ones at the top. Experience during the past year demonstrates that a fence so constructed is very durable and cheap, compared with the cost.

Breeding Dorkings.—In England no fowl is as highly appreciated as the Dorking, which, like the Houdan, has five toes. It is a very compactly built, fine boned fowl, though not so much a favorite here as in England. There are three varieties—the Colored Silver-gray, and White. The Silver-gray may have either a rose or single comb, the Colored has a single comb, while the White has a rose comb. The Colored Dorkings, when crossed on Dark Brahma hens, produce the largest and best capons, and they are also used for giving compactness of form to other breeds.

Games.—Pit Games are different from those bred for beauty, being stronger, larger, and more vigorous. In breeding games for the table the Pit Games should therefore be preferred, as the cocks are savage, and quickly attack hawks, while the hens make the most careful of mothers. Pit Games are not pure bred fowls, in one sense, as they are sometimes produced by crossing several breeds of games together, but no blood but game is permitted. A Game cock crossed on Partridge Cochin hens produces an excellent fowl, one that is hardy and large, and which is splendid for the table.

Turkeys.—The two largest breeds are the Bronze and Narragansett. The former is of a dark bronze color, with a lustre approaching gold, with dark or flesh-colored legs. The Narragansett is of a metallic black plumage, with salmon-colored legs. No adult gobbler of either variety should weigh less than 25 pounds, and the hens should exceed 15 pounds. These weights, however, are only minimum, for good specimens of gobblers often reach 40 pounds in weight. October is the best time for selecting the gobbler, as the prices will soon be higher. One gobbler will be sufficient for at least four hens, and sometimes more.

Partridge Cochins.—We have the pea comb and single-comb Partridge Cochins, but the latter is the more popular. The plumage of the cock is very different from that of the hen. The cock is bright red in plumage, the breast being a rich deep black. The hen is brown, and distinctly penciled with a darker brown. The flesh and legs are yellow, and heavy feathering runs down the shanks to the end of the outer toe. The Cochin family are noted for possessing large, heavy, compact bodies, and hardy constitutions. They make admirable crosses when the hens are mated with either Games or Brown Leghorns. As they feather slowly they are not very attractive in appearance until nearly six months old, and then they are as handsome as may be desired.

THE HOUSEHOLD.

BETTER THAN FANCY WORK.

By J. E. McC.

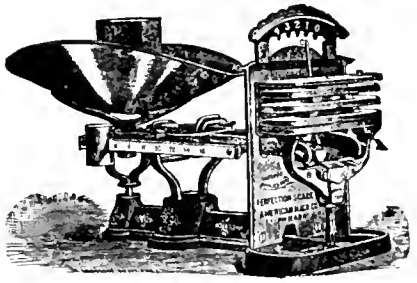
I have never done any of the so rightly-named crazy-patchwork, but if the enjoyment of it is equal to the pleasure of training vines and watching their progress; and the culture of even a few sweet flowers out of doors, I do not wonder the young folks are so fascinated with it. Perhaps I have not an educated eye, but looking through a kaleidoscope for a few minutes brings out to my view far prettier pictures than any of these pieces of lunacy I have ever seen in a New York show-window; while many of the common specimens the dear girls are making into sofa pillows and lambrequins, will, I am afraid, be remanded to the garret, a few years from now, when the craze has died out. Of all fancy work it seems to me to pay the smallest returns in beauty for the outlay.

But a pot of carnations, or an ever-blooming rose, is a joy forever; a real thing of beauty. Perhaps if our young ladies would give more time to the trowel and less to the needle, they would be healthier in mind and body, and I know they would be ten-fold happier. If only somebody would invent "a crazy flower-bed" and get the fashion started, it would go of itself. Any thing can beat crazy patch-work, though even that is better than sheer idleness.

Especially is flower culture a good work for the little girls, and a vine or a shrub that grows wider and higher every year is an especial delight to a child. Cultivate a noble public-spirited sentiment that will not hesitate to plant, even on a rented spot, something that shall be a joy and a blessing to another in after years.

Many will read these notes and think "They are not intended for me." Here you will be mistaken. We respectfully ask your cordial assistance to help increase our list.

But if you own your little homestead, or look forward to its purchase, nothing will more endear it to you all, or enhance its value as property, than these little improvements of your premises. They are so easy and inexpensive, one wonders at the desert-like appearance of many spots where people live on year after year.



A NEW SCALE.

Among new inventions for the convenience of housekeepers, is the Perfection Scale manufactured by the American Machine Company, Philadelphia. The special claims for the scale are the self-acting weights, which enable you to weigh accurately without giving down weight, and are never lost, or altered by dust or dirt sticking to them.

THE FARM AND GARDEN RECIPES

BAKED INDIAN PUDDING.—One cup of Indian meal, half cup of flour, half cup of molasses, half teaspoonful of salt, 2 quarts of milk. Scald the milk and stir in the meal, flour, molasses and salt. Bake quickly until it boils, then slowly for three hours. Should be like whey when dished out.

BEST CORN OR JOHNNY CAKE.—One cup of meal, 1 cup of flour, quarter cup of sugar, 1 egg, 1 cup of milk, 1 heaping teaspoonful of baking powder, a little salt.

DOUGHNUTS.—Beat first 2 eggs, and then add 1 cup white sugar, 2 spoonfuls melted butter, half teaspoonful soda in 1 cup milk. Make stiff with flour and roll thin.

EXTRA SPONGE CAKE.—One tea-cup fine sugar, roll and put in a bowl 3 large or 4 small eggs, put the yolks into the sugar, and beat the whites to a stiff froth, add to the others also beaten; beat 5 minutes. Add a little nutmeg and the juice of 1 lemon, or a little vinegar. 1 cup of flour, stir only just enough to get the flour in; herein lies the secret of success. Bake in quick oven.

WHITE CAKE.—Cream, 1 cup sugar and half cup butter. Then add 2 eggs and half cup milk, also heaping teaspoonful baking powder in 2 cups flour, and lastly half teaspoonful vanilla. This is a most useful recipe, as by leaving out the vanilla and adding currants or raisins or spices you can make a new kind of cake each time, and by baking in shallow tins you have a Washington pie or Jelly cake. A nice recipe for chocolate filling is:—White of 1 egg, 1 cup sugar, 3 teaspoonfuls chocolate, half teaspoonful vanilla.

CINNAMON SOFT GINGERBREAD.—One cup molasses, half cup sugar, small piece butter, 1 egg, 1 tablespoonful ginger, half tablespoonful cinnamon, half cup sour milk (or sweet with 2 teaspoonfuls cream tartar), 1 teaspoonful soda.

DELICIOUS BREAKFAST.—Dry several slices of salt pork to a crisp brown. Then take five or six large potatoes, pare and slice them, drop them in the hot pork gravy, turn them on both sides to brown, pour over them three well-beaten eggs. Stir the whole gently to equalize the portions of egg. Then eat and be happy.

LOAF CAKE.—Three cups of flour, 1½ cup of sugar, half cup of butter, 1 cup of milk, 2 eggs, 2 spoonfuls baking powder, 1 cup raisins, nutmeg.

PIE CRUST.—One cup of lard, 3 cups of flour, 3 quarters of a cup of ice-water, salt.

MOCK MINCE PIE.—One teacup of crackers rolled fine, 1 teacup of sugar, 1 teaspoonful of cinnamon, 1 teacup of molasses, half teacup of vinegar, piece of butter, 1½ cup of wate. Cloves, raisins, and nutmeg to taste. Cook all. This will make three pies.

SOFT GINGER BREAD.—One coffee cup molasses, half cup of lard, 1 teaspoonful soda, dissolved in teacup boiling water, tablespoonful ginger, salt, sifted flour enough to thicken. Cannot be excelled either for goodness or economy.

DOUGHNUTS.—One cup of butter, 1 cup sugar, 1½ pint of flour, 1½ teaspoonful baking powder, 1 egg, 1½ cup of milk, nutmeg.

CHEAP BLACK PAINT.—Take equal portions of Copal varnish (in which has been mixed a small quantity of spirits of turpentine) and vinegar, with a third more of coal oil, mix with soot the consistency of paint.

SUGAR COOKIES.—One egg well beaten in a teacup, 3 tablespoonfuls of water, 6 tablespoonfuls melted lard, put this in the cup with the egg, fill up with sugar, (granulated is best), 1 teaspoonful baking powder, mix stiff and roll thin.

FRENCH MUSTARD.—Slice an onion in a bowl and cover with good vinegar, after two days pour off the vinegar, add to it a teaspoonful of Cayenne pepper, teaspoonful of salt, tablespoonful of sugar and mustard enough to thicken, set on stove until it boils. When cold it is fit for use.

VINEGAR PIE.—Stir a pint of hot water on the yolks of four eggs (well beaten) gradually, until a cream is made, add a cup of sugar, half cup of thick paste of flour and water, 1 tablespoonful of vinegar, nutmeg to taste; pour into a rich crust and bake. Then beat the whites to a stiff froth, mix with half cup of sugar, spread on top of pies and brown in oven. This quantity is sufficient for two small pies.

BEAUTIFUL TRIFLES.—Mix a little salt and 1 teaspoonful of sugar in 1 egg, work in flour and roll thin. Cut in round pieces and fry in hot lard. Fill the cakes with jelly or preserves. Pretty side dish.

NOODLES.—Make a thin paste of eggs and flour, add a little salt, roll thin, cut in narrow strips, throw in boiling water, and boil 5 minutes. Serve hot, with butter, black pepper, and hard boiled egg, chopped fine.

TO STRENGTHEN THE HAIR.—Dilute an ounce of borax and an ounce of camphor in 2 quarts of water, and wash the hair thoroughly twice a week, clipping the ends occasionally. It will quickly grow long, thick and even.

TO POLISH STOVES.—Mix a teaspoonful of pulverized alum with stove polish; it will give stoves a fine and quite permanent lustre.

CUP PUDDINGS.—One tablespoonful of flour, 1 egg; mix with cold milk and a pinch of salt to a batter. Boil fifteen minutes in a buttered cup, eat with sauce, fruit or plain sugar.

PORTEREE.—One pint bottle best porter, 2 glasses pale sherry, 1 lemon, peeled and sliced, half pint ice-water, 6 or 8 lumps loaf sugar, half grated nutmeg, pounded ice. This mixture has been used satisfactorily by invalids for whom the pure porter was too heavy, causing biliousness and heartburn.

SOUTH CAROLINA CAKE.—One small cup of butter, 2 cups of sugar, 3 cups of flour, 4 eggs, half a teaspoonful of soda, half a teacup full of milk, a little brandy, and a cup of raisins.

OCEAN CAKE.—One cup of milk, 2 cups of sugar, half a cup of butter, the whites of 5 egg, well beaten, 3 cups of flour, 1 teaspoonful of soda, and 2 of cream tartar; flavor to taste.

NELLIE'S GINGER WAFERS.—One cup of sugar, 1 cup of butter, 1 cup of molasses, half cup of made coffee, 2 teaspoonfuls of soda, 1 teaspoonful of ginger.

ODDS AND ENDS.

THINK FOR YOURSELF.

By Jeff. D. Berryhill, Washburn, Mo.

In the FARM AND GARDEN, and among other articles of good literature, I find many useful and interesting essays of various kinds, by different authors, some of which have caused me to think more profoundly than anything else with which I have met. My dear reader, you may be young, and have not had time to think much, or have had some one to think for you, but knowing that you will not always have this, my object is to start you to think for yourself, selecting your objects, and laying your plans to accomplish them. True, you are here, and *must* go through life somehow; but there is a better and easier way than that.

"The turtle climbs upon the floating log, and seems to ride very pleasantly down the river, he does not know, nor does he seem to care, where he is going." Although many men go through life in this way, it seems to me rather an aimless and unmanly voyage, it may do for turtles, but it is surely not best for men. Usefulness, character, knowledge, a good conscience, and a good name, are not accidents, they are *born of honest effort*. If you have your mind on any, or all of these, you must be up and doing, you have no time to lose. If your circumstances are of such nature that your future prospects become blighted, be not discouraged, but think out other plans, and endeavor to execute them; this is manly, but to spend all your young life in slothful and thoughtless indolence, and at the same time hope for the fruits of well directed effort, is worse than absurdity and foolishness; this is the blossom of future discontent and wretchedness, and will not fail to "yield its full harvest in due season."

ORIGIN OF THE TURKS.

Like Romulus, the founder of that martial people was preserved by a she wolf, and the representation of that animal on the banners of the Turks, suggested the idea of a fable which was invented without any mutual intercourse, by the shepherds of Latium and those of Scythia. At the equal distance of two thousand miles from the Caspian, the Icy, the Chinese, and the Bengal seas, a ridge of mountains is conspicuous, the centre and perhaps the summit of Asia, which, in the language of different nations, has been styled Imaus, Caf, Altai, the Golden Mountains, and the Girdle of the Earth. According to the religious philosophy of the Mahommedans, the basis of Mt. Caf is an emerald whose reflection produces the azure of the sky, and the mountain is endowed with a sensitive action in its roots or nerves, and their vibration, at the command of God, is the cause of earthquakes.

The sides of the hills were productive of minerals, and the iron forges for the purpose of war, were exercised by the Turks, the most despised portion of the slaves of the great Khan Geougen. But their servitude could only last until a leader, bold and eloquent, should arise to persuade his countrymen that the same arms which they forged for their masters might become, in their own hands, instruments of freedom and victory.

They sallied from the mountain. A sceptre was the reward of his advice, and the annual ceremony in which a piece of iron was heated in the fire, and a smith's hammer was successively handled by the prince and his nobles, recorded for ages the humble profession and national pride of the Turish nation. Bertezena, their first leader, signalized their valor and his own in successful combats against the neighboring tribes, but when he presumed to ask in marriage the daughter of the great khan, the insolent demand of a slave and mechanic was contemptously rejected. The disgrace was expiated by a more noble alliance with a princess of China, and the decisive battle which almost extirpated the nation of the Geougen, established in Tartary the new and more powerful empire of the Turks.—*Gibbon.*

TREES OF CEYLON.

For sixty miles along the shore of Ceylon there are cinnamon groves, and the sweet scent may be perceived far off upon the seas. The cinnamon trees are never allowed to grow tall, because it is only the upper branches which are much prized for their bark. The little children of Ceylon may often be seen cutting in the shade, peeling off the bark with their knives. There are also groves of cocoanut trees on the shores of Ceylon. A few of these trees are a little fortune to a poor man, for he can eat the fruit, build his house with the wood, roof it with the leaves, make cups of the shell, and use the oil of the kernel instead of candles. The Jack tree bears a fruit as large as a horse's head. This large fruit does not hang on the tree by a stalk, but grows out of the trunk on the great branches. The outside of the fruit is like a horse chestnut, green and prickly, the inside is yellow, and is full of kernels, like beans. The wood is like mahogany—hard and handsome. But there is a tree in Ceylon still more curious than the Jack tree. It is the Talpot tree. This is a very tall tree, and its top is covered by a cluster of round leaves, each leaf so large that it would do for a common sized room, and one single leaf, cut in three-cornered pieces, will make a tent. When cut up the leaves are used for fans and books. This tree bears no fruit until just before it dies, that is until it is fifty years old, then an enormous bud is seen raising its huge head in the midst of the crown of leaves. The bud bursts with a loud noise, and a yellow flower appears—a flower so large that it would fill a room. The flower turns into fruit, and the same year the tree dies.

THE GREAT WALL OF CHINA.

It was with a view of securing his Empire against future attacks from various formidable tribes, that Che-waugte (B. C. 214), undertook the completion of this great wall, a stupendous work, surpassing the most wonderful efforts of human labor in other countries, and upon which twenty centuries have exerted but little effect. The largest of the pyramids of Egypt contains but a small portion of the matter in this wall, the solid contents of which, not including the projecting mass of stone and brick, which contains as much masonry as all London; are supposed to exceed in bulk the materials of all the dwelling-houses in England and Scotland. The vastness of the mass may be better appreciated by considering that it is more than sufficient to surround the circumference of the Earth on two of its circles, with two walls, each six feet high and two feet thick. Walls had already been erected by some of the petty princes in the north, to exclude the barbarians from their States. The Emperor directed his general, Mungteen, who had completed the campaign against the Houngnoos, to survey the walls built by these princes to complete the union, and to continue this great barrier from Kea-yuh-kivan to the place where at a subsequent period Wung-hal-low was built, on the shore of the Eastern Sea, a space of about fifteen hundred miles, over deep valleys, and mountains of great elevation. Enormous numbers of men, some say millions, being a third of the inhabitants of a certain age, were collected.

THE COAST SURVEY

The real work of the Coast Survey commenced in 1832, under the supervision of Ferdinand R. Hasslar, a native of Switzerland. Hasslar was hampered and embarassed continually by limited appropriations. His operations were not of a character easily seen; Congress wondered continually what he was about. While he was systematising methods and training assistants, Congress was shrugging its shoulders and clamoring because results were inadequate to the expenditure. Hasslar was an eccentric man, of irascible disposition and great independence of character. On one occasion a committee from Congress waited upon him in his office to inspect his work. "You come to 'spect my york, eh? Vat you know 'bout my york? Vat you going to 'spect?" The gentlemen, conscious of their ignorance, tried to smooth his ruffled temper by an explanation, which only made matters worse. "You knows notting at all 'bout my york. How can you 'spect my york vere you knows notting? Get out of here; you in my vay; Congress be one big vool to send you to 'spect my york. I 'ave no time to vaste vith such as knows notting vat I am 'bout. Go back to Congress and tell dem vat I say." The committee did "go back to Congress," and reported amid uproarious laughter, the result of their inspecting interview.

KHARUB PODS.

The husks upon which the Prodigal Son, fed, are not, as the American reader is apt to imagine, the husk of maize, that is, of Indian corn. They are the fruit of the Kharub tree, and are, from their shape, called, in the Greek, little horns. From the popular notion that they were the food of John the Baptist, they are called St. John's bread. Dr. Thomson describes them as fleshy pods, somewhat like those of the honey locust tree, from six to ten inches long, and one broad, lined inside with a gelatinous substance, not wholly unpleasant to the taste when thoroughly ripe. I have seen large orchards of the Kharub in Cyprus, where it is still the food which the swine do eat.

ENVY OR GOOD WILL.

When Mutius was seen to wear a sorrowful countenance, it was said: "Either some great evil has happened to Mutius, or some great good to another." Either effected him in the same way. He was not alone in bearing this feeling of envy and illwill to those who possessed a good he did not. It is surprising to what small meanness this spirit will sometimes lead a person to descend. A poor woman rented a house, with the understanding that it might be sold, and she be obliged to leave it. Her little garden was growing well when the place was sold. She had no quarrel with those who bought it, but forthwith she proceeded to pull up all the growing things in her garden, destroying it as far as possible. "If she could not have the good of them no body else should."

A spirit like this could not be happy in Eden itself. Instead of rejoicing that someone else might reap the fruit of her labors, even if she could not, so it might not be a total loss, she would have labored upon that as the crowning calamity. What a blessing that the world has so many broad, generous natures, who delight in the general good, and seek to promote it. If no one planted trees they were not fully expecting to eat the fruit of themselves all along as the tree stood, what a light fruit harvest we should have.

Cleveland and Hendricks will both talk to farmers. Let your word to your neighbors be "Join my club for the FARM AND GARDEN.

As remote from such a desperation as the poles are distant, was the mind of that eccentric old man named Jonathan Chapman, who went all through Southern Ohio, in pioneer days, planting apple seeds, wherever he could find an appropriate spot, with a reasonable hope of them being undisturbed. He gathered his bag of seed at the cider mills in Pennsylvania, and set out out on his travels, by highways and by-ways, and the result was many good, strong fruit trees, all ready in bearing for the first settlers when they came to the region. It was a strange hobby, but it fell in the line of a most useful service to fellow men. He acquired the name of Johnny Appleseed, but he was beloved and welcomed in all old pioneer homes, and even the native Indians treated him with respect, and sought to notice his little trees, a favor for which he was always deeply grateful.

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EDITORIAL COMMENT.

October. When we see two great political parties willing, nay, anxious to "save the country," we need not be alarmed: yet there is one safeguard or safety-valve which inspires us with a feeling of absolute security—the good sense of the farmer, the farmer who constitutes a majority of the voters.

October, indeed, is more a time of saving than of producing, and if every farmer, with his usual good sense, attends to the "saving" in his sphere, the country at large is safe enough. We must bear in mind that the crops and their saving is of such vital importance to the country's prosperity, that the result of the present political struggle, compared with the former, will sink into insignificance. The blessings derived from his own efforts in this saving business come home to every farmer; he can reach and feel them with his hands; those resulting from the success or failure of one or the other of the political parties, he can neither feel nor see. If we want light, let us strike a match, rather than try to reach for the stars. Help to save the country by saving your own productions and by turning them to the best account.

Store potatoes and root crops in cellar, root house or pits. Every farmer should have a root house near his dwelling house and avoid storing large quantities of vegetables right under the rooms used by him and his family.

Pick and barrel your apples. There is hardly a better way to preserve apples sound and fresh and of good flavor until spring, than by pitting them. Cover very lightly at first and give ventilation at the top. Put on more soil as the weather gets colder. A second covering of four or six inches of straw and a few inches of soil is far preferable to one of coarse barnyard manure, safer, on account of the dead air space, and certainly cleaner. Apples in pits need less winter protection than potatoes.

Husk corn in the field when the weather permits. It is a saving of time. Keep a few loads of shocks in the barn or under a shed for a *rainy* day.

Draw the corn-fodder and put it under shelter as soon as husked and dry enough. Do not wait until half of its nutriment is washed out by repeated rains.

Put your tools under shelter, paint the wood and oil the steel parts.

Examine your stalks and fix them, if necessary, so they will shed water. The rainy season is approaching.

Thresh all crops as soon as possible and sell the surplus. Have granaries tight.

Save unnecessary suffering to your stock by giving shelter in cold storms.

Save the flow of milk in your cows by liberal feeding.

Utilize warm fall weather. Hogs fatten quicker and with less grain at such time, while the heat, in cold weather, has to be supplied by a larger allowance of corn.

Corn, burnt or scorched on the cob, and fed liberally to hogs, is a sure preventive as well as remedy for the cholera. It is also good for laying fowls or fattening turkeys..

Save feed by getting your turkeys, etc., ready for market by Thanksgiving. It does not pay to feed fowls all the winter to sell them in spring, except with "winter chickens." They eat more than they are worth in the spring.

Many other ways of saving will suggest themselves to the thinking farmer. If he attends to them carefully, he will save his equilibrium, morally, mentally and physically, and often his equanimity, which is endangered by the indulgence in unnecessay political discussions. Never mind the country; that is safe.

We have seen it recommended to put a layer of oats under the sand of the propagating bed in the greenhouse. What say our florists?

We have taken not a little pains to ascertain the real value of the "Martin Amber Wheat." We saw the originator, W. J. Martin, of Columbia, Pa., at the Granger's pic-nic at William's Grove, Pa., during the last week of August, and have talked with a large number of farmers who had grown this wheat for one or two seasons. There was not one dissenting voice. All agreed that the Martin Amber has proved to be the best yielder and the best for flour. Millers, however, who use rollers, grade the Martin as "second." Mr. Martin asserts that three pecks of seed per acre are amply sufficient with him on common soil, and that two pecks on soil good for twenty-five bushels per acre, have given good results. He was borne out in this statement by many other farmers, but one of them reported that in an experiment made by him on common soil, where different quantities of seed, from three to seven pecks per acre, were used, the *larger* seeding had done the best.

From all we could learn about the "Martin Amber," we are justified in recommending it to every farmer for trial. The question as to the proper quantity of seed to the acre seems to us still an open one, though we believe that the "Martin" does require less than other wheats.

Many farmers in the valley of Virginia at this writing are selling their wheat crops at seventy-six cents per bushel. We should have rejoiced had we been forced to admit a mistake of the probable wheat price in one of the former issues of FARM AND GARDEN. (We had expected seventy-five cents.) There are farmers now selling the crops of 1883, for which they had refused to take $1.00, and even $1.05. Debts are crowding upon them, such as phosphate and grocery bills, contracted in anticipation of large receipts from the wheat crop, and they are obliged to sell.

That the excessive production and the low price of wheat is a blessing, as friend Atkinson of the *Farm Journal* asserts, we greatly doubt, and the farmer, when he counts the amount of money left in his hands after paying his bills and his help; as well as the country and city merchant, suffering under a stagnation of business which is at least partly due to this cause, doubts it also.

On the other hand it is quite true that the question is one of actual profit rather than of actual price, and it makes not much difference whether wheat sells for $1.00 (costing 75 cents to produce it), or 75 cents (costing 50 cents to produce it). In either case the real profit to the producer is 25 cents per bushel. But to reduce the cost of production is easier said than done. When friend Atkinson suggests the use of *less seed* as the proper remedy, he is blundering again. The remedy like other homeopathic ones, is too thin. It is applicable to soils in a high state of cultivation, and then is insignificant as compared with the general result, but it would be folly to apply it on poorer and particularly hurriedly-prepared soils, where such a saving might be of some account. We again, and implicity trust in the good sense of the farmer to find more effective ways of reducing the cost of production, or of reducing the latter itself, should it prove an unprofitable one.

We will not put much confidence in political measures. They cannot regulate the price of wheat, which is determined by the laws of demand and supply in the old world, rather than here. Still we cannot suppress our conviction that no means would be as effective and powerful in reducing the cost of production of wheat (and all other bread-stuffs), as a reasonable reduction of our tariff rates.

Scheming demagogues have tried hard and persistently to veil the true issue of the tariff question. It was necessary for them to draw the farmers' attention away from the fact that hundreds of millions of dollars, extorted from the sweat of the poor, are accumulating in the treasury, as a fund of corruption and a perpetual temptation to hungry politicians.

The average price paid to the wool-grower for his wool in 1884, has been 27 cents, against 36 or 37 cents in 1881. This is equal to a falling off of about 25 per centum. Prices of all articles, necessaries as well as luxuries of life, have declined in about the same ratio; and no reasonable farmer expects that his products alone could hold their price up to former rates. A pound of wool now, has *about the same purchase value* as it had three years ago. Still a reduction of the tariff on wool without a corresponding reduction of the whole tariff, must be considered a discrimination against the farmer, and gross injustice. Legislators should hesitate before touching any of the very few protected articles produced on the farm, like wool and sugar. On the other hand we want no foolishness about it. The childish demand of many of our contemporaries for "a tariff on wool as near as possible to the prohibition point," and their attempts to make a 11 per cent. tariff reduction, responsible for a 25 per cent. decline in price (they would try to blame the tariff reduction for the low price of wheat in 1884, or potatoes in 1883, if they could), are conclusive evidence, that they forget the farmer's best interest in their desire *for popularity*, or that they have not entered the intricacies of the tariff question very deeply. Justice we demand for the farmer, but no Chinese walls. A tariff on wool *near the prohibition* point, means *prohibition* prices on woolen goods, and poor woolen clothing or none for the masses. We cannot see "protection for American labor" in that.

A few dozen celery plants may be nicely kept for use during winter by standing them, after being cleaned, washed, and the ends of roots trimmed, in a tub or barrel containing a few inches of water. Or pack them in a box in wet moss, and keep standing upright.

After repeated trials of salt as a top-dressing, on both garden and fields, we have not seen positive effects, one way or the other, which would justify me to recommend or disapprove its use. It is sheer nonsense to expect that weeds, or weed seeds, can be killed by the application of a little salt. Vegetables are tenderer than weeds and would be destroyed first.

Speaking of salt, we are reminded of a comical notion of the *Farm Journal*. Friend A. is constantly telling his readers that milk cows should not have salt. Why? Because he does not believe that they need it. Yet, with singular consistency he adds "possibly steers may lay on fat faster, when given salt." Well, what is sauce for the gander is sauce for the goose. But in order to be sure on this point, and believing that if salt is hurtful to an animal, it is so to man, let the experiment be made with friend A., rather than with dumb brutes. Perhaps he will not like his victuals without salt and pepper and vinegar, but never mind his depraved appetite; let taste give way to reason. Good sense tells him that seasoning is not necessary. But in behalf of the poor cow, with a strong, natural appetite for salt, an appetite that is also the best safe-guard against her over-indulgence, if regularly provided, we appeal to the farmer to stick to the old habit of feeding salt at least once a week. Pardon the disgression.

"Cleanliness is next to Godliness," not less in the garden than with ourselves. Cleanliness is conducive to health and comfort. Children should be washed before they are sent to bed, and the garden needs cleaning before the long night of winter. Gather up all the weeds and vines and other rubbish, and burn them, if for no other reason than for the destruction of insects and their eggs. A thorough cleaning can be given by means of the *plow*. Bury the past with six or eight inches of soil, the past with all its errors and blunders and mishaps, then leave the garden to the tender mercies of winter. One more look back "over the garden wall," and adieu, my love. Au revoir in 1885.

Old dead or decaying fruit trees should be removed at once from your fields and orchards, and burnt up without delay. Many injurious insects will thereby be destroyed.

It hardly ever pays to "fill in" vacant spaces in old orchards with young trees. These latter cannot receive the proper attention and cultivation, struggle along for a while under the disadvantages of sod and shade, and at last succumb to the attacks of insects, which are always numerous in old orchards, and ready to pounce upon everything "young and tender."

Rather select a piece of new ground, prepare it well as you would for corn, and set out a new orchard. Proper cultivation will then insure success.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of THE FARM AND GARDEN, *even though he takes no other paper can feel in a measure acquainted with all the leading publications.*

From "Our Country Home," Greenfield, Mass.

CONGRESSIONAL FARMERS.

After the adjournment of Congress, those representatives who have rural constituencies will return to their homes, and will develop a great regard for agriculture. During the past session very few of them have given any evidence of this, except by voting large appropriations which will give each one of them a few thousand papers of seeds and five hundred copies of the Agricultural Report for distribution among their favored constituents. They have introduced and urged the enactment of bills calculated to benefit the railroad speculator, the merchant, the banker, the manufacturer, and the lawyer, but not one in twenty has proposed any legislation calculated to benefit the farmer. Yet they will go to cattle shows, masquerading as the "Friend of the Farmer," and they will make eloquent speeches at dinner tables about the dignity and respectability of rural life. The farmers should not be deceived by these political hucksters, but should ask them what they have done, in a session which has lasted seven months, to advance the agricultural interests. As election time approaches, I shall not be surprised if some of these soft-handed politicians go about disguised in brogans and blue overalls, singing, like Petroleum V. Nasby's mock-Grangers,

> We are the farmers of the day,
> Scatter the hay-seed round them.
> In blarney we for votes will pay,
> Scatter the hay-seed round them.

Ben Perley Poore.

W. E. Gladstone, reported by "Live Stock Journal," London, England.

POULTRY IN ENGLAND.

"I will now take another case—that of eggs; that is a very good illustration, for it is in everybody's power to rear poultry, and, if I may say, grow eggs. In 1855, though that was a time when freedom of trade had advanced largely in the country, and when there was, consequently, a very great increase in the consumption of good food by the people, 100,000,000 eggs were imported from abroad, which represented a consumption of an average of 3½ foreign eggs to every man, woman, and child. You might have said, if asked to send eggs: 'Oh, no; there are already plenty, or more than enough in the market.' But that is not the fact, for in 1880 the import had increased to 750,000,000 eggs from foreign countries. It is hardly credible, so vast and so multiplied is the demand for these little but very useful commodities, every one of them helping to feed somebody. The consumption per head has increased from 3½ to no fewer than 26½ eggs. That illustrates what I have said to you about the enormous, insatiable capacity of the human stomach. Depend upon it, that if it be in your power to turn your attention—I do not say at first on a very large but on a moderate scale—to the production of those articles which are of the nature of comforts, or even comparative luxuries, for popular consumption, you will find that the market will gradually open and adjust itself for their reception. I think the figures I have quoted are a distinct proof of the truth and reality of what I have said.

From "Vick's Monthly," Rochester, N. Y.

THE CACTUS.

It may seem strange to those persons, not admirers of the cactus, that any one can see any beauty in such a plant, often covered with thorns which pierce us, and in its best estate, destitute of that easy grace which helps win our regard for our favorites. But there are enthusiasts engaged in making collections of the cactus plant, and if it is true that it is to be used and perhaps used up in time, for manufacture, cacti collectors will increase in numbers indefinitely. If, as stated, it will take only seven years at the present rate of waste to annihilate all the yellow pine, the question of cactus growth is only a question of time.

A Boston paper states that the "Mexican government is encouraging the manufacture of paper and textile fabrics from cactus, and has recently granted important concessions to the individuals who propose engaging in the new industry. They are given the exclusive right to gather the cactus for ten years, from the government lands. The grant further provides that for each mill of the value of $150,000 erected by the grantees for the manufacture of paper from the cactus leaf, the government shall give a premium of $30,000."

Paper, it would seem, can be made from almost anything, but what about the textile fabrics? One of the most beautiful bonnets I ever saw was made from the cactus fibre, so it was said. It had a silvery sheen unlike any other material. Now, if the bonnet and hat manufacturers take hold of this industry, and make their goods of it, they will not be long in diminishing the supply of plants. Bonnets are short-lived. Only a few seconds suffice to make a hat or bonnet on a sewing machine, and one man can press ninety dozen a day, on an average, by machinery. On lands well adapted to the growth of the cactus it may prove as cheap to cultivate the plants, and raise them on a grand scale, as to gather the wild plants when they become scarce. That they could be produced at a low cost, if there should be sufficient demand, there is little doubt.

Chas. Downing in "Rural New Yorker," New York.

THE MARLBORO RASPBERRY.

Your correspondent, A. B. C. (why not give his real name?), in the *Rural New Yorker* of July 19th, page 463, states that he saw "the Marlboro Raspberry in all its glory, or at least all the glory it will ever attain in New Jersey." It was on the best of soil and given the best possible treatment, but the canes were faltering, and would not bring out their first crop, etc., etc., "and my firm conviction is," continues this anonymous assailant, "from what I have seen of the Marlboro, it will not do for New Jersey and locations southward. I can see nothing in it but Ideus blood."

Having examined the Marlboro Raspberry carefully, I think otherwise, and doubt if it has very much, if any, Ideus or foreign blood in it (except its mature leaves); but I believe it to be an improved seedling of the American red (Rubus strigosus), or it may be the result of a succession of improvements or crosses, etc. The growth, and habit of throwing up numerous sprouts or suckers; the strong, vigorous, upright canes, branching a little toward the top, nearly smooth, with a few short scattering spines; the peculiar reddish color of the young leaves at the ends of the new shoots; the color and flavor of the fruit, all strongly indicate its native origin.

The bright scarlet color of the fruit (which adds greatly to its market value); its good size, quite firm flesh, which retains its form and color well, and keeps well, are all qualities which make the Marlboro promising as a market berry. This is what I now believe, but my practical experience with the fruit has not been sufficient to warrant my giving a more decided opinion.

From "Southern Cultivator," Atlanta, Ga.

ABOUT INCUBATORS.

The big hen still "pursues the even tenor of her way," neither striking for higher wages, nor asking for every Saturday out. She has company now, for there are several more in this locality, all working faithfully, to their owners' enthusiastic delight. We have a brooder, or artificial mother, that is as perfect in its way as the hatcher. Ours has a glass run, an extra attachment, where the little chicks have a fine time, in spite of rain, cold, wind, and wet grass. The brooder shelters and warms them, and in pleasant weather the chicks are allowed to pass from the "run" on the grass, and to wander at will. It is funny to see how they scamper for the shelter of their glass house when there comes a sudden shower; and funny, too, to note how, when shut in, they tap at the wire end, or exit, just like a parcel of cross, impatient children who do not care a jot how wet they get themselves or their clothes, only that they may go out and play, rain or shine.

Two weeks ago a hen hatched out a brood of chicks, having been set the same day that a lot of eggs were placed in the hatcher; in pity to the feathered mother, we allowed her to keep her brood. But in ten days' time the difference in the growth, between the hen's brood of fifteen, and the brooder's brood of sixty, was so marked that we deposed the hen, especially as she had a way of sitting on her chicks that was detrimental, and made them feel decidedly flat. Mothers do "sit on" their children, sometimes—you know it is a way they have, all the world over.

My poultry yard boasts of two other very important assistants, too—hand mills, that make us independent of the miller, who does not exist in many of our Southern sections. We grind corn coarse or fine; and all the dry or green bones we can pick up get turned into bone meal for our little ones, from their first day on earth, right along. It would be a costly item if we had to buy it all, for we can supply our laying hens, too; and it is too important a food for their health and growth, and egg production, to go without. So we are proud of our mills, and do not see how we could do without them.

From "Cultivator and Country Gentleman," Albany, N. Y.

THE LATEST KNOWLEDGE ABOUT GAPES.

The gape worm may be termed the *bete noir* of the poultry-keeper—his greatest enemy—whether he be farmer or fancier. It is true there are some who declare that it is unknown in their poultry-yards—that they have never been troubled with it at all. These are apt to lay it down, as I saw a correspondent did in a recent number of the COUNTRY GENTLEMAN, that the cause is want of cleanliness, or neglect in some way. But I can vouch that that is not so. I have been in yards where everything was first-rate—where no fault in the way of neglect could be found—and yet the gapes were there; and on the other hand, I have known places where every condition seemed favorable to the development of such a disease, and there it was absent—this not in isolated cases, but in many. No, we must look elsewhere for the cause.

Observations lead me to the belief that gapes are more than usually troublesome during a wet spring or summer following a mild winter. This would tend to show that the eggs from which the worm (that is in itself the disease) emerges, is communicated from the ground, from the food eaten, or the water drunk, in the first instance, but it is more than possible that the insects themselves may pass from one fowl to another. All this we can expect as a settled fact, and also any description of the way in which the parasitic worms attach themselves to the throats of the birds, and cause the peculiar gaping of the mouth, which gives the name to the disease.

Many remedies have been suggested, and my object now is to communicate some of the later ones—thus to give a variety of methods, so that in the case of the failure of one, another will be at hand ready to be tried. It is a mistake always to pin the faith to one remedy, for the varying conditions found in fowls compel a different treatment. The old plan of dislodging the worms with a feather is well known, and need not be described again. But I may mention that in this country some have found the use of an ointment, first suggested by Mr. Lewis Wright, I believe, most valuable. This is made of mercurial ointment, two parts; pure lard, two parts; flour of sulphur, one part; crude petroleum, one part—and when mixed together is applied to the heads of the chicks as soon as they are dry after hatching. Many have testified that they have never found this to fail as a preventive, and if the success is to be attributed to the ointment, it would seem as if the insects are driven off by its presence, for the application to the heads merely, would not kill the eggs.

From "Forestry Bulletin," 9 Pine Street, New York.

THE TARIFF ON LUMBER.

The necessity of preserving and even extending our forests is now so universally admitted, that the only question which needs discussion with respect to the lumber tariff, is whether it promotes or hinders the destruction of forests. It would seem to be a matter of plain common sense, which admitted of only one answer. So far as the tariff has the slightest protective effect, it must exclude foreign lumber and so compel and increase the consumption of domestic lumber and the continued destruction of domestic forests. Much has been and may still fairly be said in favor of the protective system generally, on the ground that it tends to develop our natural resources. But a protective duty on lumber has the very opposite effect. Instead of developing our resources, it destroys them. It puts a premium on the destruction of natural forests, which can never be replaced by artificial culture, and the removal of which tends to change our climate and desolate our country. There was a time in which so large a portion of the country was covered with forests that immense tracts had to be cleared in order to make room for human residents and cultivation. But that state of things has long since passed away. It still exists, however, in large portions of Canada; and thus the bounty of Nature has provided a means for deficiencies, with benefit to both countries and injury to neither. But a tariff wall is interposed to hinder Canada from supplying wants and to force our own people to continue the destruction of our forests, long after such a course has ceased to be desirable or even excusable.

The only pleas which are made in defense of this duty are (1) that it is necessary to cut down our forests in order to prevent their destruction by fire from advancing settlements, and (2) that the admission of foreign lumber would reduce the wages of American workmen. We answer:

I. The repeal of the lumber tariff would not put an end to all lumbering in this country, and would indeed not reduce it as much as it ought to be reduced. The work of cutting down trees will continue with unabated vigor in the neighborhood of all settlements where there is any danger from settlers' fires. The only places in which tree cutting will be diminished, are those which are remote from busy settlements and where the only danger of fires arises from the presence of the lumbermen themselves.

II. The wages of lumbermen will not be cut down, because many thousands of them now come from Canada who would return at once if Canadian lumber were admitted duty free. It is the importation of Canadian *laborers* and not Canadian *lumber* which reduces the wages of American lumbermen. There are many other reasons why wages could not be reduced; but this single fact would suffice to produce an absolute advance of wages in the lumber business on the American side.

The lumber business of the United States would suffer no injury whatever. If we repealed our tax on imported lumber, the Canadian government would repeal its export tax on logs. Canadian logs would then come in freely, and our saw-mills would be as fully occupied as ever. The profits of manufacturers and dealers would be just as large as before, and their means of paying wages would be increased. There is but one class who would suffer from the change, and it is from that class that all the opposition comes. The owners of timber lands know that their "stumpage," which is only another name for rent, would be reduced by the competition of Canadian timber lands. The rent of timber lands has been a source of vast income to a small class, who are very powerful by reason of their concentrated wealth. They have made vast fortunes by purchasing land from the government at very low prices, and selling the privilege of cutting timber from those lands at three or four times the whole cost of the land. Although many of them have made great fortunes in this way, they naturally desire to increase these fortunes still more, and so long as a single pine tree remains in this country most, their chances for making a large profit on "stumpage" will still remain. Many of these gentlemen are worth several millions of dollars each, and they are still struggling to obtain "a modest competency." We sympathize with their anxiety to avoid the perils of starvation, but the people of the United States can hardly afford to have their climate changed, their rivers dried, and vast districts of the country ruined, for the sake of adding to the prosperity of the men who are already millionaires.—*Thos. G. Shearman.*

CORRESPONDENCE.

Jno. F. O'Reilly, Warren, Pa., asks if trees can be saved when injured by leaky gas pipes. We fear not. The gas will destroy the roots. Use iron pipes in place of wooden.

✢

M. H. W. Hamburg, Iowa, asks if it will do to bud plums and cherries on peach stocks. We do not advise it. The trees are not as healthy and are liable to the attacks of the peach borer.

✢

Mrs. Gaskill, Swarthmore, Pa.:—We have a potato (Mammoth Pearl), that weighs one pound nine ounces; and three whose aggregate weight is three pounds seven ounces. Who can beat this? They are lovely white and mealy.

✢

Charles H. Wright, no State, asks how black currants are propagated. From cuttings a foot or so long, planted in the fall or early spring deeply in the soil, leaving only a few buds above ground, usually three or four are sufficient. They strike root readily.

✢

Mrs. J. R. Payne, Rock Port, Mo.:—"Please accept thanks for our Gladiolus bulb, it is in full bloom; we are highly pleased with it. Will you please inform me the best way to protect the bulb from cold weather?" Take them up and dry them. Keep them in paper bags or in sand.

✢

G. C. Jones, of Sioux Falls, asks which of the four breeds of poultry, Black Breasted Red Games, Brown Leghorns, Buff or Partridge Cochins would be best on a limited range in Dakotah. We should recommend Partridge Cochins, the Leghorns would be troubled with frozen combs, and do not bear confinement well. The Games would do well if the combs are closely cropped.

✢

Mrs. Charles Grant, Reddick, Illinois, asks how to make charcoal for poultry from apple-wood. For a small quantity of charcoal, take the wood and place it on end on the ground in a cone form, the top ends of the sticks leaning in, and place sods around the wood to keep out the air, leaving only a small place to kindle a fire. When the fire has been well started, and the kiln hot, cover it up with dirt and it will slowly burn and leave only coal.

✢

E. G. Corban, of Corbandale, Tennessee, asks if common brook minnows will purify the water of a cistern. That depends on the cause of the impurity. If it is caused by the decay of worms and insects, the fish will cleanse the water; but if it is caused by mud and rotten wood, fish will not do it. Cleanse the cistern of all filth if any be present, and the fish will keep the worms out. Any kind of fish usually found in brooks will answer.

✢

Will. J. Oberlin, Massillon, Ohio:—"In your issue of September, page 6, you say "tuberoses, when done flowering, &c., should be laid on their sides, without water, until they begin to flower next spring." Do tuberoses flower more times than one? I have had hundreds every year for the last ten years, and never knew they bloomed but once, and therefore, I threw them away after blooming." They bloom but once; but the offsetts on the bulbs will bloom the second year if well grown. Keep them dry during winter.

✢

H. G. McGonegal, of New York City, asks the origin of the name of "Kainit," and the chemical composition. We gave in our September number of last year a full account of Kainit. We reproduce from it the composition of one ton of 2000 pounds: Sulphate of Potash, 496 lbs.; Sulphate of Magnesia, 286 lbs.; Chloride of Magnesia, 252 lbs.; Chloride of Sodium, 640 lbs.; Moisture, 288 lbs.; Insoluble, 38 lbs.; total, 2000 lbs. It is dug like common salt in Germany, and exists in vast deposits from 300 to 1200 feet below the surface of the earth.

✢

Mrs. W. C. Israel, of Olympia, Washington Territory, asks about a wild crab-apple that grows in the forest near the orchard. All our cultivated apples had their origin in the crab-apple of Europe, and will, when grown from seed, go back more or less to the old stock. Doubtless your seedling is of that class, and may be a valuable fruit. The difference between crab and other apples is not well marked, and they run together so closely it is hardly possible to tell whether some of them should be classed as Whitnes. No. 20, although classed as a crab, is a good table fruit. Your apple may be, for its lateness, very valuable; and it may be a seedling worthy of trial.

TAKE AN INVOICE.

I find it profitable as well as interesting to take an inventory of all I have every year. I have always made it a rule to keep a strict account of all the different operations on the farm. I farm to make money, and the only way I can know accurately whether I am doing this or not, is to keep a strict account of everything; and then, if I have made money I want to know how, and on what crop, and in order to do this correctly, I take an invoice every year the first of January. I keep this in my account book so that I can refer to it at any time.

In doing this I take the market price at the time the invoice is made, as a guide. In farm machinery, of course something must be allowed for wear and tear, and with the land, if the farm has been kept up as it should, something can be added for this. If the farm is cultivated and attended to as it should, the value should increase every year. No rule can be set down for this kind of work, you must use your own judgment, but do not let an overweaning desire to make the profit side of the balance sheet as large as possible, induce you to make this too much.

N. J. SHEPHERD.
Eldon, Mo.

I see instructions in your noble paper how to make an egg-tester; but let me offer a few thoughts as to how a more convenient one may be made. Take a piece of pasteboard ten inches wide and eight long, roll this into the shape of a long funnel, having the small end with a hole about one and one half inch in diameter, and the other three inches across. Sew it so it will stay, cover the large end with thick black cloth, cut a hole nearly as large as an egg; then by having a lamp or the sun, hold the egg against the large hole, and looking through the other end you can soon see whether the eggs are fertile or not.

W. D. STAMBAUGH.
Independence, Kansas.

As I have just been preparing a dose for my bug monopolists; and noticing in the last number of your paper an appeal to your readers for the establishment of a "mutual protection and benefit society," I thought I would give in my bit of knowledge. I have tried for four years, tobacco water for all kinds of vines, cabbages, and cauliflowers. I can get the stems here that are thrown out by the cigar makers, steep them, have the solution strong. I sprinkle it over the vines with my hand, it suits me better than to use a sprinkler, letting it run well down the roots, as the bugs work so badly there. It will hurt nothing; it does not kill the bugs; I only know they leave. It has to be repeated perhaps every day; but we are well paid for our labor. Could I not get the stems, I should get the leaves if I could; if not, then the cheapest old plug tobacco.

Please try it friends, and let me know if you are benefited as I have been.

MRS. CARRIE IMEL.
Monmouth, Warren Co., Ill.

If I am not mistaken in my idea that a farmer's paper is for the benefit of the farming community, where they can exchange views, through the columns of their paper, one with the other, upon *all* products of the farm and garden, as to the best method of raising, shipping, etc.; then let us hear from our *practical* farmers (that are acquainted with the subject), upon the subject of the Honey Bee. I think a department devoted to the Apiary would interest many of your readers, and I know quite a number of farmers that keep a few hives of bees for their own use and pleasure, who would be pleased to hear from their brother farmers, as to the best mode of caring for the bees through the winter; descriptions of home-made hives, where the frames are easy of access, and such other items of interest and *benefit* that may come before them from month to month. So farmers, as we are put upon this earth to help one another, throw your mite into the contribution box of THE FARM AND GARDEN; and I doubt not that our worthy editors will give it an appropriate place, and thank you for taking interest enough in their paper to help make it in every respect *the farmers' paper of the country.*

OLD BEESWAX.

BETHEL, Marion County, Iowa.

In February number of FARM AND GARDEN D. F. B. states that a hen,—*now mind, a hen,*—will lay 600 eggs, as follows: First year 20, second year 120, third year 135, and the fourth year 115, total in four years 300, and the rest, I suppose, when she gets ready. This may all be true, but if a hen is a hen, why so many kinds. That kind of laying may do for Plymouth Rocks or Leghorns, but it is a libel on the Partridge Cochins. I have six hens of that breed that were one year old the 27th of June. They began to lay on the 16th of March. On June 27th they had laid 52 eggs each, and never had more than three bones out of some old cow's legs, and never saw wheat. Somebody had better count again, or state the kind of hen they have in mind. If a Leghorn will commence to lay at four and a half or five months old, and lay as good as the Cochin, she has at least four months start (Leghorn men say they will lay every day), and she ought to lay lots more than 20 eggs the first year. I put my six hens in a yard with one cock, and had the best of hatches. If those who cannot get the chicks to break the shell will soak the eggs in warm water for a few minutes three or four times a day just about the time for them to hatch, it will give satisfaction. I think I can stand it until next month. I have a crow to pick with N. J. Shepherd about the bugs.

JOHN CONNER.

EXPERIENCES WITH FRAUDS.

One of our subscribers writes thus: "Last year seeing an advertisement in some paper, offering a magazine and present for one dollar. I sent for it. I enclose you the notice of postponement. Not only did I not receive the present, but the paper itself failed to arrive after a few months." With the letter is enclosed a number of prospectuses and notices of postponement. The paper mentioned is the *Household Magazine*, 10 Barclay street, New York, and notice No. 1 postpones drawing from October 15th to January 15th, No. 2 puts it off from January 15th to March 15th, and lastly No. 3 names May 30th as the happy day. Verily, the newspaper lottery is the worst beat known. Remember, we told you so.

✢

The dull summer months have not shown much activity among frauds, but Fall will awaken them.

✢

The *Farm Journal* has called off the watchdog too soon, we think, in case of the publishers of County Histories. It is true the parties in question are financially responsible, and do not violate any law as far as we can ascertain, but, we do not consider the business honorable to say the least. The operation is this:—A sleek agent calls upon a farmer and gets his order for a County History, to contain an account of the farmer and his family. Incidentally the agent mentions a price, but here it is left indefinite. When the book, which is really of little value, is delivered, the price demanded is apt to be higher than expected.

✢

A number of concerns in Massachusetts and other States have swindled the public in this manner:—Advertising work to do at home in which there would be no canvassing, they received inquiries from poor people all over the country. To these they send a circular describing their methods of coloring photographs, and the money they paid for work in this line. In the end of the circular they ask $1.00 for a book of instructions to enable every one to enter into the lucrative business.

A number of these concerns have been broken up by the government as frauds; and frauds they are, as the dollar for the book was all profit.

Hudson Manufacturing Company, 265 Sixth Avenue, New York, have a similar scheme. They send a circular entitled "Maltese Lace Goods," describing the liberal prices they pay to have fancy work done for them at home, and offering orders for caps, tidies, and other articles. The end of this circular is both suggestive and interesting. "We only give orders for work to those who purchase our instruction book, implements and complete outfit for $2.00."

Be careful to let these people severely alone.

MARKS BY JACK FROST.

A little girl joyfully assured her mother the other day that she had found out where they made horses; she had seen a man finishing one. "He was nailing on his last foot."

A sewing-machine agent was recently attacked by a fierce catamount, near Milford. Strange as it may appear, the catamount escaped without buying one of the machines.

When a man and his wife engaged in a debate the other night, and the dog got up and scratched to be let out of the room, they concluded it was time to stop the discussion.

When their Queen died, the people of Madagascar wore no clothes for a period of thirty days. This is a good deal cheaper than the American plan of bankrupting yourself at a mourning-goods store.

Lord Morpeth used to tell of a Scotch friend of his, who, to the remark that some people could not tell a jest unless it was fired at them with a cannon, replied, "Weel, but hoo can ye fire a jest out of a cannon, mon?"

"Which would you rather have, a little brother or a little sister?" asked Mrs. Simpleton of her little boy Tommy.

"Oh, ma, don't let us have either of them—children are such a nuisance about a house."

"I wish you wouldn't go hunting," said a wife to her husband; "it's a cruel pleasure." "Don't see how it can be," said the husband; "I enjoy it, the dogs enjoy it, you enjoy having me away, and the quail enjoy it, for I couldn't hit one to save my life."

Scientists now boldly declare that this earth was peopled 50,000,000 years before Adam was born. We are not prepared to dispute this assertion in the least. We have always wondered how mankind could learn so much deviltry in only 6,000 years.

A ninety year-old colored man living in Tallahassee went out hunting the other day, and during his trip it is claimed that he killed "three bears, an alligator, a rattle-snake, and ten skunks, and cut three bee trees." If he were not so old it might pay him to give up hunting and confine exclusively to lying.

"Mollie, I wish you would be a better little girl," said an Austin father to his little daughter, "you have no idea how sorry I am that mama has to scold you all the time." "Don't worry about it, pa," was the reply of the little angel, "I am not one of those sensitive children. Half the time I don't hear what she says."

The "Tribune" calls itself a missionary for the Republicans. The FARM AND GARDEN is a missionary for new fruits, honest advertisers, new methods, and practical ideas. Can you not do a little missionary work, and increase the list at your post-office.

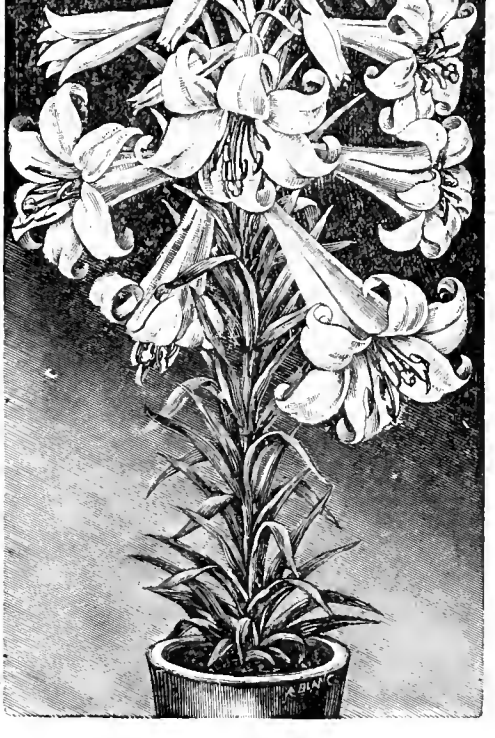
Judge Jere Black, famous in contemporary history and law, long wore a black wig. Having lately donned a new one, which looked new, and meeting Senator Bayard, of Delaware, the latter accosted him:—"Why, Black, how young you look, you are not so gray as I am, and you must be twenty years older." "Humph," said the Judge, "good reason; your hair comes by descent, and I get mine by purchase."

Chicago Preacher.—"Yes, the attendance has been very meagre lately; but I had a grand congregation last Sunday." Visiting brother.—"Last Sunday? Why, I saw by the papers that it stormed here terribly last Sunday." "Yes, as the saying is, it rained pitchforks all day long." "And yet you say that your church was crowded?" "Yes." "How do you account for it?" "Well, you see the weather was so bad that they had to postpone the races."

A certain farmer in Iowa will be safe from some annoyances for the year to come. He welcomed every sort of an agent, and they left every sort of an instrument ever devised by mortal man, until the farm-house was a vast museum of natural curiosities. The piano man put a $600 piano into the parlor on trial. He was followed by the man with the parlor organ. Then came three different sewing-machines, a $200 music box, three $50 oil paintings, a parlor suit, a $75 mirror, a melodeon, a book case, two accordeons, and several other articles which could be paid for on the monthly installment plan. When the last agent had disappeared the old house took fire from a defective flue, and was burned to the ground, not a single article left by the agents being saved. "Some call it one thing and some another," said the old man, as he pocketed the insurance on the house and goods, "but I dunno. Providence sometimes works in cu'rus ways. My gittin' burned out will give this district a rest a hull year to come."

ADVERTISEMENTS.

In writing advertisers please mention Farm and Garden.



OUR BULB OFFERS.

That we might offer liberal premiums to our subscribers, we have imported direct from the growers in Europe and the Bermudas, the finest lot of bulbs we have ever seen. These we have decided to offer to our friends in the following liberal collections:—

Our 60-cent Collection,

Sent free by mail, and including one year's subscription to The Farm and Garden, will contain One fine Dutch Hyacinth, Two Grape Hyacinths, Two Tulips, Five Crocus (each of a different color), One Scilla Sibirica, One Single Narcissus Poeticus, making in all, when quality is considered, as fine a collection of winter-blooming bulbs as could be usually bought for $1.00.

For. $1.00

We will send one fine bulb of Lilium Harrissii (see cut on page 1), imported by us from growers in Bermuda, One Dutch Hyacinth, Five Tulips, Six Crocus (four colors), Three Spanish Iris, Three Snowdrops; included with this is a year's subscription to The Farm and Garden.

For $2.00

We will send Two bulbs of Lilium Harrissii, One Scilla Siberica, Four Spanish Iris, Two Leias, One Snowdrop, Three Oxalis, Seven Single Narcissus Poeticus, One Jonquil, One tulip, Five Crocus (different colors), One Feather Hyacinth. With these we will include a year's subscription to The Farm and Garden.

A COLLECTION.

BROUGHT BY UNCLE SAM'S MAIL AND IN OTHER WAYS.

New publications of interest:—

Volume 1, No. 1, of Wool Grower's Quarterly, conducted by J. W. Axtell, the successful editor of the *Pittsburg Stockman*. Issued under the auspices of the National Wool Grower's Association. Every one situated so as to do it, should raise sheep, and those who do, should take this paper. Sixty cents per year. Pittsburg, Penna.

"How to tell the age of a horse," by Prof. I. W. Beard, with diagrams showing the teeth at different ages. Published by M. T. Richardson, N. Y.

Wm. Parry, Parry, New Jersey, is an enterprising nurseryman, with abundant capital and several hundred acres of land in orchards and small fruits. With those opportunities for experiment, and a restless ambition to excel in novelties, it is no wonder that he brings out new fruits. This fall his catalogue is of more than usual interest. Containing a list of a new pear, a large plate of the Wilson, Jr., blackberry, (so large and full that we would doubt it had we not seen the bunch of fruit with our own eyes), the Parry strawberry and other new things.

George S. Josselyn, Fredonia, N. Y., kindly favors us with his trade list for the fall, comprising grape vines, small fruits, etc.

John B. Moore & Son, Concord, Mass., catalogue of grapes, and description of new white grape Francis B. Hayes. From the far off Arkansas,

Now then act, please, and hurry up that club.

Messrs. Little & McClendon send us their annual nursery catalogue. Nashville, Arkansas, is their address.

Messrs. S. H. Moore & Co., of No. 27 Park Place, New York, whose advertisement appears in another column, are well known to our readers, their advertisement having been before the public for many years. Although their offer seems to be an extraordinary one we are assured that they have an abundance of capital, and also the disposition to fill all orders.

Among the varied and interesting catalogues offered to our readers who will write for them, we notice:—

Benson, Maule & Co's. "Hints for the Fall," a valuable list of seeds, seed wheat, bulbs, poultry, live stock, etc. It contains a complete list of seeds for spring planting so that our friends in the South and California, who have to buy early, can intelligently select next years purchases. No other seed house displays equal enterprise, and we prophesy an abundant crop of orders, provided—well, provided they advertise enough in THE FARM AND GARDEN.

The prospectus of the *American Seedsman*, a monthly seed trade journal, published by Isaac F. Tillinghast, of La Plume, Pennsylvania, is before us. We wish the enterprise success, and believe it will be realized if the editor will conscientiously run the paper in the interest of the whole trade. There are plenty of advertising sheets, but an independent trade journal is wanted. Price, $3.00 per year, advertising, 20 cents per line.

G. R. Garrettson, Flushing, N. Y., send us circular describing new market strawberry, the "GARRETSON." He says: "I have been cultivating strawberries for past fifty years, and am acquainted with and have tried nearly every kind that has been offered, and I can truly say I know of no variety that can equal it as a market berry."

J. G. Burrow, Fishkill, N. Y., sends wholesale list of Grape Vines, etc.

N. W. Ayer & Son, Philadelphia, send their "American Newspaper Annual for 1884." A complete classified list of all American newspapers and periodicals, with their estimated circulation, advertising rates, and much other valuable information. Price, $3.00. Every seedsman, nurseryman, florist, and stock raiser should have it.

A. Goff, 150 Nassau Street, N. Y., favors us with his "Hand Book for Ready Reference for Advertisers." It is a valuable publication.

Hale Bros., South Glastonbury, Connecticut, are introducers of the Manchester and Mrs. Garfield strawberries, and Sonhegan Raspberry. Their fall list is interesting.

We have received from the Zimmerman Manufacturing Co., of Cincinnati, a handsome catalogue which explains fully the merits of their Fruit and Vegetable Evaporator. Any one interested in that industry will receive the catalogue free by writing for it. It contains valuable information.

T. Walters & Sons, of West Chester, Penna., have sold over 100 pigs from their exhibit at the Pennsylvania State Fair. They made an interesting display and we trust were amply repaid. We say this to encourage other enterprising stockmen to come out strong at next fair.

Johnson & Stokes, Philadelphia, send us samples of new Golden Prolific Wheat Martin's Amber (see Editorial Comment), Tuscan Island Red and New Mediterranean Hybrid wheats. Four valuable varieties offered by them in this number.

W. H. Smith, 1018 Market Street, Philadelphia, catalogue of bulbs and fall goods. Send for it.

We are pleased to note that a number of our readers have purchased the New Singer Sewing Machine offered on trial by E. C. Howe & Co. in last month's issue. The proposal to send a machine on trial before payment, is a fair one and any subscriber desiring a first-class machine will do well to refer to the advertisement, on second cover page, September number. All who have used these machines are well pleased with them.

CLUBBING LIST.

TWO PAPERS FOR THE PRICE OF ONE.

These prices include a year's subscription to THE FARM AND GARDEN and to the paper named.

Any American publication furnished at reduced rate.

American Agriculturist,	$1 25	Ladies Floral Cabinet,	1 20
American Field,	4 25	Live Stock Monthly,	75
American Poultry Yard,	1 25	Labor World,	2 00
American Garden,	1 00	Maryland Farmer,	1 00
Bee Journal (weekly),	2 10	Mirror and Farmer,	1 05
" (monthly),	1 10	Nebraska Farmer,	1 20
Bee Keeper's Magazine,	1 00	National Poultry Monitor,	1 05
Cultivator and Country Gentleman,	2 25	Orange County Farmer,	1 55
Century Magazine,	3 75	Ohio Farmer,	1 20
Dairy and Farm Journal,	75	Ontario Hornet,	60
Dramaze & Farm Journal,	1 00	Oregon Colonist,	75
Demorest's Magazine,	2 00	Purdy's Fruit Recorder,	70
Empire State Agriculturist,	60	Poultry World,	1 00
Farmer's Review,	1 25	Prairie Farmer,	1 60
Farming World,	75	Poultry Nation,	75
Farmers' Home,	60	Poultry Messenger,	60
Farm Implement,	75	Planter's Journal,	1 75
Farmer and Fruit Grower,	1 70	Poultry Advertiser,	60
Farmer and Manufacturer,	60	Poultry Monthly,	1 05
Forest, Forge and Farm,	75	Poultry Bulletin,	1 00
Farmer's Companion,	60	Poultry and Farm Journal,	1 00
Florida Despatch,	1 75	Rural Record,	75
Floral Instructor,	65	Roanoke Patron,	75
Farm Economist,	60	Rural Californian,	1 50
Farm and Fireside (Ohio),	75	Rural New Yorker,	2 25
Farm and Fireside (N. C.),	1 25	South and West,	60
Farmers' Home Journal,	1 25	Southern Planter,	1 25
Farmers Advocate,	1 00	Southern Cultivator,	1 25
Farm Journal,	60	Sunny South,	1 00
Godey's Lady's Book,	2 00	Tribune and Farmer,	1 00
Gardener's Monthly,	1 65	Vick's Monthly Magazine,	1 10
Home and Farm,	75	Western Rural (and seeds),	2 00
Home Farm,	1 50	Wallace's Monthly,	2 75
Harper's Monthly Magazine,	3 50	Western Cultivator,	75
Iowa Farmer,	75	Western Agriculturist,	1 00
Indiana Farmer,	1 60	Western Plowman,	60
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The Farm and Garden.

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Who murmurs at his lot to-day?
Who scorns his native fruit and bloom?
Or sighs for dainties far away,
Beside the bounteous board of home?

Thank Heaven, instead, that Freedom's arm
Can change a rocky soil to gold,
That brave and generous lives can warm
A clime with Northern ices cold.

WHITTIER

GOLDEN OPPORTUNITIES IN THE SOUTH.

[CONTINUED FROM APRIL NUMBER.]

By Joseph

The Beekeeper's Chances. A season in the North as cool as the one just passed, shortened by heavy frosts on both ends, (one on May 29th or 30th, which spoiled the fine prospects for big crops of apples, peaches, plums, cherries and grapes, and one on August 25th, almost as destructive in the vegetable garden), could hardly be expected to make me forget the charms of the beautiful "Sunny South." Remembrance and longing proved inseparable in this instance, and those charms irresistible.

After a sojourn of a little over six months in the cool North, I yielded to the temptation to make another visit to the great valley of the Shenandoah. The impressions which I had received on Virginia's soil in 1883, were in a few instances modified, but generally strengthened. It is about a year ago, when I advised the laborer without means, seeking employment on the farm, to stay away from the South. That advice was correct, as far as East Virginia is concerned; circumstances are different in the mountain regions, notably in the northern part of the great valley, where but few negroes cross the path of the white man. Thousands of laborers and their families might here find employment under exceedingly profitable conditions.

During both visits, not only in the valley, but also in other parts of the Virginias, in North Carolina and Maryland, I have taken pains to investigate an industry of which THE FARM AND GARDEN has taken very little or no notice thus far, yet, in which thousands of our readers are interested. I mean bee-keeping.

Scientific bee-keeping is a very profitable branch of agriculture as you will admit, yielding in many parts of the United States, very handsome returns for the capital and labor invested in the business; and if apiculture pays anywhere in the world, it is in the above-mentioned States. In fact, it is so remunerative, that some of these Southern bee-keepers wish to hide their yields and profits from the eyes of the world, and thus retard an inconvenient increase of production. "Why don't they pocket their profits and keep still, instead of reporting their yields in every bee paper of the Country," said a Warren County apiarist to me last February. It may not be business-like to invite competition; on the other hand, no monopoly should be permitted to get a foothold in any of the branches of agriculture; also, both the production and the consumption of honey is capable of a growth to ten-fold its present extent.

A BUNCH OF POLYANTHA ROSES.

When we consider the long duration of bee pasture in the South,—fruit tree and berry blossoms in April, white clover and an abundance of locust in May, blue thistle, aster, golden rod, and numerous other wild flowers from June until fall; the small number of colonies in any one apiary, and the distance, generally miles, between the apiaries, last but not least, the fine climate with short winters,—we will see no reason to wonder about the enormous yields of honey, nor about the ease, with which bees are safely carried through the winter, that great problem for the Northern and Western apiarist. Successful wintering solves *itself* without trouble in the South.

Last winter when in Warren County, Virginia, I made a list of the yields of the most prominent apiarists in that neighborhood during 1883. Having mislaid the list, I will at least mention one item which I distinctly remember: 23,000 pounds from 150 colonies. A failure is almost unknown, and scientific treatment will insure an average yield of upwards of 100 pounds per colony.

A skillful beekeeper in the South, however, is a "*rara avis*," scarcer than honesty in politics or truth in a court room. The majority of colonies are kept in ancient box hives. The owner generally puts a rough box on top for surplus honey, and perhaps replaces it by an empty one long after the first has been filled, and in this unskillful manner often realizes fifty or more pounds of fair honey from each colony. Some farmers have the Langstroth hive, but derive little benefit from it, as they do not understand the management. The few specialists that do, reap a rich reward for their labor. There is room for thousands of apiarists in the South; I advise young bee men to investigate this field for themselves. Here are golden opportunities; do not let them slip from your grasp.

The price of honey has been low in 1883, and in spite of a partial failure of the crop in the Northern States this year, we can hardly look for a material improvement in that direction, with the present prices of sugar, and with general stagnation in business. But even at ten cents a pound for honey in sections, or eight cents for extracted, the production of it is a highly remunerative business in favorable localities in the North, and much more so in the South.

Speaking from experience, I can well affirm, that *I know.* I have had an apiary of about one hundred colonies right under my very eyes during the last eight or ten years, and kept track of the management and the proceeds.

BEANS IN PLACE OF MEAT.

By B. Enns.

The housewife said this morning: "We will have a fine dish of baked beans for dinner, and will need no meat except the small piece of pork that is cooked with the beans as a sort of flavoring." We find a text in this expressive of the kind provider for the dinner table and the bodily wants of those who sit around the neatly-spread board.

Why is it that the beans, unlike most forms of vegetable food, can take the place of meat in a "hearty" meal? No one would think that bread could be thus substituted or wheat flour in any form it might be served. In like manner potatoes cannot take the place of beef, or rice be substituted for mutton. It must be that there is something in beans not found in wheat, or if found, it needs be in smaller quantities. This something that makes the beans so valuable for food must be the same as or similar to that which causes flesh to be so nutritious and life-sustaining.

At this point let chemistry come in and throw as much light as it may upon this very important question of foods. Animal nature is much the same everywhere, and if any facts can be found regarding the differences between beans and wheat, they will hold good elsewhere. The chemist, by a careful examination of beans, finds them made up of a varying quantity of water, albumoids, fat, carbo-hydrates, fibre, and ash. These are the closets into which all the constituents of any food are placed. Water is the moisture, so to speak, which any food contains. No further explanation is needed here.

The albuminoids are compounds in which the element nitrogen is found. The white of an egg is a good example of nearly pure albumen. The gluten or "gum" obtained by chewing wheat is another form of albumen. The egg yields animal albumen and the wheat grain vegetable albumen. The nature of the next group is given in the name—fats. There are many kinds. Nearly all foods yield some fat or oil upon analysis. The carbo-hydrates are substances like starch, sugar, etc., which are made up of only the three elements, carbon, hydrogen, and oxygen. They and also the fats contain no nitrogen. The fibre is woody substance, and makes up a larger part of such coarse cattle foods as straw or hay. The ash is the part left after the food has been burned, and contains a larger number of substances, such as potash, lime, phosphoric acid, and many others.

The most important groups of food constituents are the albuminoids and carbo-hydrates. The life of an animal cannot be long sustained without a supply of these substances. The albuminoids are necessary for the building up of the various tissues of the animal body. These nearly all contain the element nitrogen, and need to be constantly supplied with it, and the source is the albuminoids. If the creature to be fed is carnivorous; that is, feeds upon flesh, it can obtain its supply of albuminoid from its animal diet. The nitrogen-bearing compounds have been termed the flesh formers, while the starchy foods of the carbo-hydrate class are called the heat producers. These two expressions serve a good purpose in showing to the popular mind the work the two groups of food constituents have to do in the animal economy. This classification is not strictly scientific.

Foods are taken into the animal system to nourish that system, to supply the constant demand for elements to make good the every day waste. Work is done at the expense of the substance of the body, and it is the function of foods to supply the loss. The animal machine, so to speak, is run at a certain temperature, and fuel is needed to keep up this animal heat. The carbo-hydrates, the starch, sugar, etc., have this as a large part of their work. There is no furnace in the horse or cow, but the results of the slow burning of the food, much the same as when substances are burned in a furnace. If the horse or cow is kept warm by a furnace heat in severe winter weather, the animal thus favored will not need to eat so much food to keep it warm.

The albuminoids are the most expensive elements of any food. In the household economy they come to the table in the most concentrated form in eggs, lean meat, and similar animal products. The carbo-hydrates reach the table as bread and other properties of starch. Sugar is a food, but it contains none of the albuminoids. Wheat contains about eleven per cent. of albuminoids, potatoes only two. The dry substance of potatoes is four-fifths carbo-hydrate, and nearly all starch. It is a heat former, and not a rich food in the sense of containing much albuminoids or proteine. Beans contain over one-quarter of their whole weight of albuminoids, more than twice that of wheat. They are much like lean meat, and therefore very hearty. Bread or other starch products to be eaten with beans to make the ration cheap and wholesome.

GARDEN IMPLEMENTS.

N. J. Shepherd, Elton, Mo.

It is hard work to hoe, and not one man in a dozen can use a hoe so as to get along expeditiously, and do the work as it should be done. Yet a good, sharp hoe, when properly used, is invaluable in working the garden. There are quite a number of implements that can be used by which the amount of work to be done by the hoe can be very greatly reduced. At first a good steel rake, with sharp teeth set close together, if properly handled can be used to the best advantage. The work must be commenced as soon as the plants make their appearance above ground, while the soil is mellow, and before it becomes packed, and before the weeds get a good start, as the rake will then destroy the weeds thoroughly. After the plants begin to grow awhile, the hoe cannot well be excelled for saving labor. I ought to have said first that in order to use many of the improved garden implements that are designed to be used in the garden, the plants should be sown in long rows, and as straight as possible, and for this purpose a seed sower is indispensible, as it is almost impossible to sow the seeds evenly and in as straight rows as can be done by a seed sower. My experience is that a seed sower will pay for itself in a short time in seed saved, without taking into account the labor saved in sowing and in cultivating. With a combined garden plow and cultivator nearly all the work of cultivating can be done, reducing the work of the hoe to only what is necessary to destroy the remaining weeds between the plants in the row. And here another good implement comes in to a good advantage, and that is a good hand weeder. For working close around the stem of the plants it can be used very economically. A hand trowel for transplanting and digging around plants will be found quite a help. A hand roller for running over the ground to press down and level will often be found quite a help, and can be used for quite a variety of purposes to a good advantage. Then you want a good reel and line. It should be made so as to wind up and unwind easily and rapidly. A few stakes sharpened and ready for use, one place near the top should be flattened and made smooth, so as to write whatever is desired upon it.

One point is very important, whether the tools be many or few, it pays to keep them sharp and bright. More and better work can always be done with bright, sharp tools, more than sufficient to pay for the labor required to keep them bright and sharp. Whatever work is done in the garden it pays to do it well, and generally the work seems slow and tedious at best, and when you are obliged to work with rusty, dull tools the work becomes doubly irksome. Have a good tool-house and a good grindstone, and when through with the tools see that they are put away in good shape.

GATHERING CORN.

By John M. Stahl, St. Louis, Mo.

Our corn crop is so large and the work of gathering the ears consequently so great, that any way of reducing that labor must meet with favor. Let me say that one of the ways to make that labor less, is to allow the stock to gather their own rations of corn. Cattle, sheep, and swine will all do this. Now do not hold up your hands in holy horror. I do not propose to advocate any waste. Out in this agriculturally sinful West, it is no uncommon practice to "hog down" corn. That is, the swine are turned into a field or part of a field, and made to do their own husking. This may or may not be a wasteful practice; it all depends on circumstances. Of course when circumstances make it a wasteful practice, it should not be countenanced. But when it occasions no waste, it is to be recommended, as it saves considerable labor and reduces the ultimate cost of the crop by just so much. I have seen hundreds of acres of corn "hogged down" when there was a great waste; the ground was muddy, and the corn was lost in the mud, or the hogs were greedy and pulled down much which was not consumed, and was left lying on the ground until unfit to be eaten. Then, again, I have seen many acres "hogged down" without waste. This was when the ground was dry and the swine not greedy. Only hogs which have been fed to be put in marketable condition, that is, about all they will eat for some time, should be turned into the field. Otherwise they will pull down an ear, take a bite or two from it, and pass on to another ear; and there is danger of hogs not previously highly fed, overeating. If the ground is wet, the hogs should be kept out of the field. Fat hogs in a dry field will make no waste, as they are so indolent they will pull down only what they eat at the time. If the field becomes muddy, take the hogs out. It is advisable to fence off a patch containing only what the hogs will consume in a few days. When they have disposed of that, fence them off another patch.

Another way to save the labor of husking, is to pull the corn without removing the husks. In the West, husking is commonly done throughout the fall and winter, as the weather and other work admit. If the stalks stand up well, this occasions no loss of grain; the ears will hang downwards and the husks will shed off rain or snow. However, if the stalks have fallen or been broken down, the corn should be gathered as soon as possible, as the ears lying on the ground will be damaged; in which case there is little opportunity to pull corn without removing the husks. Yet, I would advise taking advantage of this opportunity. There is no need of husking what corn is fed during this time. The hogs will not grumble a particle if they are compelled to husk it themselves, and the cattle will not object if the husks are cut up for them along with the ears. The hogs are generally fattening for market at this time and considerable corn may be disposed of to them, making the saving not inconsiderable. It is better to feed fattening hogs new corn after they have been fed old for a couple of weeks of the fattening period. If the gathering of the corn is prolonged during the winter, all the corn given swine and cattle during this time can be fed unhusked; and as the close of the gathering draws near, a pen containing a couple of hundred bushels can be filled with unhusked ears, as it will keep in good condition until fed out. The advantages of feeding corn without husking it are various. It saves all the labor of removing the husks, as an ear can be jerked from the stalk as easily as it can be broken out of the husks. The former work admits of the wearing of gloves or mittens when the weather is cold and the husks are frosty. The husks afford considerable feed and are thus fed in better condition than if allowed to remain on the stalks until the field is pastured by the cattle.

I have seen men feeding fodder from which the ears had been husked, and husked corn at the same time. They were certainly doing unnecessary labor. When taking the ears from the fodder, they might at least have allowed the small ones ("nubbins") to remain. And there was no need of husking those ears taken off the stalk; they might have been pulled off and the husks fed with the grain and cob.

(Continued in December.)

FARM AND GARDEN NOTES.

By J. W. D., Chatham, N. Y.

Cows like cabbage leaves, but it is better to feed them just after milking, otherwise they may flavor the milk.

✝

A good way to store cabbage for winter use is to make a double row on a well-drained spot in the garden, setting the heads close together, roots up. Bank up with dry earth.

✝

One of the judges on stock at county fairs should be a non-resident. There is a general prejudice against judges who are, or are thought to be, acquainted with the exhibitors, and know their stock.

✝

While you think of it, thatch up the inside of that cow stall with long straw, so that the snow cannot blow in upon the cattle, as it did last winter. Cattle are not partial to snow blankets.

✝

The wild carrot is one of the worst weeds known to eradicate. Whole fields in this section have been, and are, covered with it. Mowing does not seem to kill it, and it comes in again after plowing. Who will tell how to get rid of it?

If grass has run out where it is not possible to replow, run the harrow over it and sow on some timothy or other grasses, and the crop next season will be so much increased.

✢

Underdrain the lowlands and mulch exposed knolls. These are practical remedies against winter-killing.

✢

If you want your grape vines to bear fruit do not manure them! Soil for grapes must not be too rich or the growth will be in wood and leaf, not in fruit. If already too rich, sprinkle some lime about the roots.

✢

You are an apple producer and shipper. Very well. But when you pack those apple barrels, do not have all the good fruit at the ends and the worthless between. You will make more money to sort into two grades.

✢

Gather the falling leaves. Bank the cellar with them or stow them away under shelter and use them for bedding this winter. They are good absorbents.

FACTS AND FIGURES IN REGARD TO TENANTS IN THE SOUTH.

By W. E. Collins, Marysville, Miss.

Long continued drouth, extending over many Southern States, has doubtless reduced estimates of the yields of cotton one-third, and will bring the present crop down to probably 6,000,000 bales or even less. The cotton crop necessarily increases somewhat every year, even during the most unfavorable seasons, simply because there is a constantly increasing acreage, especially in the States of Mississippi, Arkansas, Louisana, and Texas. The increase in Arkansas and Texas is traced directly to emigration, while in Mississippi and Louisiana the increase is more directly traced to the steady improvement among planters, who clear fresh lands every year and add to the capacity of their plantations. In this county the average of increase each new year is about 3,000, which adds 3,000 bales cotton to the exports of this crop from this country alone. With this, generally, you will perceive that the cotton crop of the United States is certain of slight increase every year, without regard to the seasons. With the introduction of a successful cotton-picking machine, the crop would double itself in a year or two, and could be produced at a cost of about three cents per pound. The principal expense in this crop is the picking, which is done entirely by hand at a cost ranging from fifty to seventy-five cents per hundred pounds seed cotton. This hundred pounds will usually give twenty-five pounds lint cotton. So the cost would be at fifty cents per hundred pounds seed cotton, two cents per pound for the lint. This cost once removed and the crop will soon double itself, for the same labor now engaged can cultivate twice the acreage that is now done. Planters usually make their crops upon "shares," furnishing the tenant with land, tools and team, and feed for the teams so employed; also furnishing the tenant with house and garden free of all rent. In return the tenant gives one half of all the cotton and corn he may make. No claim is ever made by planters for half the pumpkins, potatoes, or other crops grown by tenants. Fuel is furnished free. The crop of cotton is divided at the gin after being baled for market, and these settlements are, I believe, strictly honest to the tenant. If he produces 5,000 pounds lint cotton, he receives exactly 2,500 pounds. He is required to pay all expenses of the picking, if he neglects to pick his crop; but the ginning charges, usually $2.00 per bale, are paid by each; that is, the planter pays for ginning, pressing and wrapping his half, and the tenant the same on his interest. The tenants is at no expense if he does his duty as per contract, except for his own family supplies, and the expense on his half of the crop for ginning preparing and hauling to market. It has been said by General Butler, in some of his speeches lately, that the negro labor of the South, was the poorest paid of any in the United States; that the laborers of the South were paupers, and as such are brought into competition with the labor of the North, to the great injury of the latter. This is an error, and reflects not so much upon the white people of the South as upon the negro; the subject of his remarks is a reflection upon their industry and economy. Let us see how near correct the General is.

We will preface our remarks by saying if a man's face is black, his recommendation is sufficient to a Southern planter. No capital is required by the applicant; no certificate of character is thought of, the situation or partnership is open to the thief as freely as the honest man. Discharged criminals are taken into partnerships to make crops, as quickly as any other. All that is necessary is to apply to the owner of the plantation. State that he wishes to make a crop of cotton on his plantation that year; that he wishes to *rent* twenty-five acres of land; that he wants two mules, harness, farming implements, feed for two mules and himself and family for ten months; that he will require fifty dollars in cash during the crop season, &c. Now, to more fully illustrate, here is a totally irresponsible party asking for "trust" that amounts in the aggregate to $825, without one iota of security, and he receives credit for that amount without a question as to his honesty, capacity, or reliability. If disposed to do so, he could remain on the plantation in full possession of all rights secured by his contract, and when the time approached for settlement, could leave his crop, and the country; indebted to you for the entire $825. I know of hundreds in this county that are working to-day upon other men's capital, without one dollar security outside of a mortgage lien on growing crops; all good enough when the crop is secure, and a full average yield is made, but utterly worthless before, leaving all the risk on the shoulders of the planter. Do Northern men ever manage affairs so unbusiness like? Do the farm laborers North ever have such opportunities to better their condition in life? If they did, I am full well aware that every individual there would long, long ago, have owned farms of their own; and so could the negro of the South, if he was as intelligent and thrifty as the white men. He is not, however, on the contrary he is a spendthrift and will spend the years income with more lavish hand than Vanderbilt. One month usually suffices to get rid of his years earnings, and to himself alone is he indebted for any pauperism that may exist. There is none that I am aware of, and there are no people more averse to being called paupers than the negroes of the South; and they are not paupers. County "poor houses" do not exist in the South. The few paupers we have are the old and crippled, and these are supported by their relations, who are paid $6.00 per month by the Board of Supervisors for such support; and in this county $400 annually will cover all pauper expenses.

Now let us see what a tenant on shares receives for his yearly labor on a cotton plantation. He is given twelve acres of land, furnished everything except his own supplies. He plants ten acres in cotton, two in corn, (this twelve acres does not include three-quarters of an acre for garden). His cotton in favorable seasons will yield:—

10 bales, averaging 450 pounds each, or 4500 pounds, *@* 10 cents, ...	$450.00
10,000 pounds seed *@* 10 cents, ...	100.00
60 bushels corn *@* 50 cents, ...	30.00
Total,	$580.00
Expense ginning 10 bal . . $20.00	
Bagging and ties 10 bal . . 12.50	
Hauling, &c., ... 2.50	
Total, $35.00	35.00
Total net proceeds of crop,	$545.00

He receives one-half, or $272.50 for his services, and this without one dollar of his own invested; has all the time he wants for loafing around the village stores, drinking tangle-foot whisky and discussing national politics. His actual working time during the crop averages two days in each week. The price of day labor here is seventy-five cents and one dollar, and the demand is greater than the supply; so it cannot be said that people are paupers, when they receive one dollar per days work, commencing at 9 o'clock A. M., and ceasing at 6 o'clock P. M., with two hours rest during the day; and these people can live on twenty-five cents per day.

NO EXCELLENCE WITHOUT LABOR.

The Experiences of a Virginia Farmer.

No. 4.

We were filling barrels with water to be drawn up to the thirsty plants. Some sorts cannot stand through such a trying time as this very dry season has been. When we water we *soak* the ground, then it is done. To put a few drops on the surface is of no use. The ground must be thoroughly soaked so that the roots will keep their place *down* in the ground. To only wet the surface will cause surface-roots to be developed, and when the watering should, perchance, be neglected a little too long, the plants will suffer, and often they die much sooner than if not watered at all.

As the water was being transferred to the barrel it was quite amusing to notice the various attitudes and motions of the boys in their work. Sometimes the bucket was caught by one hand and sometimes with another, and often two motions made where only one was needed. It is only a *motion* that is lost and so seldom thought of, but when one is to make many thousand motions a day, it costs time and strength, which if wasted when there can be some saving done, why is it not as well to do so? In all our works there can be a system developed by which every motion may be governed to that end that not only minutes but often hours saved by a little attention to a systematic management.

In the matter of filling the barrel with water, the bucket could just as well be caught up by the same hand, and less spilling, less movements, and less strength used and more work accomplished in the same time if but a thought was taken how to do it. This is a small item to write of, but the old saying that "goslings make ganders" applies that if in *small* things system is made the rule, so in larger, and of more value will the systematizing of work be equally a value to the worth of the work to be performed.

If one will think when something is to be carried from the house to the barn or any other place, to take along a part or whole, as can be done, when going in that or the other direction, or bring back articles as a trip is being made in the opposite direction, many, many steps might be saved. So it is in all our lives; we must think, and by timely thought develop that habit of systematizing in all the moves we make, and not only save time and expense, but make our lives more pleasant. It is here certainly that an excellence can be known by a habit of *thoughtful* labor.

The milkman is sure to leave the box or stool under the cow where he milks as he is to milk the cow. I have suggested to him often that a little care might be of service to him. It is not a comfortable place for a cow to lay with a sharp-cornered box against her sides as she drops down to rest, and besides it is not a pleasant habit to be seemingly incapable of putting up anything that is used. I can get but one answer to my suggestions about "having a place for everything and putting everything in its place." It is this: "You'll do very well for details; I have no time for details. When I get through using a tool I am *obliged* to drop it and go for something else, and then when I am through at that I return and take up the work here. If I should attend to all the details you speak of I would starve before I could get my living. I am no detail man, I aint."

So goes the world. Stock gets poor or are ruined for want of details. No time to remove a stool, the harness upon the work animal, or the sharp-edged instrument or other dangerous thing near or over which they are to pass or stand.

The great manufacturing establishments of our continent are supported and often driven with work to supply orders caused by these anti-detailers. Tools that would last years are lost, rusted, or otherwise ruined and made useless by want of *care* alias *detail*. Time in hunting up lost or misplaced tools when needed and sometimes actual loss to value of large sums actually occur, is often more than double what it would have cost to put up the article when through with it. Such men and women wonder why John thrives, has plenty of time to go, and yet do his work, and "always knows where to put his hand on his every tool, even in the dark." If they will stop a moment and think, perhaps they will see some of the good results of attending to details. Without constant care there can be no excellence, even with labor.

To-day I again rode over quite a long way of the road covered with weeds, leaves, grass, roots, etc., called refuse, and this time in front of one of one of our best agriculturists. There might have been some wire grass in the springy vegetable pavement, but this should not have condemned it for bedding for stock. The season is so very dry it should have been placed under cover and kept for winter, if thought too green for use now. All vegetable refuse should be saved up dry for the needs of the cold, wet, and uncomfortable days and nights sure to be upon us before many weeks now. The time will surely come when the now mistaken idea that the so-called nuisance, "wire grass," will be valued at its true worth, and find a place on our best farms.

Of course, it is of little use to attempt to produce a change in the stereotyped habits of people. Gallileo said, "The world *does* move, for all my recantation." So time will mark the dates of the old and new. The roads may be piled full of that "nuisance" for years by the average of farmers, yet here it can be seen that this dreaded grass, only a lover of the seldom-tilled soil, is subdued with less trouble than many other sorts of growths. Those that come from seeds which remain year after year to grow when the opportunity occurs, and which in turn produce millions more each year to cover the ground, are a nuisance indeed, as they grow so thickly that a green, matted surface surrounds every plant that is hoped to make us a crop. They can only, in many of our crops, be exterminated by hand-weeding.

Wire grass, though condemned by the thoughtless surface workers, is of great value to our poor soils, keeping it from washing into gullies when heavy rains make rivulets across every acre, and when treated as it should be, will produce a better pasture than can be grown by any other grass at our service. When the fields are needed for the plow, the soil is full of plant food, which is of more value than now dreamed of, and which, being already evenly distributed upon the soil, only waiting for the hand of the tiller to utilize, is one of the cheapest and most profitable of our forage and plant-food crops. The cost of reducing this "nuisance" to plant food need not be great or troublesome, only *cultivate and till* the soil, which should be done whether it be for destruction of weeds from seeds or wire grass or to keep the soil loose, if no weeds or grass appear.

This last item, as a basis of success with crops, is the *summum bonum* of the culturist's work. Get your excellence by labor.

WINTER WORK.

By Eben E. Rexford, Shuston, Wis,

It generally happens that the plough or the harrow, in common with most machinery used on the farm or in the garden, goes into winter quarters rather the worse for wear. This thing or that is broken or worn, and needs repair. The winter is a time of considerable leisure among farmers and gardeners, and some of this time should be devoted to putting tools in proper order for the next season's work. If this is done now, it can be done well, for there will be no hurry. If not done now the season will open, and when the article is needed there will be an unavoidable delay in making the necessary repairs, and in the haste with which they are done they very likely will be done slightingly, and the consequence will be a break-down in the busiest part of the work, perhaps. I have known such things to happen, and I presume most farmers' experience has been similar.

Take tool by tool and go over it carefully. See that everything is as it should be. If new parts are to be substituted for old and worn-out ones, procure them and put them in place at once. By doing this you will have everything in trim for use when it is needed, and there will be no wasting of time or temper in making repairs when you are anxious to make every moment count. Slight, but needed repairs made now, will often save a good deal of expense that may result from neglect.

The winter is a good time to plan next season's work. Think out what you want to do. Arrange your work on some sort of system. If you do this you can plan it in such a way that one piece of work can be done without interfering with another. Too often the spring opens and the farmer finds his work waiting to be done and he has not thought what he wants to do, and in the hurry and bustle of the season he cannot find time to form any definite plans, and he rushes it ahead in any way to get it done. Afterwards, he sees where things should have been done differently. There is no reason why he should not have forseen this, and arranged everything beforehand. Farmers do not look on farming in as much of a business light as they ought to. The merchant or the manufacturer plans ahead. In leisure hours they think out what they want to do, and make preparations for it. When it comes time to act they have only to put into execution the plans they have formed. The farmer should do the same. Let the winter leisure be a time of head-farming, and it will help along the farming of the land by-and-by.

PREPARING FOR EARLY GARDENING.

There are many things to be attended to in Autumn, if we intend to start plants before the frost leaves the earth in spring. If we are to start only a few plants in boxes by the kitchen stove and south window, we need to have the earth, mold, and compost ready, as they can be gotten out and prepared to much better advantage now, than in mid-winter, when they must be chopped out of frozen masses, thawed out, and dried before using.

If the gardening operations are to be extensive enough to require the use of hot-beds, the trenches should be dug, and the frames erected this fall, so that they will be ready to receive the manure and glass at any time. When this is done, the frames should be covered over with boards, or poles and straw, to keep the snow out until time for occupying. Experience has taught me that it does not pay to shovel the snow and ice off the site, and chop a trench in the frozen earth in March, when I can do the same work in the quarter of the time in November.

Cold frames should also be constructed and placed in position before snow comes. By this, I mean those cold frames that are to be used over such plants as rhubarb and asparagus, when they grow in the garden. Those who have never tried it, have no idea how much earlier and tenderer those plants will be when surrounded with frames banked up on the outside with manure, and covered with glass during nights and cold days. I have forced them ahead three weeks by such simple inexpensive means. Even a barrel with both ends out, turned over a hill, will answer the purpose. These frames can be very easily constructed by driving two stakes on each side of the row, in pairs opposite each other, and far enough apart to suit the length of the boards used. This gives something to nail the side and end boards to, and holds the whole structure in position. In width the box must not be over two feet, or the size of a narrow sash. It should be boarded up about twenty inches, or two feet. These should also be covered over during the winter with any material that may be conveniently at hand.

With both hot and cold frames, rugs, mats, old blankets, or straw should be kept at hand, to be used during the cold spell, after the plants have started.

An early garden is one of the luxuries that every farmer can afford, and why so many deny themselves such inexpensive luxuries, is a question that I leave for others to solve. There is economy in a good garden, and no garden is a *good* garden, unless it furnishes fruit and vegetables in early as well as late summer.

EARLY BEETS AND RADISHES.

By Thos. D. Baird, Greenville, Ky.

Perhaps no other garden crop is more profitable to raise, according to the expense, than beets and radishes, if early. None have so few enemies, more especially the beet. Where one has a small boy, these crops can be grown and marketed as a catch crop, if you are within one or two miles of market. I have reference to small towns.

To have these crops early, one should prepare and manure his ground in the fall. Well rotted manure is best, but long manure will do; spread it on the ground and then take a large turning plow and throw the soil up in ridges about four feet wide. In this way you leave large, deep, dead, furrows between each ridge, to lead off all surplus water. Next spring, these ridges will do to work four or five days earlier than soil not ridged. The warmest soil should be selected.

Where one is scarce of ground, I find a good way to plant is to level these ridges, making beds four or five feet wide. Work the soil quite mellow. Rake the beds level and broad; cast hen manure on these beds as liberally as possible, working it well in the soil. Line off rows ten inches apart, and sow to beets and radishes, in alternate lines. As soon as the plants are up, sprinkle ashes thickly over the beds. Planted in this way, the radishes can be sold off before the beets need room. As soon as they are an inch in diameter, they are put on the market. Tied in bunches, eight to ten in a bunch, are readily sold for five cents per bunch. A pert, industrious boy can sell two to three dollars worth every morning, and not lose more than two hours time.

As soon as the beets have bottoms two inches in diameter, I put them on the market. Three tied in a bunch, sell readily at five cents per bunch. In drawing the first for market, they are drawn so as to thin the rows and give more room for the crop to grow. Where one has plenty of ground, I prefer to mark off rows two and a half feet, and top dress with hen manure, mixed with the soil, and sow in single lines on these furrows, using ashes as above stated. This way gives more room to work the crop, and to work them often, hastens their growth; and three or four days ahead in market, makes a great difference in your profit.

My favorite radish for early market is Henderson's Early Dark Scarlet Turnip. This is certainly in the lead of all radishes for earliness, tenderness, and beauty. They are very tender.

Beets.—The Early True Egyptian Turnip has no equal for earliness and good flavor; quite handsome. This is my favorite for early market.

ORCHARD AND SMALL FRUITS

PLANNING FOR A YOUNG ORCHARD.

By L. H. Bailey, Jr., Cambridge, Mass.

The present is an opportune time to inaugurate plans for the setting of an orchard, and for the method of its early cultivation. The time required for the trees to come into bearing and the health and shape of the trees when full-grown, will in a great measure depend on their early training. Leaving out the matter of choice of varieties, there are questions relating to forms of planting, and to details of cultivation which will bear careful discussion. For all the larger growing varieties of apple trees, an ample space must be allowed between the rows. Young trees scattered over the field at a distance of forty feet apart each way, present a discouragingly thin appearance for a few years, to be sure, but no other method of planting can hope to bring highly remunerative results. The object of cultivating the tree is to procure profit from it ten or twenty years hence, and towards that distant point we must make every effort tend. There is no commoner fault among orchards than close planting. There are few varieties of apples which can be profitably grown nearer together than thirty-five or forty feet. One of the finest orchards I knew ten years ago, is now a tangle of interlapping branches, although the trees are but twenty years old, and they were set two rods apart. Forty feet each way is a popular and proper distance for trees to be separated. In the case of Baldwins, Greenings, Kings, and other strong varieties, if grown on strong soil, I should prefer to increase that distance rather than decrease it.

If the orchard is to include several varieties, it is usually better to set each variety in a block or square by itself, than in rows, especially if the rows are long. This will be a great convenience in picking and packing the fruit. The nearer together trees of the same variety are set, the less will be the cost and labor of harvesting. In all moderate sized orchards it is better not to set more than four or five varieties, if the orchard is planted for profit. If an equal number of each variety be set, the ground had better be quartered, and each quarter, or each half-quarter, set with one variety. If there are widely different kinds of soil and location in different parts of the field which is to be planted, it will be necessary to make some calculation as to what varieties will do best in certain parts of the field. The warmest ground should be set to early apples in preference to winter apples. Winter apples should ripen late to keep well. The least hardy varieties should be set on the highest and best drained soil.

What kind of crop to raise in young orchards is a matter too little considered. In the first place, the young trees must be cultivated. Grain crops are therefore always to be discouraged. The most detrimental result I ever knew to follow cropping, was the drying out of trees in an oat-field. I have several times observed that oats are hard on young trees. They grow during the whole dry season, and the trees get no cultivation whatever. After the crop is harvested, it is too late to plow up the orchard. I believe that sod is much less injurious to young trees than wheat or oats. Trees must not be cultivated late in the fall, causing them to grow late and not mature their wood before winter. Putting winter wheat in a young orchard is therefore especially hazardous. In some places corn is a favorite crop for young trees, because it protects them from winds. When the corn is removed, however, the young trees are exposed suddenly to the most severe winds of the year, and they are apt to suffer. The best crop for a young orchard is one which requires constant cultivation, a rich soil, and one which is harvested early in the season. Some crop which requires deep culture is also to be recommended. Most vegetables are good crops, especially such as beets or carrots or potatoes. After the crop is removed, the ground should be harrowed down smooth. Level culture is in the great majority of cases best for the orchard. Ridges and depressions should be leveled and filled.

The young orchard will need manure, especially if it be upon a sandy or gravelly soil, upon which apples do the best. If the whole orchard cannot be manured in one season, it is a good plan to manure the lightest part the first year, and to make a round of the orchard, manuring as much each year as can be done with little expense. Clayey soils should be made porous by frequent cultivation in dry weather, and by a copious application of coarse manure, sawdust, or straw. The lumps of clay should be broken with a hoe in any weather. I have known the most indurated clay to become good apple land in four or five years by thorough under-draining and proper care.

SOME QUESTIONS FROM NEW ZEALAND.

Charles Ryley, Turanaki, New Zealand.

We are emerging from a dismal and unusually rainy winter, and so far as it is possible to judge at present, we are going to have an early spring. Some of the pear trees are already in full bloom, as are a few plums and cherries, and the strawberry bed is fairly dotted with flowers. I have a few Irish peach apple trees in a sheltered position, which are rapidly unfolding their pink buds, but the general run of apples have not yet begun to show any signs of life. A few days ago I finished all my grafting but the apples; that is, I grafted a few good pears upon quince stocks, and some favorite plums upon seedling peaches, which in this country are considered the most favorable stocks for plums.

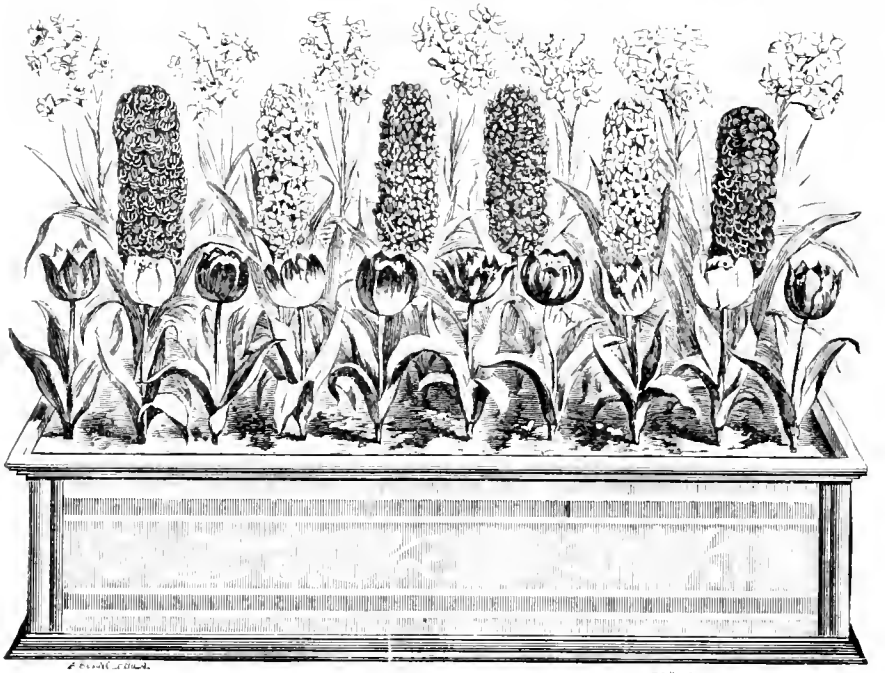
I have been reading with the greatest interest, the letters in your columns respecting the advisability, or otherwise, of keeping the ground clean and cultivated around pear trees. I have, so far, pursued the plan of keeping the ground clean, with the result that the trees have made a deal of wood, but no fruit. But to my mind this was no matter of surprise, as with my English ideas, we have no right to expect pears on the pear stock to fruit until they have attained almost an indefinite age; for the old adage says: "he who plants pears, plants for his heirs." Though I cannot say that such were my intentions in planting, I confess I was not sanguine of reaping any early returns from that portion of my orchard.

Since reading T. V. Munson's letter of 10th May, I have determined to act upon the doctrine therein promulgated, and as an experiment I am getting some of my pears into thick grass, though I do not quite like the idea, as I believe in manuring my trees now and again, and I do not see how I can do that very well if they are surrounded by stiff sod. It may be that the ground T. V. M. has to deal with is over rich, whereas, that which I have is quite the contrary. Again, I do not quite know what description of blight is referred to by your correspondents. The scab blight is the commonest blight on pears here, though the scab or canker in the bark attacks some kinds, more especially the Bergamot descriptions.

I should much like to know the age at which your pear growers expect their trees to begin to bear. Pears on quince stocks not unfrequently bear here the third year from the graft, but I find them very uncertain in their growth, and I do not believe they would do any good here, unless they were well cultivated. Reading so much in your paper respecting the value of Paris Green as an insecticide, I thought to try the effect of a solution of it upon the small green beetles which every year, in the early summer, do so much harm to our plum and cherry trees by stripping them of their leaves; but to my disappointment, I find it is not known to any of our storekeepers; nor is London Purple. I wonder if any of your readers could inform me if a dilute solution of Arsenic would do as well, and if so, what proportion it would be safe to mix it in without fear of damaging the tree. I should be very glad too, to know if any of your readers have had any experience with a disease that carries off innumerable trees here, and which is called here, (rightly or wrongly, I cannot say): "Root Fungus." I believe it to be a bacterian development, attacking the roots of fruit trees under certain undefined conditions, and I have known it to carry off fifty per cent of the trees in a young plantation. It covers the roots and they rot, and the tree suddenly droops and dies.

PRESERVING FRUIT.

One of the chief causes of decay, when apples or other fruit is stored, is close contact. Should an imperfect apple become diseased, the disease of a contagious form, and spread from one apple to the other until all are destroyed. This is more particularly noticed with peaches and plums, and it reminds us that more care should be exercised in preserving fruits over winter. Lemons and oranges come to us from foreign countries wrapped in paper, and packed only in small lots. It has been demonstrated that apples, when placed on a shelf, each being separated from the other, keep well, and why cannot a lesson be taken from the foreign methods, which enable fruits grown in warm climates to be safely transported to long distances. When fruit is wrapped it is partly protected from cold, and the difficulty from freezing is not so great, but a cool place should therefore be selected for storage. No doubt many may object to the proposition of using so much care with fruit, but if the good quality and soundness results in an increased price no objection should be made.



A BOX OF HYACINTHS.

Our Flower Garden.

Bulbs for Winter Blooming.

Our readers should remember that this is the best time for planting Hyacinths, Tulips, and other bulbs for blooming in the house. Those who have not already laid in a supply should do so at once, so as to enable them to make a good many roots, thereby increasing the bloom considerably. In fact no flowers can be expected unless they are properly attended to. We illustrate herewith a box filled with Tulips, Hyacinths, and Narcissus. A box fifteen to eighteen inches long, and ten inches wide, will accommodate the number of plants shown, viz: 10 Tulips, 6 Hyacinths, and 7 Narcissus. We filled a box to-day, and this is the way we arranged it. (The box is about eighteen inches square, and six inches deep.) First, a row of assorted Crocus all around the edge; next, in front and planted close to the row of Crocus, we put a row of Grape Hyacinths; after this a row of Feather Hyacinths; then two rows of Tulips, and one of Hyacinths; last of all we set a row of Lily of the Valley—these would be shaded somewhat by the Hyacinths, and this is just exactly what they need. Of course many different arrangements can be made, and in fact it would be preferable to have two boxes each only nine inches wide. By this means more variety may be made in planting. Now set this box in a cool closet, one that is rather dark, and keep the soil in the box moist, and in six or eight weeks they may all be in bloom. Our

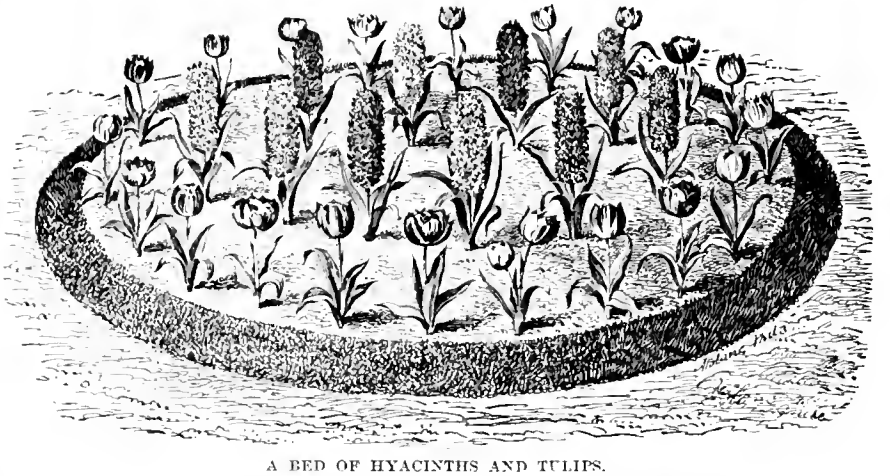
Bed of Hyacinths and Tulips

Shows what can be done with a limited amount of bulbs, say 20 Tulips and 10 Hyacinths. A much more effective bed can be made by using a larger quantity, and the bloom may be much prolonged. A very fine arrangement would be to plant all around the circle first a row of Snowdrops, next one of Crocus, and so on, following with Grape Hyacinths, Feather Hyacinths, and Tulips; two rows of Hyacinths and Narcissus in the center, or else some roots of Crown Imperial. Such a bed will require a good many bulbs; the exact quantity can only be calculated by its diameter or the distance at which the bulbs are planted. The Snowdrops and Crocus may be set very close together, say one inch apart only. The Grape and Feather Hyacinths two inches, Tulips about the same, and a little more space between the Hyacinths. If you get your bulbs in assorted colors, you should use some judgment in planting them so as to have the colors as harmonious as possible. For instance, do not mix all the colors together, and when the flowers appear have a patch of purple here and one of white there.

Every one's taste runs differently, but if we were to arrange such a bed we would take three bulbs of yellow Crocus and next to them in the same row plant three purple ones, to be followed by three blue and then by three white. This will give you a larger mass of one color, and will be much more effective than if every color is planted by single bulbs. The same should not be done with Hyacinths, however, the flower stalks being so much larger that each one is distinct enough by itself. Still, if a large bed is to be filled, we would certainly suggest that each row should be of one color, putting one row of light colors between two of red or dark blue. After planting, give the whole bed a covering of leaves, straw, or branches of evergreens, which should be removed in the early spring. We strongly recommend every one having the smallest patch of ground to plant it full of Dutch bulbs, as described above, and we feel confident that when they are in bloom next spring, they will thank us for the advice.

Lilacs.

Every one knows how very agreeable it is to have a spray of lilacs on Christmas or New Years, and yet they can be had with very little trouble. We have described the treatment at length in one of our former numbers Vol. II., No. I., but suffice it to say that you should lift some plants that show buds, without even leaving any earth to the roots, and pack them closely together, standing them in a place where the temperature can be kept between 50 and 60 degrees. There they should be syringed all over twice a day, and the place kept quite moist. If purple lilacs are used, they may be bleached by keeping the place quite dark. This is all there is to be done.



A BED OF HYACINTHS AND TULIPS.

Chinese Paeonies.

They are very valuable on account of their large flowers, beautiful coloring, and delightful fragrance; and so entirely hardy and vigorous that every one should plant them. They never suffer from the cold, and will succeed in any soil unless too wet. Autumn planting is the best, although they may also be planted in the spring. A little extra care in the way of manure will induce a vigorous and rapid growth. For large floral decorations, few of our flowers can surpass the Paeonies. They seem designed for a grand display without anything cheap and gaudy in their appearance.

Paying Palms.

For amateurs and beginners in the floral business, there is money in raising young palms. About the best paying one, is Areca Lutescens. Nice young plants can be bought at $1.50 per dozen, and in less than one year they can be grown to a size that will command $2.00 each, while a five year-old plant, if well-grown, will fetch from fifteen to twenty-five dollars. Seaforthia Elegans is another quick growing kind, but does not command such good prices. Another good paying plant is Pandanus Veitchi. Many florists will not sell their young plants at all, prefering to grow them for a couple of years and get ten or twelve dollars for them. Of course it depends a great deal on the grower. One man will have luck while another one will fail.

Winter Blooming Plants.

Any one having the convenience of a greenhouse, bay-window, or sitting room with large windows, and preferably a southern exposure, should make a memorandum of the following plants, which are all desirable for winter-blooming.

Bouvardias.

They are among the most esteemed of winter blooming plants, and although they are not sweet scented, they are desirable for their profusion of flowers. They require more heat than Geraniums, Heliotropes, etc. The color varies from white to the deepest red. New double Bouvardias, Alfred Neuner, and President Garfield, are desirable acquisitions.

Begonias.

Really, the best for our purpose is Begonia Rubra, which has large, dark green leaves, and flowers of a beautiful coral hue, produced in the greatest quantity. The Rex variety are necessary to embellish any conservatory. Their various colors and markings, and the metallic lustre of the leaves make them very effective. The foliage should not be washed or watered.

Cyclamen.

When good strong bulbs can be procured, Cyclamen are indeed a prize for window culture, and will give more flowers, with less trouble, than many other plants occupying much more space. The color is usually white, tipped at the base with rosy purple. Keep the plant cool until the leaves are well grown, place pretty close to the glass, and see that the leaves are kept free from thrip or mealy bug. The flowers are very odd and attractive to any one who has not seen them. After flowering, gradually withhold water, but, yet give sufficient to keep the roots plump.

Chrysanthemums.

There are few plants that from now until Christmas will attract more attention than Chrysanthemums. This season they have been grown in quantities by the trade, and no doubt many new varieties will be brought forward. The only drawback is their liability of being attacked by green fly, (which in the case of Chrysanthemums we might call black fly). There are several varieties, all of which are desirable. We have spoken so often about them, that no doubt any one who has a garden has not failed to plant some, which they are ready to lift and bring in the house to gladden the occupants.

Scilla Autumnalis. (*Autumn Squils.*)

Received from Holland September 15th, were planted on the same day, and were in bloom ten days afterwards. The flowers are small, on long slender stems, and last for quite a long while; several flower spikes being produced from one bulb.

Ipomea Noctyphyton.

As most of our readers know, these flowers open at night, and on warm days close at about

midnight; but this fall we discovered that in cool weather they will keep open until nearly 10 o'clock in the morning. This makes this plant still more valuable. It is said that a temperature of 60° is required to keep it growing during winter, but with us it has already withstood a temperature of 40°, without any injury whatever.

Hyacinths in Water.

See that the water in your Hyacinth glasses is up to the right height; and renew it if it should smell offensive.

Hyacinths and Tulips in pots should be brought in the house towards the end of this month. Keep on planting them at intervals so as to prolong the season of bloom.

Caladiums

Should now be dried off, shaken out of their pots, and kept in sand or sawdust in a warm place.

Amaryllis.

We believe they will bloom better if not completely dried off during winter. By placing them in a cellar where frost will not touch them, and giving them water just once a week, the roots will keep fresh and plump, and strong flower spikes assured.

Cactus

Should at this season of the year be gradually dried off. Just give them water once a week until January, and then stop altogether. Place them in the sunniest place at hand, so that the wood may be well ripened; this is essential to insure flowering.

Young plants of Night-blooming Cereus may be kept growing as long as they want; so long as they do, give them water regularly.

Geraniums

That have stood outside, and have been kept dry, may be brought in, and if the top soil be scraped off, and some cow manure put in the place of it, they will bloom finely all winter.

Spireala Japonica. (*Astilba Jap.*)

Is a splendid plant for forcing in the greenhouse, where it will produce beautiful sprays of silvery white flowers during February and March. It is perfectly hardy, and while it would be desirable to leave some plants in the beds to bloom in summer, we would also recommend the lifting of some for winter blooming.

Polyantha Roses.

The Polyantha Rose came originally from Japan, but some exquisite new varieties are introduced from Europe. They are exceedingly beautiful, deliciously sweet, and among the most constant and profuse bloomers we have. The plants are of low, compact growth, and quite hardy. Our illustration can give but a faint idea of their charming beauty, we cordially recommend them to all lovers of rare and beautiful roses, and besides they are capital winter bloomers.

Euphorbia Splendens.

A plant that always attracts attention by reason of its peculiar growth. The branches are of a light gray color and profusely covered with sharp spines, half an inch long. The leaves, although not very numerous, are of a pleasing green, which contrasts beautifully with the clusters of vermilion colored flowers. It blooms abundantly; commencing now, and lasting until next May. Some people train it on a vine in the form of a crown, and call it "Crown of Thorns." Trained in balloon form, it makes a nice ornament. Although some may find it objectionable on account of the spines, they really are an attractive feature. In the spring, cuttings strike root readily if allowed to dry for a week or so, otherwise they are apt to rot.

Primroses.

To keep a sitting room cheerful, nothing is required but a few plants of single and double primroses. If kept near the glass, where it is generally somewhat cool, they will keep on blooming for a long while. It is too late now to raise them, but your nearest florist will no doubt have nice young plants coming in bloom, which will just answer your purpose. Be careful not to over water them, or they will surely rot at the neck.

Heliotrope.

Is always necessary to make up a perfect bunch of flowers. In perfume nothing equals it; and the case with which one can grow it, should be an encouragement to lovers of flowers. A good rich soil, plenty of sun and not too warm a place is desirable. In the house it is often affected with green fly, from which it should be kept free by dipping in, or syringing the plant with tobacco water, or fumigating it.

Poinsettia Pulcherrima.

A fine lot of these when in bloom are a grand sight. We cannot recommend them to any except those who have a right warm place to grow them in; although when in bloom a somewhat lower temperature will keep them in bloom longer. The flowers are really bracts, or a series of leaves arranged in a cluster at the end of the upright branches. The color is of the most dazzling scarlet, and when well-grown will measure eighteen inches across. A white variety is very handsome to contrast with the red. The double Poinsettia is gorgeous in the extreme, and will last a long time in bloom. In conservatories they can be used to great advantage by placing among plants of smaller growth.

Epiphyllums (*Crab Cactus*).

A very interesting plant, indeed, and one which requires very little attention when not in bloom. The flowers, which are now about to expand, are of a very peculiar shape, looking like some kind of a crimson bird, and of very brilliant color. They are called Crab Cactus because each section of a branch has very much the appearance of the claws of a crab.

Mahernia Odorata.

A very sweet scented, slender growing plant, that will perfume a whole room. The flowers, as shown in our illustration, are bell shaped, and this, with its delicious fragrance, have given it the name of Honey Bell, which it rightly deserves. It is a genius of South African plants, thriving best in a warm, sunny house, and blooming profusely during winter. Watering must never be neglected, neither must good drainage. In mild localities they are hardy, and are easily grown in good turfy loam, with a little manure and sand.

The Horticultural Society's Second Exhibition.

The Pennsylvania Horticultural Society will give its second annual Chrysanthemum show in Horticultural Hall, in the first week of November. Last year's show, which was given experimentally, proved such a success that it was determined to make it an annual affair. It will be open to dealers, growers, and amateurs. A large and fine collection of the popular plant is assured, and among the outside contributors is the largest grower in New York city. In proof of the growing popularity of the Chrysanthemum it is a fact that there are at present in London fourteen societies devoted to the cultivation of that flower.

From "Chicago Inter-Ocean."

The Mystery of Flowers.

Curious Studies in the World of Vegetable Beauty.

The name of the Peony is derived from Peon, a celebrated Greek physician, who taught the Greeks that this pretty flower was of divine origin, emanating from the light of the moon, and a valuable cure, therefore, for epilepsy, which was supposed to be a moon-struck malady. The Peony was thought to have power over the winds, to protect the harvest from storms, and to avert tempests.

The floral kingdom furnishes plants which flower unfailingly on certain days, and superstition has seized on this fact and associated some with the qualities of great persons who happen to be born on the day they plant flowers. The Cyclamen opens in Southern Europe on St. Romold's Day, and is dedicated to this romantic recluse, who abandoned a noble career for a monastery because he witnessed his father kill a kinsman in a duel. The Rose Bay Willow Herb the French called St. Anthony's Fire, because of its brilliant red hue, and its having appeared first in the eleventh century, when the plague of erysipelas was raging, and accord to it the powers of intercession with disease, which its patron, St. Anthony, was believed to possess.

The early Christians, attracted to some flowers by their peculiar beauty, gathered a number of these into a herbarium, and dedicated them to the Virgin Mary. Among those are the Snowdrop, the Lily of the Valley, White Daffodil, White Rose, White Hyacinth, and White Clematis, Lady's Finger, Lady's Slipper, Lady's Glove, Marigold, Lady's Mantle, etc., to all of which superstition attached qualities of purity and goodness, and conferred these upon the wearer of any of these symbolical flowers. The common Hollyhock is a corruption of holy oak, and is reverenced in parts of rural England, where traditions percolate through centuries, because Crusaders brought it from the Holy Land. The modest, shrinking Blue Bell is, despite these most opposite qualities, a plant of war in the superstitious belief of the same people. It is dedicated to St George, their patron saint. By the French the white variety of this plant is, in curious contrast, associated with the peaceful character of a nun, and is called *la religieuse des champs*.

The familiar "Balm of Gilead" is the name of a plant whose nearest summer relation is our Acacia. In the earliest ages it was celebrated by Pliny, Strabo, Tacitus, and Justin, not alone for its medicinal qualities, but the lofty spirit and dignity its meaning was supposed to increase. The Queen of Sheba brought it to King Solomon, and Cleopatra planted one species of it near Matrara, which ripened into a shrub celebrated by travelers for ages afterwards. The Eastern Christians believed the plant would grow only under the care of a Christian gardener, and that were the bark incised by any instrument of metal, the flow of balsam would be corrupt. Under their fostering care the plant grew as large as a fir tree, and such was the respect that it exerted that when Christianity spread into European courts, the Balm of Gilead came to be mingled in the oil used at the coronation of monarchs. The Coptic Christians had a tradition that when the Holy Family were leaving Egypt to return to Judea, they stopped to rest at Matrara and went from house to house begging a cup of water, and were everywhere refused. Faint with thirst and sorrow the Virgin Mary sat down under a Balm of Gilead tree, and immediately a fountain sprang up beside her, and the tree rustled its leaves and fanned a gentle breeze as the Mother and Child drank of the water and rested.

LIVE STOCK.

CREAMERY BUTTER

At present creamery butter brings the highest prices, and the reason is that it is more uniform in quality. The appliances of the creameries give advantages not possessed by the farmers, but the secret of success is in the fact that *experienced* operators manage butter making at the creameries, and the churning is done at the right time and under the most favorable conditions. That better butter can be made at the creameries than by private parties is not true. There are some dairymen who make what is styled "gilt-edged" butter, which sells at a very high figure, because the supply is entirely inadequate to the demand. Nor does such butter come from Jersey cows only, as many suppose, but from all classes of cattle. The preparation of the milk, the proper temperature, the method of churning, and the management of the stock, all contribute to the excellence of the product, but those who manufacture the butter, like others who follow a trade, understand thoroughly every detail, and if every farmer was as familiar with butter making as are the "gilt-edge" producers, the creameries could no longer enjoy the monopoly of the market. But there are so many farmers who send any kind of an article to market which sells for butter, that they must not only be pushed aside by the creamery product, but must enter into competition with oleomargarine and lard.

The creameries really have great difficulty getting good milk, and are often imposed upon by unprincipled parties, but the management is so complete and systematical that they are enabled always to turn out a salable article. In cheese, however, the creameries do not excel. Since they have become numerous the country has been well supplied with the skim milk and lard product, which will at some future time injure the trade, if it has not already done so. There is still a wide field for the manufacture of whole-milk cheese, and the farmers who understand that art may improve the advantage.

What our dairymen need at present is good tuition in the art of butter and cheese making, and when a more perfect knowledge is obtained of such art there will be no danger of injury from either creameries, oleomargarine, or lard cheese.

STOCK NOTES.

HARD-MILKING COWS.—It is often noticeable that some cows in a herd milk hard while others can be milked easily. By washing the teats and udder with warm water before milking the work can be done with less difficulty.

FEEDING HAY.—If horses are given grain three times a day, there will be no necessity for feeding hay except at night, as the horse, like man, is inactive when the stomach is distended. For a horse that is to be worked hard give plenty of grain, which is indispensible, making the allowance of hay at night full and large.

DRY EARTH IN THE STABLES.—There is nothing superior to clean dry earth for the floors of stables, especially if removed every evening. It is an excellent disinfectant, destroys all odors, and is the best absorbent known. At the present time, before winter sets in, a plentiful supply should be placed under cover for future use.

SETTING MILK.—In setting milk for cream it should be borne in mind that the pans should not be covered, but remain open, in order that the air may have free access. Any particles of milk remaining in the pans from previous setting, affect the new milk, and it is best to not only scald the pans well, but to allow them to air out of doors also.

FEED FOR SHEEP.—It does not require much grain for sheep. A mixture of cut straw, hay, and corn tops, with oats at night, will keep the sheep in good condition through the winter. Picking around a straw stack will not do for sheep. The ewes need grain, and unless provided with it will be unable to produce strong and healthy lambs.

THE FAMILY HORSE.—Attention should always be given the colt, while breaking it, that its disposition may not be injured. A horse may be balky, lazy, fast, or full of spirits, but such obstacles are insignificant, compared with viciousness. A horse that cannot safely be used by any member of the family should not be tolerated on a farm, as his usefulness will be restricted. Yet, many such faults as biting, kicking, and stubborness, are the fruits of improper training and neglect in the early days of the animal. A vicious horse is also of less value when offered for sale, as his faults cannot be hidden.

FEED FOR HORSES WITH HEAVES.—The cured blades of corn fodder or the tops, when passed through a cutter, make the best food. Hay should be well shaken before used, or what is better, it should be thoroughly moistened. A horse with the heaves is not easily cured, but the difficulty may be lessened by avoiding the use of dusty provender in any form.

THE TEXAS FEVER.—This disease always originates in a warm climate, and is contagious only when the native cattle come in proximity to the long-horned stock from Texas. It is more fatal with our native stock than with Texas cattle, and is best prevented by disinfection. With the exception of the use of Catharties, but little can be done otherwise in the shape of medicines.

MERINOS FOR CROSSING.—Although the Merino is better adapted for wool than mutton, yet, the breed being small, they make good crosses on the common stock, the small breed being active and good foragers. The Merino is hardy, can subsist on scanty pastures, and usually make successful mothers. The wool is also very uniform, and commands a ready sale at all times.

CARE OF THE CALVES.—The easiest and best mode of keeping the calves in winter is to deprive every alternate cow of her calf and compel the other cow to suckle the two. By fastening the cow in the stanchions she will not be so ready to kick the strange calf. If she does, tie her hind feet for a few days when the calves are turned in, and after a time she will become accustomed to them.

GETTING THE HOGS FAT.—Corn is the best food for finishing the hogs, but it gives the best results when fed in connection with ground oats. Nearly all farmers keep the hogs intended for slaughter exclusively on corn for five or six weeks before killing, but if they will feed one meal a day on some other kind of food for a change, the hogs will increase faster than when allowed nothing else but corn.

SALT THE STOCK.—Salt is necessary for animals for several reasons. Horses fed on young clover find it a corrective, and it assists in reducing and digesting coarser food. It also renders the food more palateable, and thereby induces the stock to eat heartily. The difficulty in allowing salt is that too much or too little, without regularity, is given. To avoid mistakes a small quantity should be sprinkled in the cut feed or ground grain at every meal.

PECULIARITIES OF FORM.—Though every one may not be familiar with all the minor details that enable an expert to judge stock, yet, there is a peculiarity with which the majority of farmers are familiar, which greatly assists them in forming an estimate of the merits and value of some breeds. The old maxim that "a box one-third as wide as it is long should exactly fit a short-horn cow or a Berkshire hog," may not be true, but it gives a good idea of the shape; and that "a hog with a dished face is good in all other characteristics," is full of force. Peculiarities of form are striking in effect, and are always remembered.

MILK FEVER.—This disease seems almost an epidemic among the "fancy" cows at present, and it is not creditable to the breeders, as it indicates that such animals are forced beyond their capacity. It is of no value to an owner to secure a large record for his cow with the chances of losing her from the effort. The system certainly does not improve the breed, and does much to prejudice the average farmer against the pure breeds, as milk fever is rare among the common herds.

FANCY PRICES.—It is no advantage to a breed that sales are made at exorbitant prices. True merit alone should be the guide, and any departure from such rule is sure to end in disappointment, as well as injuring the sales of stock in the future. Reactions in prices for stock, like that of other transactions, are sure to occur, until finally a level will be found where values will rest, and the sooner this takes place the better for our dairy interests. Our breeds are for useful purposes and not for amusement.

THE LATE COLTS.—As but little service will be required of the brood mares, they should never be separated from the colts. The common practice of feeding such mares on limited rations because they perform no work is wrong. During the winter season the late colts are very easily retarded in growth, and in order to keep them in a thrifty condition the dams must be fed liberally. Give the mares all the hay they will eat, with a good feed morning and night, of two parts ground oats and one part corn meal, with a little linseed meal.

MUTTON AND WOOL.—We attach too much importance to wool, not that wool is unprofitable, but because the production of mutton is made a secondary matter. It cannot be denied that in some locations it is easier to raise sheep for wool rather than for mutton, owing to the facility with which it can be transported to market, not being perishable. But it is doubtful if wool is more profitable than mutton in those sections of the country that are but a few days travel by rail to market. To raise sheep that weigh about seventy-five pounds, is not profitable, unless early lambs are secured. How easily a flock of sheep may be made to pay a profit may be illustrated by stating that among the Oxford Downs, are found individual rams that weigh 250 pounds at one year old. While such weight is, of course, exceptional, yet it indicates the great size of a pure breed as compared with the best members of a common flock. Not only the Oxfords, but the Shropshires, Cotswolds, Lincolns, Hamshires, and Leicesters, all attain heavy weights, and greatly improve a common flock in weight and quality of flesh. The clip of wool is also heavier, and as a single male will improve all the sheep of a whole neighborhood, there is no reason why mutton should not be more profitable than wool.

THE POULTRY YARD.

(EMBODYING RESULTS OF ACTUAL EXPERIENCE.)

PROVIDING A SUPPLY OF GREEN FOOD.

One of the greatest difficulties in the way of keeping fowls in winter is that of procuring a plentiful supply of green food. As November is a month during which many of the crops are put up for winter, it is an excellent time for making provision for the poultry also. One of the best vegetables to use is cabbage, but in order to reach it conveniently for use, some better method than burying the heads under ground must be adopted, and this may be done by placing them close together, with the roots under ground and the cabbage covered with straw and corn-stalks, which may be removed whenever a supply is desired. As poultry are not partial to frozen cabbage, they may be chopped and left over night in cold water. In fact, by placing turnips in cold water to thaw, they may be chopped and fed raw also. A proportion of raw vegetables at times is highly relished by the fowls, though a mess of cooked food is also excellent.

We can cut rye this month for green food. The rye will not be very tall, but so much the better. When cut, let it be dried enough to prevent fermentation, or place it loosely in the barn. It may wilt; but it will be tender when moistened with warm water. It requires but very little labor to chop a few handsfull into short lengths once a day, and if fed in connection with cabbage, a good dish of green food may be supplied. We might recommend spinach, lettuce, and turnip tops, but the rye and cabbage may be more easily procured, and also fed with less labor. We are not stating what should be fed, but what may be done in November. Of course, if one has lettuce in cold frames it may be fed, but lettuce is too valuable at this season, while cabbage is always cheap, especially as a single head furnishes quite a large meal for a flock. The hay from the second growth of clover may be cut up in winter also, and a portion should be placed aside now for that purpose, while the small white potatoes may be used advantageously, when boiled and mixed with the soft food. Green food need not be fed every day, as a rule, but if allowed three times a week will be found very beneficial.

BREEDING STANDARD FOWLS.

Of late years there has been a tendency on the part of some to breed poultry for market and also to standard requirements. This cannot be done, for the reason that too much attention is devoted to the undesirable points, when breeding to the standard, such as comb, wattles, earlobes, and legs, which compels a breeder to discard all members of the flock that may not come up to the points demanded. This necessitates the rejection of the strongest and most vigorous fowls, should the comb be uneven or the face a little out of color. To reject a Leghorn of vigorous constitution because the earlobe may have a dark spot on it is a suicidal method, which must in the end result in debility. The majority of those who are interested in poultry are desirous of deriving a profit from the sale of eggs, chicks and adult fowls in the market, as buyers pay no attention to color marks; and yet it is not to be understood that a fowl is not pure because it has a speck of black on a white ground, or because the comb is deficient in a point or leans to one side. We believe in breeding, or crossing, from the pure breeds, for they are bred for certain characteristics, but there is no reason for making selections entirely from color to the exclusion of that which is more important.

Breeding poultry for market purposes should be done with a view of sacrificing everything to vigor. Health and activity are important factors in successful poultry raising, and this can be best obtained by judicious mating of those fowls that will give the greatest return for the care and labor bestowed. The Black Spanish fowls are among our best layers, but nearly one-third of the total number of points required by the standard are given to the head alone, a course which is destroying their useful qualities. If a hen is a good layer, is careful with her chicks, and possesses a strong constitution, she will prove more valuable to one who breeds for usefulness than the best hens that are bred for standard requirements alone.

BREEDS OF GEESE.

There are six breeds of geese, and seven, if we include the wild variety. They consist of the African, Brown Chinese, White Chinese, Egyptian, Embden, and Toulouse.

The African is dark gray in plumage, with a large knob on the head and heavy dewlap under the throat. The Egyptian is black and gray in plumage, the under parts of the body a pale buff, penciled with black lines. The White Chinese has an orange colored knob at the base of the bills, the body being white, no colored feathers being on any part of the plumage. The Brown Chinese is similar to the White in shape, the color being grayish brown, with darker brown on the back and wings than on the under parts, while the knob at the base of the beak should be brown or black. The Embden is one of the largest varieties, the body large, deep, and square, in fat specimens nearly touching the ground, the color being entirely white. The Toulouse is a large goose also, in color light gray, and like the Embden, the under part nearly reaches the ground. Of the above varieties, the best are the Embden and Toulouse. A cross of the two breeds by mating a Toulouse gander with an Embden female, is larger than either of the parents.

KEEPING THE DROPPINGS IN WINTER.

We have given several methods for saving poultry manure, but as the volatile matter is more easily retained during the cold season than when the weather is warm, the manure may be kept in a more compact form. Dry earth is not easily obtainable when the ground is frozen, and too much dampness in the quarters does not facilitate the process of cleaning. Why may not two valuable fertilizers be combined while saving the manure? If sulphate of potash (kainit) be used for dusting the floor of poultry houses, it not only answers as a disinfectant as well as an absorbent, but should the manure begin to ferment, the gaseous ammonia will be converted into a sulphate, and remain in a solid form. The potash itself is a valuable ingredient, and as the kainit also contains traces of magnesia and lime, it is still better. It is cheap if procured in the crude state, which answers all practical purposes, and is superior to plaster. One part of the kainit to one of the droppings will be sufficient, though a larger proportion of kainit may be used if preferred. We recommend it, and hope our readers will give it a trial.

THE GROWTH OF YOUNG CHICKS.

Considerable discussion as to the growth of young fowls having reached us, we give here the result of careful experiments.

The growth of chicks, as ascertained by us during the past three months, was as follows, viz:—

The egg weighs				2	ounces.
Chick newly hatched weighs				1¼	"
"	1 week old weighs			2	"
"	2 weeks old weighs			4	"
"	3	"	"	6¼	"
"	4	"	"	10	"
"	5	"	"	14	"
"	6	"	"	18¼	"
"	7	"	"	23½	"
"	8	"	"	28	"
"	9	"	"	32	"
"	10	"	"	36	"
"	11	"	"	41	"

The chicks experimented with were Plymouth Rocks, though considerably mixed with other bloods. They were fed mostly on a mixture of bran, oatmeal and corn meal, moistened with milk or water, and baked, sometimes merely cooked with boiling water. Whole wheat and skim milk cheese served as a variety during the first four weeks, and the cake was sometimes made richer by the addition of a little animal meal, ("pulverized dried bone and meat"). Out of quite a large flock, not one chicken died from disease. They were fed very regularly, three times a day, and all they would eat up clean. A flock which increased two pounds in weight a day, consumed less than six pounds of corn meal, or its equivalent in other food, in twenty-four hours; and what vegetable or animal matter they could pick up, which, in spite of unlimited range, did not appear to be very much; at least they were always hungry when they came to their meal. From the above, you will see that the actual expense of making one pound of "spring chicken" was, in this case not more than four cents. The market price in cities during July varied between twenty and twenty-eight cents

We might have grown these chicks still faster by giving them a greater variety of food, but did not attempt to force them. Or we might have grown them slower, but with less expense, had we made them shift for themselves. There were *no* grasshoppers.

POULTRY SCRATCHINGS.

Stale Bread for Chicks.—There is nothing better for young chicks than stale, hard bread, but it should be soaked in milk before feeding.

The Wild Birds.—No attempt has been successfully made to domesticate the wild turkey, but the wild goose has been tamed and crossed with the common breeds

Governing the Sexes.—It is claimed that by mating a three year old cock with pullets, that the majority of the chicks will be females, and when a young cockerel is mated three-year old hens, the males will predominate.

Dieting for Bowel Disease.—When the chicks are afflicted with diarrhœa, one of the best remedies is boiled milk, thickened with corn meal while boiling. Let it remain until nearly cold but should be fed warm. A pinch of red pepper will improve it.

Brahmas and Common Fowls.—In order to increase the size of common fowls, the cock selected should be a light Brahma, which will give heavy feathering, compact size, and small comb. Such a cross will lay earlier than the pure Brahma, and make better nurses for chicks.

Oats for Feed.—They should always be ground, if possible, and mixed with the soft food. Sometimes the hens will reject the whole grains, and when this is the case, they may be soaked over night in hot water, when they will be eaten readily, as well as being more digestible.

Leghorns and Plymouth Rocks.—In crossing these breeds, the Dominick Leghorn and Plymouth Rock hen should be used, the combs of both being straight and single, while the colors are nearly the same. It is a more compatible cross than that of the White or Brown varieties with the Plymouth Rock.

Ducks in the Poultry Yard.—Ducks should be allowed as much liberty as possible, as they are not partial to confinement like chickens. When they are kept in the poultry yard with hens they become quarrelsome, and do more damage than they are worth, and for that reason should be kept separate.

The Mites.—The most troublesome pests are the small mites, which can scarcely be seen. Many persons suppose their fowls to be free of vermin while they are full of them, simply because the mites are so small that they cannot be seen. Persian Insect Powder, dusted among the feathers, is excellent, and the dust bath may be made serviceable by sprinkling the dirt with Carbolic Acid.

Rules for Observance.—Keep the coops warm and dry. Avoid crowding too many fowls together. Feed a variety of food. Give clean, pure water. Collect eggs for hatching as soon as laid. Hatch your pullets for next year as soon as possible. Use only pure-bred males. Give the fowls a dry dust bath, but do not use wood ashes. Sell young chicks as soon as they are large enough. Give soft food in the morning and whole grain at night.

Breeds of Bantams.—Some breeders hatch bantams as late as this month, in order to dwarf them in size There are nine varieties, consisting of the Golden Sebright, Silver Sebright, Booted White, Game, Japanese, Pekin, Rose-Combed Black, Rose-Combed White, and White Crested White Polish. They are all bred for novelty rather than usefulness, but we believe they will produce as many pounds of meat, in proportion to food consumed, as the larger breeds.

The Rare Breeds.—Among the rare breeds with which many persons are not familiar, are the Frizzles; whose feathers curve backwards, especially on the hackle and saddle; the Rumpless or birds without tails, the Russians which have a beard under the beak, reaching around in the shape of a curve to the back of the eyes, the Silkies, which are crested, with one feather falling over the side of the back in a silky mass, and the Sultans, which possess a beard and crest, the plumage being white.

The Best Condition for Laying.—While it is suggested that the poultry be well fed, it is not best to keep the laying hens too fat. Twice a day is often enough to feed the fowls, and they should be given only as much as they will eat up entirely, leaving nothing on the ground. Keeping food before them all the time is not economical, and induces them to eat at irregular periods, as well as depriving them of exercise. Let them become hungry between meals. Exercise is the best remedy for preventing the hens becoming too fat, and if they are compelled to scratch and hunt for their food, to a certain extent, it will be beneficial.

A Cheap Cholera Medicine.—Take of hypo-sulphite of soda one pound, ginger one-quarter of a pound, extract logwood one-quarter of a pound, red pepper one-quarter of a pound, sulphur one-quarter of a pound; rosin, salt, and copperas one-eighth of a pound. This should all be fine and well mixed, and as the materials are cheap, a quantity should always be on hand. During the first stages of the disease it may be fed in corn meal dough, mixing two tablespoonfuls of the mixture to each pint of meal. Should the fowls be very sick give each a teaspoonful of the mixture in water. It is a harmless medicine, and may be given as a tonic once a week, by mixing a tablespoonful to a quart of meal.

THE HOUSEHOLD.

ALMOST THANKSGIVING

By J. E. Mc.

An effort has frequently been made to have the time for Thanksgiving changed from November to October, but it seems to meet with little general favor. The inclemency of the weather is the main point urged, but that, with many, is an argument for the other side. With our many improvements in travel it is about as easy to gather a household together in cold weather as in warm. And does it not add a charm to the day to rush in from the drear November weather into the warm, old homestead, so odorous of good cheer, to be welcomed with open arms and glad smiles, and a busy, bustling care for our comfort? Even the staid old house dog seems to enter into the spirit of the time, and wags his welcome by the door-stone.

This is peculiarly an old-fashioned American feast-day, and it seems pleasant to keep up many of its old-fashioned features. The aged grandfather and grandmother, and very possibly father and mother too will enjoy a dinner which reminds them of old-times far more than "one of eight courses," however elegantly served. One has said that "three-fourths of the poetry of eating apples is in having them remind us of other days." It is no less true of this glad festival to us older people, while the dear children are laying up memoirs for by-and-by.

When the first snow flakes flutter down, and the little ones watch them with gleeful eyes, shouting "Almost Thanksgiving," how cheerily rises to our view that old-fashioned Thanksgiving table. There at one end was the great roast turkey, with its cranberry sauce, at the other the huge chicken-pie and jelly. In the middle the juicy, boiled ham for Uncle Robert to carve, while platters of cold boiled tongue and sliced corned-beef were conveniently interspersed. The outlying dishes of mashed turnips and potatoes, delicate cream, cold-slaw, baked squash, and boiled onions received due attention, as did also the various sweet pickles and sour, and the catchups and sauces. The side table full of pies and puddings for desert awakened but little enthusiasm, for it was a wonderful capacity that did not weaken before this stage of the proceedings was reached, even when sharpened by a rough north-easter.

If you have such a good old-fashioned feast for your board, do not worry though your most æsthetic cousin from the city comes down to the home re-union. I have observed there even the most fastidious people fall into line remarkably well.

If father and mother cannot come to you, it is very pleasant to have the children invited and prepare the feast at their home, taking off all care and responsibility, and leaving them only the enjoyment and novelty of being guests in their own house.

It is a hard heart, indeed, that cannot send up grateful thoughts to the Great Giver as she goes about even her busiest preparations, and that mother certainly fails in her duty who does not teach the children a lesson in thankfulness for the good things that have crowned the year.

But a joy associated with this day, which is more lasting than the flavor of the choicest viands, comes from "sending portions to those for whom nothing is prepared." This is the truest expression of man and thanksgiving; a service most acceptable to Him who has said "freely ye have received, freely give." "The blessing of him that was ready to perish" is better store than full barns. "There is one thing," said a good man, "which I hope never to have against me, that is the prayers of the poor."

PACKED AWAY FOR THE WINTER.

The time has come when the lawns, and cambrics and light calicoes must be called in and laid aside until another year. It is of course necessary that all should be thoroughly washed, as what could be more untidy than to lay away a soiled garment for half a year in a clothes closet. But housekeepers differ in regard to ironing them. I like best to have all but the white dresses neatly starched and ironed, and folded away in a large chest. Then when the warm weather comes down suddenly upon us some spring morning, it is but the work of a few minutes to freshen a dress with a hot iron, and there it is ready to wear. White dresses will need boiling and bleaching probably, when their time to be worn comes around. So it is not worth while wasting time doing them up. They may be rolled up rough dry, as well as any way. It will be a great help next spring, if we live to see it, to have these laid away dresses all in order, and dropped stitches reset, any worn hems renewed, and missing buttons especially, replaced. By next season, very likely, the loose button will be lost and you cannot match it, and so a whole new set will be needed. Where one has no convenient chest for such laid-off garments, a box with a well-fitting lid serves the purpose very well. One lady takes a clean barrel and lines it with newspapers, then folds her summer clothes up smoothly and packs them away. The head is put in the barrel and no chinks left for mice to creep in. One needs to watch well against these pests; they will creep into a very small knot-hole.

An old maiden lady I know, has spent years in piecing elaborate bed-quilts out of bits of cloth, and then quilting them in the most laborious fashion. She must have a full baker's dozen, and they never see the light except once a year, to be aired. Then they look like a tulip bed on a clothes line, if you can pardon such a rhetorical figure. This fall the sad fact came to light that mice had nibbled the edges of most of these fine quilts. I was not present when the discovery was made, and I am rather glad I was not.

But the point I wish to make is, you cannot be too careful when laying away your things to see that they are, in effect, sealed up against these little intruders, for they will be cold this winter, and I want cosy nests and your nice dresses would just suit them.

READY FOR A CHANGE OF WEATHER

By Olive.

The first sharp frost had melted before the bright sunshine, but Mrs. Delano took it as a timely warning.

"Cold weather will be here in earnest before long, Mabel," she said. "We must be prepared for it. Let us take an account of stock as soon as we get the work done."

So they laid out on the bed in mother's room all of last year's "left-over" flannels for old folks and young folks. Some were in good condition for a new campaign, but most would need renovation, at least. The good ones were laid aside again in the respective drawers where they belonged, and then business began in earnest.

Those which were available for cutting down to fit smaller-sized people were carefully discussed and assorted. The good, trusty patterns were laid on with good judgment, and soon two nice suits for the smaller children were cut out and rolled away for the sewing machine.

"These soft, white stocking tops are just the things to make into sleeves," said mother, "and you can crochet a nice little strip in white Saxony wool to go about the wrist. It will be a satisfaction to think that Amy and Freddy are prepared with heavier under-garments, if we havent their outside dresses in readiness."

After the thorough investigation, it was decided for whom new garments must be bought, and the number noted down in a little blank-book, with the probable cost. That careful revision and making-over was a good stroke of economy, and saved much pinching with cold on the part of the children when there came a really cold morning.

The next few days were given to a similar work whenever spare time could be gained. The housekeeper whose means were limited saw exactly what her resources were, and made the very best of them. Old dresses, which had served their time, were taken carefully apart, washed, and made over until they seemed almost like new. But no work received greater attention than the warm, soft skirts made out of various unpromising materials, which she prepared for her little girls, and the snug wooden stockings and well-fitting leggings, buttoned up the side with shoe buttons, which she procured for each.

"It is only one stitch after another, Mabel, and I have learned to take them pretty fast. Now we are ready for the new dresses and wraps, and can go about them with twice the comfort, since the old are all in the best order we can put them,—ready for any change of the weather."

THANKSGIVING TURKEY.

Pick and clean in the most fastidious manner (you will never over-do this matter). Then plunge it into boiling water, and then into cold. Drain and wipe it dry. Prepare stuffing by taking dry bread and pouring a little hot water over it. Cover closely with a cloth and leave until soft. Then crumb well with the hands. Add a large lump of butter, pepper, salt, and a beaten egg. Rub in a few slices of fresh bread, that it may not be too moist. Rub inside of turkey with pepper and salt; stuff the breast first, but not too full, or it will burst in cooking. Sew up the opening and stuff the body. Tie the legs down firmly, press the wings close to the side and secure with a string. If not very tender it is better to steam it two hours. This may be easily done by standing a couple of basins in your wash boiler and setting the dripping pan with only a little water in the boiler. Save the juice in the dripping pan, and set it in the oven with turkey to roast, after steaming. When a fork enters the breast easily it is done. Baste often and see that it is a rich brown. Make an abundance of gravy of the drippings by adding water and a spoonful of flour rubbed smoothly in warm water. Please do not add the giblets.

DROP GINGER CAKES.—1 pint of New Orleans molasses, 1 cup of lard or ½ butter if prepared, 1 cup sugar, 7 cups flour, 2 eggs, 2 tablespoonfuls soda, ground clove, cinnamon and ginger.

PLUM PUDDING.—½ ℔ suet, 1 cup of milk, 3 cups of flour, 1 cup of molasses, 2 eggs, ½ ℔ raisins, ½ ℔ currants, 1 teaspoonful soda dissolved in boiling water, flour, raisins. Steam 3 hours.

CURRANT CAKE.—2 cups of granulated sugar, ½ cup butter, beaten smoothly, 3 eggs beaten separately, 1 cup milk, 3 cups sifted flour, with 2 teaspoonfuls of Royal baking powder, ½ ℔ dried currants.

LADY LOAVES.—With 1 quart of flour mix 3 teaspoonfulls Royal baking powder, dissolve 1 large teasdoonfull of sugar, and ½ teaspoonfull of salt, in ½ pint of milk, melt 2oz butter, and add to the flour, together with milk, and proceed to form the whole into a smooth dough, with but little kneading, roll ½ an inch thick and cut into small squares, and fold the corners to the centre. Bake in very quick oven.

CHICKEN PIE.—Cut up and boil until tender two chickens in enough water to cover them. Make a rich baking-powder dough, wet with sweet milk. Roll very thin and line a four-quart pan. Put in a layer of the chicken, well seasoned, then some strips or dice of dough, then another layer of chicken, and fill up with the liquor in which the chicken was boiled. Roll a thin top crust, cut out the centre with a cup, and through this add more of the gravy from time to time. Chicken pie is apt to be too dry. Bake about one hour.

CURING PORK.—As the period will soon arrive for slaughtering hogs, we call attention to the fact that small pieces can be cured, or preserved more readily and easier than in larger sizes. An excellent plan recommended several month ago, is to cook the meat, pack it in kegs or barrels (not too closely), and pour hot lard over it until the vessel is filled, care being taken that every part is well covered. The method is not new, as the majority of farmers keep sausage in the same manner. The lard can afterwards be used after the meat has been removed.

I tried a long time to make pot pie that would not fall when taken up, but always failed, more or less. Then I read that if two tumblers of cold water were added to the stew just before the crust was put in, the dough would have time to rise before it began to boil. I tried it, and can succeed every time now, making the crust as light as baked biscuit. Make the same kind of dough, wet with milk, but not so short as for biscuit. It is excellent rolled thin and laid over boiled beef and cabbage, about fifteen minutes before serving. Hungry school boys approve of it when they rush in, famished, on a winter day.

J. C.

ODDS AND ENDS.

Among the Jesuits it was a standing rule of the Order, that after an application to study for two hours, the mind of the student should be unbent by some relaxation however trifling.

In Japan wheat is sown in rows, with wide spaces between them, which are utilized for beans and other crops, and no sooner is it removed than cucumbers or some other vegetable takes its place, as the land, under careful tillage and copious manuring, bears two, and often three, crops in a year.

PERPETUAL ICE WATER.—A gentleman in Brandon, Vermont, has a curious well which puzzles even those wise men, the scientists. It is about forty-four feet deep, and at the depth of thirty-nine feet ice begins to form, and continues to do so to the bottom. No matter how high the thermometer runs the ice never melts, though it grows thicker in the winter.

In the biography of Samuel J. May, he states that once on a morning walk he passed by a cemetery, where he observed the old tomb of one John Otis opened. Curiosity induced him to look in and open the lid of the crumbling coffin. He found it entirely filled with the fibrous roots of the elm, and stepping out he saw the noble wide-spreading tree above him whose transfigured glory represented all that was material of John Otis.

A POOR CHANCE.—When Dr. Franklin's mother-in-law found out that the young man had a hankering after her daughter, that good lady said she did not know so well about giving her daughter to a printer. There were already two printing offices in the Colonies, and as Franklin intended to set up a third, it was a question whether the country could support so many. If all prospective mothers-in-law looked upon the business in a similar light now-a-days it would be rather discouraging for printers out wife hunting.

Along the Tigris the villagers in hot weather bathe in the river before retiring for the night, and if the heat is particularly oppressive, they repeat the bath several times during the night. The heat and the vermin of the huts make small children restless and troublesome. Hence the villagers make baskets, which they line with some soft material, and hang among the reeds which grow in the shallows of the river bank. The babies of the village are stowed at nightfall in these baskets, tied under a cover of basket work, and remain among the reeds to sleep in peace until morning.

GRAVE ROBBERS.—When the body of Roger Williams was removed to a new resting-place, it was found that an apple tree which had stood at his head, had struck its roots down deep into the very coffin itself; which had finally mouldered away. The main stem had curved back of the skull, then branched at the shoulders and run down the two arms to the fingers. A strong root ran down the back bone again dividing until it reached the feet, where the fibres curved upward. The whole outline of the founder of Rhode Island lay outlined in apple tree roots, which had literally absorbed the man. The tree had been full-fruited and flourishing for many a year, and now the question is, who ate Roger Williams?

On the 3d of July, 1869, a large white oak, measuring twenty-seven feet in circumference at three feet from the ground, during a high gale of wind was uprooted. A short time afterward the immense stump was removed preparatory to leveling the ground. The hole that the extracted root left measured seven feet in depth and thirty-three in circumference. Four feet below the bottom of this hole, or eleven feet from the surface of the ground, was found a very rude stone axe entangled in a mass of fibrous roots that had been cut off from the main roots of the tree. In this case the axe must have been buried in the earth before this old tree was an acorn. Now as to the age of the tree: There were not less than five hundred rings clearly to be traced on a section of the tree afterwards.

JOHN HOWARD.

John Howard, the philanthropist, married his landlady, Mrs. Sarah Loidon, an elderly widow, and although she remonstrated with him upon the impropriety of the step, considering the great disparity of their ages—he being in his twenty-fifth, and she in her fifty-second year—the marriage was concluded in 1752. Nothing but the supposition that he was actuated by gratitude for her kindness and attention during his illness can account for this singular step in Mr. Howard's life. The lady, it appears, was not only twice as old as himself, but also very sickly, and that no reasons of interest can have influenced him, is evident, as much from the fact that she was poor in comparison with himself, as from the circumstance of his immediately making over the whole of her little property to her sister. Mr. Howard lived very happily with his wife until her death, which occurred in 1755.

SEE WHAT YOU SIGN.—We look with surprise on the many instances of swindling among farmers, because they sign their names unguardedly to an innocent-looking paper in the hands of a wily stranger. But the country has not the monopoly of careless signers. A man in a large town resolved to prove this. He drew up a petition to the Legislature, asking to have the pastor of the Presbyterian church hung in the public square. He laid it on his office table, and asked visitors to "sign a petition favoring the widening of Oswego street." Most who were asked signed promptly without reading, among them two deacons of the church, and the pastor's son-in-law. A large list of signers was obtained before the facts leaked out. Then the men came back, one by one, and sheepishly asked to cross their names off. "Oh, yes. Scratch them off," said the gentleman, "if you do not want the pastor hung."

THE EARTHQUAKE.—Baron Humbolt thus describes his first experience of an earthquake: "The shock came after a strange stillness. It caused an earthquake in my mind, for it overthrew all my lifelong notions about the stability of the earth. The crocodiles ran from the river Orinoco, howling into the woods. The dogs and pigs were powerless with fear. The houses could not shelter, for they were falling to ruins. I turned to the trees; but they were overthrown. The next thought was to run to the mountains; but they reeled like drunken men. I then looked toward the sea, but, lo! it had fled. Ships, which a few minutes before were in deep water, rocked on the sand. Being then at my wits-end, I looked up and observed that the heavens alone were calm and unshaken." The mild earthquake which lately visited us unsettled the minds of many with regard to the stability of things in much the same way.

BY THE PINE KNOT LAMP.—The late distinguished politician, and man of large-hearted benevolence, Thurlow Weed, always had a warm side for young men, whom he endeavored to incite to self-improvement, by stating incidents in his own early history. Sap gathering and sugar making are not considered favorable to literary pursuit, but young Weed managed to get through with a good many valuable books in the sugar season. "During the day," he said, "I would lay in a good supply of fat pine, by the light of which I have passed many a delightful night in the sugar camp reading. I remember in this way to have read a history of the French Revolution, and to have obtained from it a better and more enduring knowledge of its events and horrors, than I have received from all subsequent readings."

The long evenings are here again, and the boys who spend them in profitable reading will be the men of mark in the next generation.

MINIATURE MACHINERY.

Arnold, the London watchmaker, constructed a watch for George III, which was set in a finger ring; but this was nothing uncommon, for the Emperor Charles V., as well as James I., of England, had similar ornaments in the jewels of their rings, and this species of mechanism is sometimes witnessed, on a large scale, in the bracelets of ladies. In Huby's Museum notice is taken of an exhibition at the house of one Boverick, a watchmaker in the Strand (1745), at which were shown, among other things, the following curiosities: 1st.—The furniture of a dining-room, with two persons seated at dinner, and a footman in waiting, the whole capable of being enclosed in a cherry stone. 2d.—A landau in ivory, with four persons inside, two postillions, a driver, and six horses, the whole fully mounted and habited, and drawn by a flea. 3d.—A four-wheel, open chaise, equally perfect, and weighing only one grain. Another London exhibition, about the same time, constructed of ivory a tea-table, fully equipped, with urn, teapot, cups and saucers, the whole being contained in a Barcelona filbert shell.

ORNAMENTAL GARDENING IN JAPAN.

Except in the gardens of the Buddhist Monastery of Hangtse in China, I have never seen anything approaching in singularity to these productions, but the gardeners of Tokiyo are far more daring than the monks. Bushes and shrubs, cut into the life-size resemblances of men and women, are equipped with faces of painted wood or paper, the clothes, fans, or weapons being formed of carefully trained leaves and flowers, which fall in artistic draperies of delightfully harmonized colors. In one scene a tree represents a monster fan, two others a bridge, with a ship passing underneath it, then a landscape with a picnic, and a setting sun of gold-colored chrysanthemums is wonderfully executed. Chinese women walking, and animals, especially hares and rabbits, are also represented by this singular art. Scenes from well-known plays are the most enduringly popular of all these scenes, and one of the mythic heroes of Japan, shown in combat with an eight-headed monster, while the lady, for whom he is fighting, sits apart, clothed in red, yellow, and white chrysanthemums, the whole forming a landscape over thirty feet long, is always the centre of joyous crowds in late October, when the sun is warm and the air is still.—*Unbeaten Tracks in Japan.*

DARWIN.

Dr. Charles R. Darwin, grandson of the author of "The Botanic Garden," and "Loonomia," was born in 1809. He showed at an early age great capacity as a naturalist. In 1859 he published the "Origin of Species by means of Natural Selection; the Preservation of the Favored Races in the Struggle of Life." This book had hardly been published when it was found that a great crisis had been reached in the history of science and of thought. Mr. Darwin's central idea was that the various species of plants and animals, instead of each being especially created and inimitable, are continually undergoing modification and change, through a process of adaptation, by virtue of which such varieties of the species as are in any way better fitted for the rough work of the struggle for existence, are enabled to survive and multiply, at the expense of the others. Mr. Darwin considers this principle, with, indeed, some other and less important causes, capable of explaining the manner in which all existing types may have descended from one or a very few low forms of life. All animals, beasts, birds, reptiles, and insects have descended, he contends, from a very limited number of progenitors, and he holds that analogy points to the belief that all animals and plants, whatever, have descended from one common prototype.—*History of Our Own Times.*

THE PEACH.

The peach belongs to the rose family (*rosacea*), and is closely allied to the almond. It is generally regarded as a short-lived tree, but in a genial soil and climate it lives to a good age, there being in Virginia trees that were planted seventy years ago, and in France a vigorous tree that is known to be ninety-five years old. There are a number of ornamental varieties of the peach, among the best known of which are several double sorts, which produce a profusion of flowers as double as roses; one of these, the Camellia Flowered, is especially beautiful. Some of them bear fruit of an indifferent quality. The dwarf varieties are curious producing fruit when one or two feet high; one of these, the Golden Dwarf, originated in Georgia, another is Italian, and others are Australian. The Weeping Peach originated with the late William Reid, of Elizabeth, New Jersey, and bears his name. When grafted on a plum stock six feet high, the branches hang down like those of the Weeping Willow. It produces an abundance of fruit, which, however, is fit only for cooking. A blood-leaved, or purple-leaved variety of the peach is very showy in the spring, but the leaves do not retain their dark purple during the summer. The Peen-to or Flat Peach of China has its fruit so singularly compressed that the ends of the stone are only covered by the skin, the flesh being all at the side.—*Appleton's Encyclopedia.*

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EDITORIAL COMMENT.

November. The earth, during the season just passed, has been a true friend and faithful servant to man. It has labored hard and produced heavily. Now comes a season of rest, to which it is justly entitled. Trees and shrubs have denuded themselves of their summer ornaments. Sombre hues clothe the picture formerly brightened by glossy verdure; drowsiness has taken the place of freshness and sprightliness.

Earth, after a long struggle and mighty exertions, needs recuperation as well as man, and will find it in the long and deep sleep of winter. But the farmer is not ready to take *his* ease. He must wake while nature sleeps. Upon him has fallen the care for the domestic animals, the task of providing their feed and comfort as well as his own. He must keep the wheels of the farm clock-work intact, the bearings oiled, and make every necessary preparation for the earth's reawakening in spring.

The election this month will absorb a deal of interest, naturally and properly so, but all the excitement and turmoil usually attending such an occasion, should not cause you to neglect your legitimate work.

Secure your corn crop. Husk and draw the golden ears to your cribs, and the fodder to your barn or sheds. Such work is profitable; political discussions are not.

Fix up and repair your stables and sheds; patch leaky roofs. Make the doors and windows in your dwelling tight. The cold winds and storms are upon us.

Take good care of your stock, and give them a proper coat of fat for winter protection. Plenty of good bedding saves and makes good manure. Animal heat can be kept up much cheaper by warm stables and warm bedding than merely by feeding grain. Corn is more costly than straw or a few boards.

We have always seen the best effects of manure when applied near the surface. Use fine manure, barnyard scrapings, etc., as a top-dressing for your wheat fields.

Draw a few loads of muck, dry soil, or road dust, to be used as absorbents in privies and stables.

The hen house floor ought to be covered with a few inches of fresh loam or muck, the inside whitewashed once more, the roosts painted with a solution of carbolic acid or with kerosene.

Gather and store a quantity of dry forest leaves for bedding, and especially for the hen house floor through the winter. It gives the hens a chance to scratch, not only among the leaves, but also in the ground below it, which this covering protects from freezing.

A large manure pile is the beginning of a golden harvest. Prepare a compost heap and a heap of compost. Empty the privy and mix its contents with the stable manure.

Plaster is a good absorbent.

The droppings of fattening hogs are nearly as valuable as poultry manure. Save them carefully. Mixed with the hen manure and with muck or loam, they make one of the best fertilizers for the garden. Apply as a top-dressing in spring, after plowing.

Keep the plough going in fair weather.

Provide the necessary surface drainage for your plowed fields, and thus prevent washes during freshets or floods in spring.

Do not neglect your young orchards. A coat of whitewash or of fresh blood will protect them from the attacks of rabbits.

Your strawberry bed needs mulching as soon as the ground is frozen hard.

Clover and timothy are standard hays, and when used together make excellent feeding. As grain is usually allowed to stock daily, advantage may be taken of the concentrated grain food to adulterate the good quality of hay with other kinds that may not be so highly relished when fed alone. Hay not only is in itself nutritious, but also bulky, and distends the stomach, which is a natural requsite to proper digestion, as grain without hay or some other bulky matter would be insufficient. There is no reason why straw, the tops of cornstalks, or even the whole stalk, should not be mixed with the best hay, and thus made useful. Stock will pick from the food the good and reject the bad, but much depends on the proper preparation. We have called attention to the importance of cutting all coarse material into short lengths by passing it through a fodder and hay cutter, one that has a contrivance for cutting and crushing, as a matter of economy. If food is thus prepared, then moistened, slightly salted, and sprinkled with meal and bran, the stock will eat up clean anything that can be made serviceable, and the clover and timothy will not give out before spring, as is often the case. So far as the labor of preparation is concerned, this is the time to utilize it, and a large quantity could be cut in a day. Without estimating the actual feeding value, it is safe to say that a variety of hay or other long food is always better than feeding stock exclusively on a single kind.

Let us protect the purity of our own homes, which is dearer to us than all party affiliations. If by supporting a partisan country paper we have sheltered on our bosom a viper, whose venomous breath has polluted the pure atmosphere of our homes, and endangered the blissful innocence and ignorance of our little ones, we must fling it from us. Thieves, robbers, murderers even, are angels compared with these wholesale corrupters of public morals, who deal out a deadly poison in small but effective daily or weekly doses, who familiarize the minds of the young with lies, slander, and filth. God forbid that we become a nation of liars; but the press affords us a good schooling in that direction. Extreme remedies are necessary in extreme evils. If your daily or weekly papers are of that class, that you would not have your children read it, if it has insulted you by appealing to your prejudices or your supposed ignorance, protect your family and resent the insult. Write to the publisher:—"Stop my paper. I and my family do not want your lies, nor your filth. Your sheet is soaked in rank poison." Reform for the press—protection to innocence.

There is no better time for ditching and underdraining your fields than autumn, when the weather is cool enough to permit a solid day's work when the ground is comparatively dry and labor cheap. But we would emphasize that, unless such work is done *well*, it is hardly worth doing at all. The majority of drains are serviceable only for a very few years. Slighting important work is highly unprofitable.

Tile is perhaps the best. Next comes stone drain or board trough. In any case, however, there should be a good grade and a solid foundation in the bottom of the ditch. Boards are good for this purpose. The tile should be laid with great care, so as to have the openings connect, and every ditch filled up with small stones, pebbles, etc., to within 15 or 18 inches from the surface, and protected with straw or weeds against stoppage by loose soil.

Keep your sheep. The low price of wool caused by a general stagnation of business, is merely accidental and not a permanent institution. By crowding your sheep on an unwilling market, you only double your loss. Wool and sheep will rise in price again. There is no reason for a panic or stampede. An over production of wool is not to be feared. The low price of wool and woolen goods, however, should be a stimulus to consumption, and if it were to lead to a general adoption of the habit of wearing woolen underwear, the loss to the wool producer would result in increased comfort and better health of the population generally.

It is a popular error that the drainage is always the more thorough the deeper the ditches are dug. Where a thin stratum of fertile surface soil, say not more than 12 or 18 inches deep, is underlaid by a clay subsoil impervious to water, it is only necessary to lay the drain down into the "hard pan," and a depth of 2½ or 3 feet would answer the same purpose as one of 4 feet. The former depth means a saving of labor and expense. A good tile drain should do service for a good many years, but much depends on the way it is constructed. Neglect there is ruinous.

"When Le Duc's successor, Loring, isn't drawing his salary he is making stump speeches,—*Philadelphia Times.*

The above criticism is rather devoid of charity. The commissioner's wards can have no reason to find fault, if he would give them, in addition to the reliable pumpkin and squash seeds, occasionally a little reliable information, though farmers might like it still better if that information were more of an agricultural and less of a political character.

People in the South are now setting fruit trees. We wish to remind them that thrifty trees, two, or at most, three years old are the best, and far preferable to older ones. Plant them as carefully as you would set cabbage or tomato plants. Trees should be set exactly as they stood in the nursery, as well in regard to depth as to the points of the compass. In our Eastern States the tops of young trees are generally inclined towards the east, and should be replanted in the same way.

Seedsmen and nurserymen are preparing their catalogues for spring distribution. Let them remember our advice to be moderate in their statements. In giving their lists they should always designate which variety is early, which medium, and which late. As a rule, the language used in describing varieties is anything but concise. Let us know in plain words what kinds are considered the best and most reliable.

Cuttings of currants and gooseberries can now be made. Take this year's wood, cut in pieces six or eight inches long, and plant in nursery rows, a few inches apart, with all but one eye each above ground. Pack the soil tight around the cuttings and mulch, or tie them in bundles and bury them in sand in your cellar until spring.

The "Economical Fruit and Vegetable Drier," manufactured in Mechanicsburg, Pa., consists of a set of trays or sieves held by a metal frame to be placed in the oven of a common kitchen range. Much otherwise wasted heat may thereby be utilized in the manufacture of evaporated fruits and vegetables.

In accordance with the custom of the publishers of this paper, a special edition and premium list of 350,000 copies of THE FARM AND GARDEN will be mailed in December of this year. A number of our subscribers whose time expires with December, will receive this premium number free.

THE FARM AND GARDEN has consistently refused all doubtful or humbug advertisements. This has made it one of the most valuable mediums for advertisers conducting a legitimate business.

In a few days after the receipt of this paper the farmers of this country will be called upon to take part in a presidential election. THE FARM AND GARDEN has no views as to the merits of the candidates and parties in contest, but desires that every one of its readers should have. It is the duty of every honest man to take an active part in politics and make himself felt. Vote, and vote intelligently on November 4th.

The interest of manufacturers and farmers in this country are the same, and it is a mistake to think that any change on the tariff which would injure manufacturers would help the farmers. What both farmer and manufacturer need is a pruning from the tariff lists of all duties not protective to American industries. The injustice and oddities of the present tariff are the chief reasonable arguments against it.

Each year as the fall months come around our subscriptions show a satisfactory increase. In December of this year a large number of our subscriptions expire. Let us ask each one who reads this to look up the date his subscription ends, and renew it with a few new names.

CLIPPINGS.

is our desire to make these so full and varied that every reader of THE FARM AND GARDEN, *even though he takes no other paper can feel in a measure acquainted with all the leading publications.*

From "Our Country Home," Greenfield, Mass.

MANURE FOR NOTHING.

We will not discuss the merits or demerits of the so-called phosphates. They have a place in agriculture. We want to point out how manure may be had for nothing, and the substances almost entirely those which are purchased under the different brands as phosphates, superphosphates, and guanos. Our special manure is known in the market as "middlings," some people call it "ship stuffs." It can be bought now for about $22 per ton. It will not only promote life when fed to animals, but it will make growth, and recent experiments by Prof. Sanborn have shown that it will make growth equal to, if not better than corn. It is first class to make milk when fed to cows, and it is superior to make pigs grow; in fact, it is one of the very best of foods for them. It is the general purpose food more than any other, unless it is oats. After being fed, and doing its part to increase the income of the farmer in promoting growth—as excrement, manure—it is worth all it cost. It pays for itself as food, and then again as a fertilizer. Plenty of cows and lots of middlings for them, means free manure and better crops.

A. G. Lewis in "Gardeners' Monthly," Phila'a.

CULTURE OF AMARYLLIS.

I have been very successful in the culture of Amaryllis, and offer my experience for the benefit of the readers of the *Gardeners' Monthly*. I have some almost in bloom through the whole summer months.

In October I put the pots on a hanging shelf in the cellar, and water about once a month until February, when I shake out of the pots, and reset in the same pots with fresh earth. It rarely requires a large pot to get a good blooming bulb. Four inches is large enough for most kinds. After repotting I put them on the shelf again, and water once a week until about the 20th of May, when I place the pots out of doors in sun or shade as most convenient. In a few days they begin to bloom, and some of them throw up flowers several times during the season. I have a number of varieties, and they give me as much pleasure as any flower I grow. As the flowers open I take the pots into the house, where the flowers are always admired. For day or night decoration nothing can be grander, and they always excite admiration. For those who have no greenhouses they are just the thing.

From "American Cultivator," Boston, Mass.

Farmers are often deceived in regard to the values of crops, foods, and other articles, by the tabulated statements of their chemical constituents. These statements may be correct, but the prevalence of a great quantity of one element or another does not prove that the article is superior, although that element may be of all others the most valuable. There are other matters relating to foods and fertilizers of more importance than the mere superabundance of certain valuable elements.

The mechanical nature of the material which affects cost of transportation and of handling on the farm, adaptability to certain soils and exposures, the readiness with which foods are eaten and digested by man or animals, and numerous other accessory conditions, have usually more to do with the real value than simple chemical composition. We have heard the potato decried as an article of food because a large percentage of it is made up of water, and in its stead was recommended the starch and other valuable elements which it contains in a condensed and isolated form. This advice overlooks the fact that water is essential to human food, and the more important fact that the stomach must contain a certain amount of bulk before it can digest well.

From "Fruit Recorder," Palmyra, N. Y.

ALL SETTING OF RASPBERRIES, ETC.

There are many things that favor fall setting of raspberries and blackberries.

First.—There has been and will be for two or three years to come an immense demand for plants, and the planters at the north not getting ready to plant before the latter part of April and first of May, have found it impossible to find plants, while if such had set in the fall they would have had a fine plantation growing, and not been disappointed in getting plants.

Second.—There is more time to do it and do it well in the fall than spring, and by being done then the work is off from one's hands.

Third.—By being set in the fall they are more apt to all grow, and make uniform rows, than if set in the spring, and to make a much larger growth the first season.

Fourth.—The sprout starts early in the spring, and by being handled is easily broken off, while if set in the fall this is not done.

We are most decided in doing our setting hereafter in the fall, and when set at that season we advise either throwing over each hill or plant a fork full of manure, or drawing up a bank of earth over them, and drawing it away in the spring.

We, like all other fruit growers, are not particularly driven in the fall, while in the spring we are badly worked, hardly knowing which job to do first, and hence the more we can do in the fall the better shape our work is in in the spring, and lastly, fall set plants will make a much better growth than those set in the spring, and yield a much better crop the first bearing year. We do not, however, recommend setting in the fall on naturally wet ground.

From "American," Waterbury, Conn.

THE DEADLY TEAPOT.

"While good temperance people are decrying liquor," said one of the leading physicians of the city, as he came into his office, erased the information of his previous whereabouts from his slate, and tipped back in his easy chair, "they seldom stop to think how much harm is being done by the abuse of a beverage to which many of them are devoted. I just came from attending the case of a five-year-old babe who is ruined for life by the parents indulging it in tea-drinking. The child became very nervous and dyspeptic, and they sent for me. I asked them how much tea the child drank. "About two cups at each meal and several between meals," was the reply. "You see," the doctor continued, "they let the teapot stand on the stove all day. Thus the tannic acid is extracted, which serves to turn the linings of the stomach into leather, and brings on dyspepsia and kindred diseases. Yes, there are hundreds of women, young girls and aged women, and occasionally a man, who have completely ruined their nervous systems by the excessive use of common tea. It will be a blessing to mankind when a temperance crusade can spare wind from its attack on alcohol to assail tea. Prominent Christian people and all classes of people are addicted to the habit, and thousands are languishing to-day in consequence. Very excessive use of tobacco acts somewhat in the same way. But I believe the greater general evil lurks in the tea, because it happens to be in favor with the best of people—best as regards popular opinion, but among the worst from a medical point of view."

From "Evening Post," New York.

LETTERS THAT GO WRONG.

Four million letters fail to be delivered every year because of defects in the superscription—no less than ten thousand being annually mailed without any address whatever!

From 50 to 60 per cent. of all letters forwarded to the Dead-Letter Office find their way to the person for whom they are intended, or are sent back to the sender. The others, if of no value, are destroyed. That so many letters, which to the ordinary observer would seem totally unintelligible, find their way to the addresses is due to the care which is taken to exhaust every means before giving up the chase. There are received an average of about 1000 letters daily, which have been forwarded from postmasters who were unable to read the writing on the envelope, or because some part of the address was missing. Sometimes a writer will forget to put the name of the town on the letter he sends; again he fails to designate the State. Then the system of phonetic spelling adopted by letter writers is extraordinary. Virginia was spelled by one anxious swain "Furgeniar," while an English writer having a friend in Oswego, Oswego County, N. Y., addressed the letter "Horse Wiggar Springs, Horse Wiggar County."

Occasionally, of course, a letter reaches the Dead-Letter Office owing to the incapacity or the stupidity of the postmaster. These are readily forwarded to the proper address, and the careless official is reprimanded. Dr. Gregory, of the Civil Service Commission, who is constantly on the lookout for information that would be useful to him in his duties, yesterday visited the office, and was shown its workings.

One of these errors on the part of a country postmaster was pointed out to him. "That man," said Dr. Gregory, "should have been compelled to pass a civil-service examination, and he would not have made such a mistake." "That postmaster," replied the official conducting the Commissioner, "has an average salary of $3 per quarter, and would probably make some very forceful, if inelegant, remarks if notified that he would be removed if not more careful." Dr. Gregory thought it would be difficult to find a successor among the applications on file with the Commission.

Letters having contents of any character whatever are carefully recorded, and can be referred to at any time. Money found in these letters, which cannot be delivered to the proper persons, is turned into the Treasury, where it can be obtained by the owner within four years, after which time it is covered into the Treasury, and can only be secured by act of Congress.

From "Breeders Gazette," Chicago, Ill.

THE HEREFORD PROPOSITION.

We notice in your journal of the 11th a proposition from James Gaines & Son, of Ridge Farm, Vermillion County, Ill., to test the merits of the two breeds of cattle, the Shorthorns and Herefords.

We will accept the challenge if the conditions on which such test shall be made can be arranged. We will select from thirty to sixty cows, and they may select a like number and breed them to Short-horn bulls and we will breed ours to Hereford bulls.

A given quantity of land shall be set aside for each herd, and they may state the quantity of land to be so used, and the herds shall be kept from such product as shall be taken from or grazed upon the land so selected. Messrs. Gaines & Son may use the land and handle the cattle in such manner or for such crops as they deem best, and we will do the same. Believing that these breeds are of value as they are able to transmit their quality and character upon their produce when crossed upon the common or native cattle of the country, we should be glad to have the Messrs. Gaines join with us in selecting a given number of cows that shall be two years old next spring, of any grade or quality they may choose, within the following limits, say: One-third of the number shall be a good class of Texas cows, one-third good common cows without any known breeding, and one-third good grade Short-horns; and these to be divided equally, Messrs. Gaines selecting the first and we the second, drawing alternately until the division shall be made.

Starting with such herds, the cows shall have service commencing with the 1st of June in each year, and the entire bullock produce shall be shown at the Fat-Stock Show in the fall of each year after they are two years old, and sold at that time. The draft cows shall be marketed at the same time, and these shall be from the original herd or from their produce, as each party may select, and as the land improves and becomes capable of carrying a greater number of cattle, the cows may be increased, if either party shall so elect.

The expenses of working the land and handling the cattle shall be kept correctly, and a report shall be made under oath. And Messrs Gaines and ourselves shall enter into an engagement that the experiment shall be carried on for ten years from next spring, to wit.: from April, 1885.

Should the manner of selecting the cows seem objectionable to the Messrs. Gaines, we will endeavor to accommodate ourselves to their views, though we would like the experiment to be made for each breed to be as like as possible. T. L. MILLER COMPANY.

From "American Agriculturist," New York.

OUR SLEEPING ROOMS.

A physician of note says, "We hear a great talk about malaria now-a-days, but there is more malaria to be found in most modern bedchambers than anywhere else." Persons who are moderately intelligent on other topics, appear to have small thought, or that very perverted, on the subject of hygiene in their sleeping rooms, and especially those occupied by children. The ventilation of a bedchamber cannot be too carefully attended to: and, as says Horace Mann, "seeing the atmosphere is forty miles deep all around the globe, it is a useless piece of economy to breathe it more than once." Yet nine mothers out of ten will carefully close all the windows, "for fear of colds and night air" and leave two or three children to sleep in a stifling atmosphere, and see no connection between the colds and throat troubles they have, and the vitiated air she compels them to breathe night after night. Let the morning air and sunshine into the bedroom as soon as possible after the occupants have risen; and if there is no sunshine, and it is not raining, let in the air. Do not make up beds too soon after they are vacated. You may get your house tidied sooner, but it is neither cleanly nor healthful to snugly pack up bed clothing until the exhalations of the sleepers' bodies have been removed by exposure to the air.

Look carefully after the washstand and the various utensils belonging thereto. The soap dishes and tooth-brush mugs cannot be kept too scrupulously clean. All slops and foul water should be emptied very promptly. Wash out and sun all pitchers, glasses, and whatever vessels are used in the sleeping room. Never allow water or stale bouquets of flowers to stand for days in the spare chamber after the departure of a guest. Towels that have been used should be promptly removed, and no soiled clothing allowed to hang or accumulate about the room. Closets opening into a sleeping apartment are often the receptacles of soiled clothes, shoes, etc., and become fruitful sources of bad air, particularly where there are small children. After such places the housewife should look with a keen eye for objectionable articles, and remove them with an unsparing hand. I have encountered such closets, in which one might find all the odors traditionally belonging to the city of Cologne—any one of which was enough to suggest ideas of disease germs.

Even so innocent a piece of furniture as the bureau may by carelessness become the recipient of articles which may taint the air of your bedchamber. Damp and soiled combs and brushes are not only unsightly and disgusting, but lying soiled and unaired from day to day, will certainly contribute to evil air and odors, as will also greasy and and highly-scented hair ribbons, etc. Never lay freshly laundried clothes upon the bed, nor air the same in your bedroom, if possible to do so elsewhere. Do not hesitate to light a fire on cool mornings and evenings; and if so fortunate as to have an open fireplace, you possess a grand means of comfort and ventilation in the bedchamber.

CORRESPONDENCE.

A HAPPY CHILDHOOD.

By Delta.

To be born into a happy home, and to spend the first dozen years of one's life in it, is better than to be the heir of millions without this blessing. Parents defraud their children of a birthright when they make their lives hard and bitter and miserable. A child with a heart-ache, is a sad sight indeed, for it has no outlook like us older people. Life is all one disheartening "present" in its imagination.

Why they will leave the farm, is often the puzzle and plague of the farmer, with reference to his sons. Not a day over the time when they are permitted to leave, will many of them stay on the old home-place. It is generally considered a mark of the total depravity of the age, and the dislike of its youths for honest work. In nine cases out of ten, no doubt, they leave their home because it was not made a pleasant one for their childhood. They leave father in his old age to depend on hired help, because he was a hard, grasping man, whom they could not respect, and because their hearts were embittered by little frauds which they were powerless to resent.

Too many fathers act on the principle that a child is entitled to no privileges which a parent is bound to respect. They will give a boy a calf and let him raise it and attend it with loving care, and when it is old enough to be sold to advantage, a dealer takes it off, and father puts the money in his own pocket. A man with gray hairs told me of such a transaction in his childhood which he never forgot. He had bought the calf by the sale of apples wasting in the orchard, which he had taken through the village from house to house, carrying the bag on the back of an old horse. When the animal was half grown, it was sold with the other young cattle, and that was the last of it. Of course the father reasoned, a boy belongs to his father, and so do all his possessions. You may satisfy your own mind by such sophistry, but, perhaps, deep down in your child's heart may be a sentiment akin to that of the little fellow who said most sorrowfully, but decidedly, "my father tells lies." He may possibly think "my father cheats." It is not good for father, or child either, to have such sentiments held under the home roof.

A MATE FOR THE CRESCENT

By Charles S. Rowley, Ill.

For some time I have been on the lookout for some strawberry that would be a good partner for the celebrated Crescent, as you know the blossoms of the Crescent being female, they require a male planted near them. We want a good, strong staminate variety for the purpose of producing an abundance of pollen dust: we want also a variety that will bloom as early and as plentifully as the Crescent; we want a berry that is as large as the Crescent is when it first comes, and one that will hold out in productiveness with that most wonderfully prolific sort. The two kinds should also be somewhat similar in shape and color, so that they can be picked and marketed together as one sort. I desire to inform you that I have found the desired mate for the Crescent Seedling, and it is the Lacon Strawberry.

Now I do not pretend to say that the Lacon will do on all soils and in all places, as it does here, nor do I propose to say it will not, as there is no reason to suppose so. Nevertheless, it will be in order now to tell you just exactly what the Lacon strawberry is, and I shall give a true and correct description of it, the veracity of which I stand prepared to prove by undisputed evidence.

The soil upon which the Lacon has achieved its success has been of two kinds, a sandy soil and a dark, rich, black loam. It has been in fruit for the tenth year, and during that entire time has never failed to bear its annual crop of berries, excepting in two instances, and that was when its blossoms were destroyed by frost, other varieties suffering equally. During its lifetime of fruitage, the plants have never received one bit of extra care or culture, but have been grown on what an eastern writer calls the "slip-shod" system, that is, in a matted bed of plants where the scythe did the cultivating and the fallen weeds provided the mulch.

The color of the berry is a dark, rich crimson, and their appearance in the box is most tempting and attractive in shape, size, and color, while as to flavor, it has the true strawberry aroma.

Its shape is somewhat similar to Crescent, and its color also, except it may be a little darker. As to its productive qualities it is just a trifle behind the Crescent in that respect, but ahead of it in flavor and size. It blooms early, like the Crescent, ripens with that variety and sometimes earlier, and holds out splendidly in size; the last pickings being fully equal to the first, and thus it tones up the size of the Crescent, when the two are marketed together. Outline sketches were made from berries of the fourth picking June 16th, 1884, a late strawberry season, which were 1¼ inches in diameter, or 5¼ inches around.

The berry originated from seed sown by a neighbor of mine, and these sketches were made on his grounds.

Please note that I have raised this year of the Mammoth Pearl potato one weighing 2 pounds 4 ounces,—three weighing 5 pounds. Fifty measured one bushel, and sixty weighed 63 pounds.

J. H. WINEHILL, *Ames, Kan.*

Will you give me an idea how to build a small house, hot or green house, if you choose to call it by that name. Here in Florida we need no artificial heat to start seeds, but a protection from wind and rain, and a place where the heat can be confined at night. I am going into the garden business in a small way. To be successful in raising tender plants, I believe one must have a protection of some kind. My idea is that a building, say 8 x 10, or longer, with a shed roof of oiled canvas to attract the sun rays, and suitable ventilation, would answer here in Florida. But just how to construct the beds or shelves for holding the earth the proper depth and size required, is something I am not familiar with. If you will be kind enough to give me a plan of what I want, in your next issue, I will be obliged.

E. W. AMSDEN,
Ormond, Volusia Co., Florida.

EXPERIENCES WITH FRAUDS.

Frederick Lowey, New York, gives good references, and may be all right. He advertises an electric light for 60 cents, a price which would lead us to doubt the reliability of the offer. No electric light has yet been invented that can be safely engineered by an inexperienced person. Pass on and save your 60 cents.

✝

More long loans are offered at four per cent. without security. They are frauds. Let them severely alone.

✝

The remarkable sewing machine offer made by E. C. Howe & Co., in our September number, has brought us several inquiries as to whether they are a fraud or not. They are not, and a number of our readers who have bought the machine on trial, have expressed themselves as pleased with them.

✝

Our admiration is still excited by the success of the prince of frauds, the Monarch Manufacturing Company. It takes a genius, indeed, to sell a potato digger, the cut of which shows it to be merely an old-fashioned machine for twice the price ordinarily asked for them. These people do a large business in horse hoes, lightning saws, and diggers, and no amount of exposure will prevent the religious and agricultural papers from accepting their advertisements, nor the public from sending them money. We hope the FARM AND GARDEN readers will take warning.

ADVERTISEMENTS.

Please mention THE FARM AND GARDEN.

First Signs of Winter.

Nature combs the rooster's head, but man has to comb his own.

Why is the sun like a good loaf? Because it is light when it rises.

"Dress does not make the man," but it makes the women—supremely happy.

"I tell you it's blistering in the wood-shed," said Johnny as he emerged with his father, and he didn't refer to the weather, either.

"Will you have salt on your eggs?" asked the the hotel waiter of the guest. "Oh, no, thanks, they are not at all fresh." Then the waiter went out to consult the landlord to see if the hotel had been insulted.

"What do you think of my moustache?" asked a young man of his girl. "Oh! it reminds me of a Western frontier city," was the answer. "In what respect, pray?" "Because the survey is large enough, but the settlers are straggling."

"Is the earth round or flat?" asked a member of a school committee of an applicant for the position of teacher. "Well, I'm not particular about that," replied the candidate. "Some likes it round, and some likes it flat. I teach it both ways."

A tramp stopped at a house and asked for something to eat. "Which do you like best?" asked the hired girl—"steak or chop?" The tramp meditated and replied, "chop." "Step right this way," said the girl; "here's the axe, and there's the wood-pile."

Without malice toward the lightning-rod man, we must still recite the fact that a New England insurance company that has made millions and is doing a great business, will not insure a house with rod of any kind on it. When their policy goes on the rod comes off.

A little daughter of a minister, after silently watching her father write his sermon, asked:—"Papa, does God tell you what to write in a sermon?" With some little hesitation the clerical gentleman replied in the affirmative. "Then, papa, why do you scratch it out again?"

A cookery book says:—"Always smell a salt codfish before buying it." We always do, and after buying it, too—for three or four days after. The fact is, you can smell a salted codfish without buying it at all if you get within ten rods of where it is. The odor of a salted codfish is like the darkness that once settled on Egypt; it is something that can be felt.

MARRY ME, DARLINT, TO-NIGHT.

Me darlint, it's axin' they are
That I goes to the wars to be kilt,
An' come back wid an illigant skhar,
An' a sabre hung on to a hilt.

They offers promotion to those
Who die in definse of the right,
I'll be off in the mornin'—suppose
Ye marry me, darlint, to-night?

There's nothin' so raises a man,
In the eyes of the wurrld as to fall
Ferninst the ould flag, in the van,
Pierced through wid a bit of a ball.

An' whin I am kilt ye can wear
Some illigant crape on yir bonnet,
Jist think how the women will shtare
Wid invy whinever ye don it!

Oh, fwhat a proud widdy ye'll be
Whin they bring my carpse home,—not to mintion
The fact we can live (don't ye see?)
All the rest of our lives on me pinsion!

—*The Century*

BILL NYE AND THE COMMISSIONER OF AGRICULTURE.

I saw William G. Le Duc the other day at Hasting, Minn. He used to be at the head of the Agricultural Department, and I used to offer him suggestions about raising iced tea by grafting an old-fashioned tea pot on some hardy kind of refrigerator. Mr. Le Duc claimed to be ignorant of my glowing career. I pitied him, and asked him where he'd been all summer. I said, "William, you are not so well informed as I have been led to suppose. I knew that you had almost foudered your teeming brain trying to devise a means by which you could imbreed the milkweed with the common Irish potato in such a way as to produce peeled potato with milk gravy on it, but I didn't think you had been in public life so long without knowing one who has done so much to bring the literature of the present day up to a lofty standard and rescue it from the hungry maw of oblivion. You may know how to lower the record of the shirt-stud, or at what season we should shear the hydraulic ram, but I'd advise you, before you go any farther with your agricultural experiments, to read up on the eminent men of the age in which you live.

SKETCHES OF CHINA AND JAPAN.

CHAPTER IV.

In 1867, Dr. Boyer attended a trial of forty-one Chinese coolies, who were engaged in what was known as the "Cayolti Mystery." The investigation took place at Hakodadi, and resulted as follows:—

October, 1867, forty-one coolies were taken on board a ship called the "Providence," a coolie vessel, at Macao, with some three hundred others. They were conveyed to Callao, where about thirty-eight were transferred to the "Cayolti," the remaining two or three being put on board at Callao. They cleared from that port on the 16th of July, 1868, for Pascamayo and Cherepe, on the coast of Peru, they being intended for the sugar plantations near these ports. They were all put into the main hold, and kept there. Food was thrown to them by a Chinese cook.

On the morning of the third day they arose, threw off the hatches, and assaulted the men on watch (four in number), with hatchets, spades, and other weapons. The mate was cut on the left shoulder with an axe, he having attempted to shoot one of the coolies, but missed fire. He then mortally wounded two of them with a knife, when the crowd rushed in on him, and he was forced to jump overboard. Another European rushed through a stern port into the water. Just above this port was the mark of a bloody hand, from which it was conjectured that he was wounded. It was stated that the other two men who were on deck, also jumped overboard, and that the coolies lowered a boat and dispatched them with knives, while struggling in the water. On returning to the ship they hoisted the boat, and an anchor was got up and brought to the gangway. The other four men were during this time confined in the forecastle, and when the boat returned were fastened to the anchor and thrown overboard. The Chinese cook interceded for the captain, who was then told that as he was a very good man, they would spare his life, if he would take them to China, to which he consented. One Chinaman fell from aloft and was killed, and eight others were killed in the fight.

After this they had severe weather, and when about four months out, they came to an island surrounded by ice, where the inhabitants were dressed in furs, and rode on sleds drawn by dogs. Here they lost their anchor during a gale, and were driven before the wind. They remained here three or four weeks. The captain went on shore, in company with the Chinese cook, in search of some provisions, but neither the captain nor the cook ever returned.

After loosing their anchor, and being driven out to sea, they made their way to Volcano Bay, north of Hakodadi, where they waited two weeks, when they got two Japanese pilots to take them to Hakodadi, where they arrived some time in August of the same year.

In Dr. Boyer's diary, under date of December 8, 1868, at Shanghai, China, he writes:

"To-day we heard that Aidzu, the great General of the Northern Army of Japan, was compelled to surrender, after having been besieged for a long time, with his forces, (a small party), in a castle, until starvation compelled them to surrender. When seventeen of his officers, with a flag of truce, came to the Southern General, he asked them what guarantee they could give that he, Aidza, really intended to surrender, and was not laying a trap for them, they answered: "by yielding up our lives." Whereupon sixteen of them performed hara-kari; killed themselves then and there upon the spot. The remaining one then conducted them into the presence of Aidzu.

"Upon appearing before Aidzu, that official offered up his swords. The Southern General handed them back again to him, and said he respected his bravery.

"It is said that the conquerors were moved to tears at the sight they beheld, for the garrison held out until they were mere skeletons. Aidzu was taken to Yeddo, or, as it is now called, according to the Mikado's proclamation, Tonkei, or the Eastern Capital, as a prisoner of war, and thus ended the rebellion in Japan."

The Chinese are a great people. One of the first objects you behold, when you land in a Chinese town, that will attract your attention, is the style of dress, etc. The men wear petticoats, and the women pantaloons. The soldiers, or Mandarins, mount the horses on the right side; the old men with gray beards and large goggle spectacles can be seen delightfully employed in flying paper kites, while a group of boys are gravely looking on, and regarding these innocent occupations with the most serious and gratified attention. Other old men are chirping and chuckling to singing birds, which they carry in bamboo cages, or perched on sticks, whilst others are catching flies to feed the birds. Their books commence where ours end. They write from top to bottom, and from right to left. Their locks are made by turning the keys from left to right. White is the color of their mourning dress. They seat a guest on their left, which is the seat of honor. The stomach is considered the seat of understanding. When friends meet, they shake their own hands, instead of shaking each other by the hand; and so on, from Alpha to Omega, everything is contrary to our style.

A COLLECTION.

BROUGHT BY UNCLE SAM'S MAIL AND IN OTHER WAYS.

Daniel D. Herd, Lancaster, Pa., catalogue of Willow Grove Nurseries.

John S. Collins, Moorestown, New Jersey, catalogue of Pleasant Valley Nurseries. Sent free.

H. S. Anderson, Union Springs, New York, mails us his fall price-list of small fruits. Sent free.

E. Duncan Sniffen, 3 Park Row, New York, Sends Advertisers Reference Book for 1884. Send for it.

J. T. Lovett, Little Silver, New Jersey, sends his autumn catalogue of trees, plants, and small fruits.

Maher & Grosh, Toledo, Ohio, advertise a new knife on our second cover page. What do you think of it?

B. K. Bliss & Sons, New York, favor us with their autumn catalogue of bulbs, small fruits and garden requisites.

John Perkins, Moorestown, New Jersey, sends us his new catalogue, for fall of 1884, and spring of 1885. Hardy fruit trees, vines, and plants.

A revolution in washing. Reasons why the Missouri Steam Washer takes the lead, from Johnston Bros., St. Louis, Philadelphia, and Chicago. Said to be a good thing.

The Pennsylvania Horticultural Society will hold a Chrysanthemum and Cut Flower Exhibition at their hall, Broad street, Philadelphia, on November 5, 6, 7, and 8th. This promises to be a very fine exhibition. You should see it.

We called on F. E. McAllister, of 31 Fulton Street, New York, last month, and were shown samples of a new tomato, called "The Fulton Market." It is a good shape, has smooth skin, and is said to be very prolific, and quite early.

Strawbridge & Clothier's Quarterly for Autumn, 1884, has just been received from the publishers. Its gaily printed cover is becoming a familiar indication that a new season is upon us. The *Quarterly* is sent to any address for one year for only fifty cents. If you have not yet subscribed, send fifteen cents for a specimen number to the publishers, Strawbridge & Clothier, Philadelphia.

CLUBBING LIST.

TWO PAPERS FOR THE PRICE OF ONE.

These prices include a year's subscription to THE FARM AND GARDEN and to the paper named.

Any American publication furnished at reduced rate.

American Agriculturist,	$1 25	Ladies' Floral Cabinet,	1 50
American Field,	3 25	Live Stock Monthly,	75
American Poultry Yard,	1 25	Labor World,	60
American Garden,	1 00	Maryland Farmer,	1 00
Bee Journal (weekly),	2 10	Mirror and Farmer,	70
" (monthly),	1 10	Nebraska Farmer,	1 20
Bee Keeper's Magazine,	1 00	National Poultry Monitor,	1 00
Cultivator and Country Gentleman,	2 25	Orange County Farmer,	1 75
Century Magazine,	3 75	Ohio Farmer,	1 20
Dairy and Farm Journal,	75	Ontario Horticulturist,	60
Drainage & Farm Journal,	1 00	Oregon Colonist,	75
Demorest's Magazine,	2 00	Pardy's Fruit Recorder,	70
Empire State Agriculturist,	60	Poultry World,	1 00
Farmer's Review,	1 25	Prairie Farmer,	1 60
Farming World,	75	Poultry Nation,	75
Farmers Home,	60	Poultry Messenger,	60
Farm Implement,	75	Planter's Journal,	1 75
Farmer and Fruit Grower,	1 20	Poultry Advocate,	60
Farmer and Manufacturer,	60	Poultry Monthly,	1 00
Forest, Fire and Farm,	75	Poultry Bulletin,	1 00
Farmer's Companion,	60	Poultry and Farm Journal,	1 00
Florida Despatch,	1 75	Rural Record,	75
Floral Instructor,	65	Roanoke Patron,	75
Farm Ledger,	60	Rural Caledonian,	1 50
Farm and Fireside (Ohio),	75	Rural New Yorker,	2 25
Farm and Fireside (N. C.),	1 25	Scott, and West,	60
Farmers' Home Journal,	1 25	Southern Planter,	1 25
Farmers' Advocate,	1 00	Southern Cultivator,	1 25
Farm Journal,	60	Sunny South,	1 00
Godey's Lady's Book,	2 60	Tribune and Farmer,	1 00
Gardener's Monthly,	1 65	Vick's Monthly Magazine,	1 10
Home and Farm,	75	Western Rural and seeds,	2 00
Home Farm,	1 50	Wallace's Monthly,	2 75
Harper's Monthly Magazine,	3 50	Western Culturist,	75
Iowa Farmer,	75	Western Agriculturist,	1 00
Indiana Farmer,	1 60	Western Plowman,	60
Journal of Agriculture,	1 50	Western Horticulturist,	65
Kansas Beekeeper,	1 25	Youth's Companion new subscribers,	1 50
Kansas Farmer,	1 40	Youth's Companion renewals,	2 00
Kansas Spirit,	90		
Kansas Agriculturist,	1 50		

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The Farm and Garden.

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TO ALL WHO RECEIVE THIS NUMBER.

Subscriptions may begin with any number, but we prefer to date them from January of each year

Renewals can be sent now, no matter when the subscription expires, and the time will be added to that to which the subscription is already entitled.

Notice is always sent of expiration of subscription. If not renewed it is immediately discontinued. No notice is required to stop the paper, and no bill will be sent for extra numbers.

Remittances may be made at our risk by Post Office Order, Postal Note, Registered Letter. Stamps and Canadian Money are taken, but if sent in ordinary letter are at your risk.

Receipts.—The fact that you receive the paper is a proof that we have received your remittance correctly. If you do not receive the paper promptly, write us, that we may see that your address is correct.

Addresses.—No matter how often you have written to us, please always give your full name, post office, and State. We have no way to find your name except from the address.

Names cannot be guessed, so write them plainly and in full. If a lady, always write it the same—not Mrs. Samantha Allen one time and Mrs. Josiah Allen next. If you do not write Miss or Mrs. before your signature do not be offended if we make a mistake on this point.

Errors.—We make them; so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot then write to us any way. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

ADVERTISING RATES.—From issues of February, 1883, to December, 1884, inclusive, 60 cents per Agate line each insertion.

Subscriptions to this paper 50 cents a year, payable in advance.

CHILD BROS. & CO., Publishers,
Nos. 418, 420, 422 Library Street (first below Chestnut),
Philadelphia, Pa.

And when the silver habit of the clouds
Comes down upon the autumn sun, and with
A sober gladness the old year takes up
His bright inheritance of golden fruits
A pomp and pageant fill the splendid scene.

LONGFELLOW.

GOLDEN OPPORTUNITIES IN THE SOUTH.

(*Continued.*)

By Joseph.

GENERAL FARMING.

In my several articles treating on Southern subjects, I have really not answered the question which is asked oftenest, and which seems to be of interest to the greatest number of individuals in this matter, the question: "What chances are there in the South for the general farmer? Is the production of cereals, hay, and other farm crops more profitable, does capital invested in farms pay a larger percentage of interest in the South than in the North?"

I have just traveled through Jefferson county, West Virginia, the garden spot of the Virginias. Here land is worth from $40 to $75 an acre. The average yield of wheat in the county is very near twenty bushels per acre, while good farmers are raising from twenty-five to forty bushels, and occasionally fifty. All this is done with much less commercial manures (not over 150 pounds per acre), than the farmers in other sections of Virginia are in the habit of using. In Jefferson, Bereley, Clark, Warren, and other counties of the Virginias, I passed recently through corn fields, which will hardly yield less than 15 barrels of corn, that is 150 bushels of shelled, to the acre. No extra culture was given in any instance.

"I average twenty-five bushels of wheat to the acre, one year with another," says J. V. Weir, of Clark's county, where the average yield is only fifteen bushels. His land years ago used to produce less than the county average. "I never till land without improving it," he proudly adds. This shows what management will do. I thought that I could discover the whole secret of his success in the way he know show to maintain the proper relation between wheat-growing and stock-keeping. Mr. Weir has about eighty head of cattle on his 480-acre farm, is fattening thirty steers and as many hogs, pays attention to the production of good manure and uses phosphate liberally.

Wheat is one of the staple articles of production in the Great Valley, but the area devoted to it is, by far in excess of the proper proportion, as compared with other farm crops; and in many counties it seems to be the aim of the husbandman to *manufacture* wheat merely out of phosphates. Clover and barnyard manure should be the foundation of the crop, and these important agents merely supplemented by commercial fertilizers, as far as necessary. More stock, more grazing lands, more manure, and a smaller average in wheat, would better many of the condition that seem to be disadvantageous to he farmer at present.

A BUNCH OF ROSES.

Yet, the Southern farmer, often with rather indifferent management, is making money, and improves his land, which had been so recently impoverished and devastated, while many of the high priced farms in the densely populated North, do not pay 5 per cent. interest on the investment.

The Northern man, when he gets possession of a farm in the South, at once inaugurates a materially different system of farming. He will do his share of the work, personally, and not, like many of the "landholders" in Virginia, leave everything to the "servants" and "hands." He will pay special attention to the great "money crops," wheat, corn, beef, pork, and so forth, yet, not neglecting the "ninety-nine" things that bring a small amount each, things which the Southerner considers not worth the trouble of saving.

The new comer uses all the means in his power to increase the crop and get their full value. But having done that, he cultivates and trims the long neglected orchard, he turns his hogs in and makes pork of the hundreds of bushels of apples now rolling under the trees, he utilizes his fruit in some way, for cider or otherwise, sells what he can find market for; he pays for his groceries and dry goods with butter and eggs, while the Southern farmer runs in debt for them and is charged twenty-five or fifty per cent. extra for "time." The former tries to keep up the flow of milk, either to be disposed of in a paying local market, or to make the largest possible amount of gilt-edge; while the latter milks only a part of his cows and lets the calves that he wants to raise, milk the rest. One has the money "all his own," when he sells his wheat or beef, the other finds it half gone, after squaring up those long and large accounts with the merchants. The Northerner, in short, grasps for every chance which offers itself to him, of increasing his income, be it ever so little. In consequence he makes money.

The general management of the Southern farmer, without the advantage of their congenial climate, would ruin every mother's son of them. As it is, they do tolerably well; but the Northern man would do better. He would starve in the North if he did not.

Golden opportunities are abundant.

A very large portion of our subscription list expires with December number, and a notice is printed on this if yours is one. If you have sent your renewal since November 15th, you would still receive the notice. In this case pay no attention to it. All our subscribers whose time expires in December will receive free our Annual Premium List and January number. This will be mailed you in a few days.

HOW WE RAISED BEETS.

By W. D. Boynton, Appleton, Wis.

Our beets, or mangolds, did not cost us much this year. I will tell you how we raised them. In the first place we took about three-fourths of an acre of our best drained, lightest, and richest soil that lay handy by the yards and stables, and plowed under a good heavy coat—some thirty odd loads—of pretty well rotted cow manure. This was plowed under about the 20th of May, and the ground left to warm up a few days before putting in the seed. It was then thoroughly harrowed with a fine tooth harrow, and the seed put in about the 25th. We sowed it with an ordinary hand-push, garden seed sower, putting the drills two feet apart, and, by the way, if you have your land in good condition, as it certainly should be for this crop, nothing can beat the garden seed sower for this work. We sowed them tolerably thick, in order to insure a good stand. So long as we have to thin out anyhow, we may as well pull out a few more. As the land was plowed only a few days before seeding, the weeds and grass did not get started until the beets were pretty well under way. Had the ground been plowed the fall before it would have been a bed of weeds by the time we were ready to put in the cultivators and harrow to prepare the seed bed. Whatever may be the benefits of fall plowing, this is certainly a very serious drawback. Unless turned squarely under again with a large plow—which sacrifices the gain by the action of the frost—the surface is sure to be filled with fine weed roots that no amount of harmony will destroy. But to go on. We did not put hand or hoe into the patch until the latter part of July. We run through several times with an ordinary one-horse cultivator, with the teeth turned in, that the plants should not be buried with earth in running close up to the row. To be sure we could not take out all the weeds in this way, but there were not enough left to very materially injure the chances of the plants up to that time. The plants were now large enough to pull up and feed out to pigs and cows. Every day we thinned out a few rows for this purpose, taking out the weeds at the same time. Some had quite good sized roots, and all had large tops that were much relished by milch cows and pigs. We calculate that the several tons taken out in this way more than paid for the labor of thinning and weeding. Such feed comes very opportunely in dry, hot weather, when the pasture is short. We do not top our beets this year; we find but little top left after they have been pulled and left on the ground two or three days. The tops will shrivel up to almost nothing. If cut off when green, as many do, they will bleed the root considerably. We leave the roots in small heaps on the ground for a few days to sweat out.

TOBACCO CULTURE.

By Thos. D. Baird, Greenville, Ky.

Tobacco should get ripe before it is cut, it makes better tobacco, and is heavier. In general, when the leaf will break by pressing it between the thumb and finger, in the double, it is ripe. In cutting, great care should be used in the handling, for the quality will be pretty much according to this. After the dew is dried off, cut as much as can be handled with care, before it is wilted too much, and save from sun-burn.

Hang it on the stick before it wilts much, and it will not bruise so easily, and will yellow better and cure up nicer. Hang eight to ten plants on a four-foot stick, according to the size of the tobacco. If you scaffold the tobacco, hang as close as you can press the sticks together. When convenient I prefer to hang up in the barn at once, placing the sticks eight inches apart on the tiers. The first tier should be seven feet from the ground, and all above should be far enough apart that the tails and butts will not lap too much they should lap some to keep the wind from flapping the tails off on the butts of the lower tiers. The air should have free circulation so that the tobacco can cure. In firing it make fires of good solid wood; a slow, regular fire is best. As soon as it is well cured it should be stripped. I always found it profitable to sell for a dollar less per hundred if by so doing I could get it off by Christmas rather than wait until spring.

In stripping, a small crop should be sorted into three grades. In large crops make as many grades as you have distinct classes and qualities in your crop. This is very important, as manufacturers cannot use mixed tobaccos in kinds and qualities without pains and expense in sorting, that the planter ought to take and save to himself, the better prices he obtains. In sorting a small crop put the ground, ragged, badly worm-eaten, or otherwise damaged leaves, on the plant into one class. The bright and best leaf is next taken, having all the leaves as nearly alike as possible, and put in a class, and what remains is less bright; this is tied in a class.

As you strip, hang the tobacco on the stick, and store it back on the tiers, when it comes in the order you wish to deliver it in, pack it down. I never bulk down when I can help it. I prefer to put it down in the wagon and haul it off. Bulking tobacco in safe keeping order requires judgment and care, as all past good care may be lost by carelessness and ignorance in this finishing operation.

NO EXCELLENCE WITHOUT LABOR.

The Experiences of a Virginia Farmer.

No. 5.

A large hole was to be filled sometime during the summer, on a farm near-by. During the time until the work was to be done, all rubbish was carried there to "get it out of the way," also to help fill it beside. Since the boys have really become interested in saving all the waste vegetable matter, as well as piling up dry dirt for use in the stables, they were very much exercised in seeing quite a large quantity of leaves, grass, and weed, that had been thrown there as filling, from the yard, that had just been cleared up. "What a waste!" said they, "such nice bedding it would have made for the mare, all vegetable stuff too, that would make such good manure," they added. This was not all of value that would have paid to have taken out, as a considerable quantity of leaves and other rubbish had been thrown and blown in there, and become good plant food. But people will cover up such valuable accumulations, and draw from town, loads of so called manure, at considerable expense, or buy almost worthless commercial fertilizers that prove very unsatisfactory in results. Such waste of plant food that is at hand should not occur on farms that need all that can be obtained. The barn was close at hand when the boys made the remark that this dry, soft, grassy and leafy pile should be put in the barn for use in the stables, they were answered that "pine tags" were plenty, and they made good bedding. I could only remark that it was the "old way of doing," easier to spend a half day to go to the woods with two men and a team to get as much as had been thrown in this hole. The ridiculousness of the idea had not come to the surface then, of the man, who, in carrying grist to the mill, put a stone in the opposite end of the bag to balance the corn on the horse's back, not thinking that another grist of grain could be put in place of the stone and save an extra trip, and at same time get two instead of one. So in the case of the bedding, *use* the load thrown into the hole, and get another from the woods, *and have two at the same cost* of the one, that thrown away is of double or perhaps more value than the pine leaves. As long as people will not think, and save both in time and material that is at hand, *we will remain poor.* Through the various phases of poor management the land is robbed of immense quantities of the best of plant food at the very gates of the farm. No excellence can be seen in saving by labor.

When the sand pile was placed in the shade of the big oak tree, the children wanted to know why their play-ground was to be spoiled by that great pile of dirt. The boys told them that their papa was going to make mortar, then that seemed to annoy and fret them; but when the boys had driven the team away to the barn, I called them them to me and showed them *what it was there for.* I had cut a bundle of cedar and pine bough as I came through the woods from the sand-pit. I asked them to bring out all their toys. What a pile there was of them. Many were old gifts that had been untouched for years perhaps, and almost forgotten. When the green boughs were cut up and pointed to sticks, being of various lengths to represent trees and bushes in miniature, I made the pile of sand into forms of hills and valleys, with roads and supposed streams, fenced the roadsides and farms with pieces of pine boards, split for the purpose, made bridges of pieces of board, and used the logs to represent stock of various sorts. Crandall's building blocks were now just the thing, making really life-like houses, castles, barns, &c., that were hugely enjoyed by the greatly pleased children. This half hour flew by faster than any ever experienced by them. This was new and intensely interesting to them, bringing out all the ingenuity they possessed. The hours that had hung so heavily on their unchanging young lives, now were so pleasantly passed that they were no burden, nor a burden to their parents, and the toys, so long an almost useless thing in the way, were of value, both as a source of pastime and developing some good to profit their maturer years. They could roll and tumble here, hour after hour, with no danger of getting their clothes covered with dirt. The heretofore tired mother, often worn almost out by the clamor for "something to do," or to "go somewhere," was now pleased to find time to occasionally aid the little ones to so change their attempts at landscape making as to continue the interest they had in their new plays, and to teach them by real example in their play-work, that there are no excellent forms or patterns of real life work, as well as the real work through life, without careful, continuous, and patient labor.

EGYPTIAN OR RICE CORN.

By N. J. Shepherd, Eldon, Mo.

This really belongs to the sorghum family. It has been especially praised by several seedsmen and agricultural papers.

After giving it a thorough trial, I am unable to see where it has any special claims over other varieties of sorghum. In some respects perhaps it is as good or even, for some purposes, a little better, while it fails to come up to them in other respects. When first introduced it was praised for being worth far more than its real value, and many who purchased the seed were disappointed.

It should be planted and cultivated about the same as other sorghum. The soil should be as clean as possible. If pains are taken in this respect it will be of indiscribable help when cultivating. I prefer to plant in drills; the rows three and a half or four feet apart; the plants should stand a few inches apart in the row. Good soil and good cultivation are necessary to raise a profitable crop. It is the early cultivation that really makes the crop; after it has reached a height of three and a half or four feet it will generally take care of itself. As with common sorghum, I prefer to cultivate repeatedly with the cultivator so as to keep the surface level. Keep clear of weeds at the start.

It resembles the old-fashioned Gooseneck cane in its manner of growing, as it turns down and the seed ripens hanging downward. The seed is almost the same size as the Orange can, but is whiter in color. My experience with it is that it will not yield. I can not see that it is especially valuable for general cultivation, like a great portion of new things termed novelties. From my experience with it, I think its value has been considerably overestimated.

GATHERING CORN.—*Continued from November.*

By John M. Stahl, St. Louis, Mo.

Corn which is to be stored up for some time should be husked and silked both. A silk adhering to the ear will do more damage than half a dozen husks. It will absorb more moisture and prove a greater attraction to mice. To remove the silk in gathering, it is necessary to catch the tip of the ear in the left hand, holding the silk in that hand; with the right hand strip back the upper husks; then catch the ear in the right hand, with the left strip back the silk and the under husks, and grasping the butt of the ear in the left hand, break it out with the right. This requires more movements than to remove the husks only; for then the ear can be grasped firmly at the butt with left hand, the upper husks stripped back with the right hand, and then the ear be lifted out of the lower husks and broken off with the right hand. It will almost invariably come out clear of husks, but very often the silk will remain. By this method corn can be gathered somewhat faster than when the silks are removed, but when the corn is to be stored for some time, I would recommend the removal of the silk.

When corn is to be fed immediately or within a reasonable time, however, there is no need of husking it so clean, or of silking it. If a few husks and silks adhere, they will occasion no damage until the corn is fed.

Wait until you see our annual premium list and January number.

The manner of gathering corn must depend to a great extent upon the locality. Thus the Connecticut or Pennsylvania farmer will gather his corn with much greater care than will his Illinois or Nebraska brother. When a New England man comes West and begins to gather his corn in baskets, which he empties in the wagon when full, he is sure to be laughed at by his neighbors, and the next season he drives his two-horse wagon over a row while he husks two rows at one side and his hand two rows at the other, and a boy brings up the rear, gathering the ears on the stalks knocked down by the wagon. To one not accustomed to it, this appears to be a wasteful way of gathering corn; but not necessarily so. When the horses are allowed to eat as they go along, corn *is* wasted, for they will shell off much which falls to the ground and is spoiled before the hogs are turned into the field. But if the horses are muzzled, there is no waste, and in no other way can corn be gathered so rapidly.

In no way does locality more affect the manner of gathering corn than in the modes of saving the stover. How carefully is this gathered and saved in some localities, and yet the corn-grower of the West does not consider the stover to be corn at all. O short sighted men! when will you learn that you are wasting gold? The Western farmer raises corn for the ears; the stover he considers to be a necessary evil. In some sections a fodder shock is almost, if not quite, a curiosity. After the corn is gathered the cattle and hogs are turned into the field to pasture the stover; and as the work of gathering is continued until late, and the stock cannot be admitted until the field is done, often all the animals find are damaged stalks. Long before the blades have been blown to the ground by the winds or dashed down by the rains; the husks have browned, then bleached, and now are almost rotten; even the upper parts of the stalks, which the cattle would have eaten, are broken off and rotten, covered with mud on the ground. The injury to the land by the tramping of the stock over it when soft, frequently more than destroys the profits from the dry, indigestible, damaged feed. Fed with clover or callowseed meal, a pound of corn fodder equals in feeding value a pound of timothy hay. Then, how great is the waste? Take, for instance, Illinois, the State that leads in the production of corn. It boasts of an annual crop of 200,000,000 bushels of shelled corn; but nothing is said of the 16,000,000,000 pounds, or 8,000,000 tons of stover produced along with it, for that is almost altogether wasted. This stover, rightly fed, would winter 4,000,000 steers, weighing one thousand pounds. No wonder we say the times are hard and that the profits of our farming are small. It will be a happy day for us when "gathering corn" includes gathering the stover, and when the fodder is as carefully saved as the ears are now.

NUTS FOR WINTER EVENINGS.

The title suggests something much enjoyed by boys and older persons. We wonder how many nut trees are growing upon the reader's farm—if he is fortunate to own one, or upon his father's farm, should the reader chance to be of the masculine gender, and has a father who has a farm. But the girls and women folk need not stop reading at this point with the thought that these lines are written only for men and boys. Nut trees grow for all, and if we mistake not, this idea is in the minds of the village lads when they, bags in hand, make their pilgrimages to the neighboring forests, and even the trees in the open fields. By their nut trees many a farmer learns to know the village boys.

This all goes to show one important fact, viz.: That nuts are much sought after, and are highly prized when once obtained. How many kinds of nut trees have we in the United States? Where do they grow? How can they be more abundantly produced? The leading group of nut bearing trees is the hickories, which comprise the genus *Carya*. The name Carya is from the Greek, meaning walnut. All the members of this genus have compound leaves, with an odd leaflet. The flowers are of two kinds; one kind, the male, is in long, pendent clusters, and the other, the female, which remain and develop into nuts. Mr. Faller, in his recent book on "Practical Forestry," describes eight species of Caryas. The Shell-bark, or Shag-bark, hickory (*Carya Alba*) has the upper three leaflets of each leaf larger than the others. The nut is white, four-angled, with a sharp point at the apex. The kernel within the thin shell is very sweet and excellent. This is a favorite nut among boys and other persons. The common name, Shag-bark, is given to this tree because the outer bark is hard, and separates into strips that remain attached only by the middle portion. This tree furnishes a superior timber, used in making various implements where strength and durability are all important. It grows throughout the Northern states, as far west as Nebraska, and south to Northern Georgia. There is a Western Shell-bark (*C. Sulcata*) sometimes called Thick Shell-bark Hickory, which is more common west of the Alleghenies than east of them. The nuts are large, but the kernals are small in proportion to the size of the shell.

The White-heart Hickory (*C. Tormer Sosa*) has the lower surface of the young leaves downy. The nuts are variable, those from some trees being sweet, while others are worthless. This tree is tall and slender, with bark not splitting off; it grows in most parts of the tree-bearing regions of the United States.

The Pecan nut (*C. Olivæformus*) is a most interesting tree, highly prized for their size and quality. There are many varieties, but the nuts usually assume the olive shape, as indicated in the scientific name. This is a Southern and Western tree, being partial to the river bottoms. This tree can doubtless be cultivated in many localities where it has not been introduced. The wood is very valuable.

The Pig nut (*C. Porcina*) has a pear-shaped or oval nut, with a thin husk and a filter kernel. It is a large tree, with smooth bark, in many respects it is similar to the White-heart Hickory, and is common to the same regions. We cannot recommend the cultivation of this for its nuts.

The Bitter nut (*C. Amara*) has a globular nut, with a thin husk, and intensely bitter kernel. This is a small tree, common in low land from Canada to the Gulf States.

The Water-hickory (*C. Aquatica*) is closely related to the last, with nearly the same characteristics.

The Nutmeg Hickory (*C. Myristicæformus*) has a nut shaped like the nutmeg, and is found in the low lands of the Southern states.

The Chestnut belongs to another genus from the hickory nuts, viz.: *Castanea*, which is represented in this country by the chestnut proper (*C. Vesca*, variety *Americana*), and the Dwarf chestnut or Chinquapin (*C. Pumilus*). The excellence of the chestnut as a nut cannot be too highly prized, and the tree is a most valuable one for timber. The wood is coarse grained, strong, and durable, and is extensively used in furniture making. The chestnut is found from Maine to Michigan, and south and west to Arkansas. It is a fine tree, which grows tall and straight in the forest, and low with a much branched top in the open field. The Chinquapin has round nuts, only one in a burr, and is a small tree, growing on sandy ridges from Pennsylvania to the Gulfs.

The genus *Juglans* contains two important nut bearing species, viz.: The Butter nut (*J. Cineria*), and the Black Walnut (*J. Nigra*). The oblong, clammy nuts of the Butter nut are familiar to most country people in all the Northern states. The wood is light and durable. The fruit of the Black Walnut is large and spherical, with a thick shell and strong flavored kernel. The wood is of a rich brown color, hard, susceptible of a fine polish, and largely employed in cabinet work. This is a fine tree, worthy of vastly more attention than it now receives. It is widely distributed throughout the United States.

We hope to follow this brief summary of our nut-bearing trees, with methods of their propagation and culture. If we had more nut trees it would not be so difficult to keep the boys on the farm.

CARYA.

NOTES ON FARM AND GARDEN FOR NOVEMBER.

By W. C. Steele, Switzerland, Florida.

I am sure there are Golden Opportunities for bee keepers in Florida; yet there are often serious drawbacks. Sometimes a drouth in summer and fall will cut the honey crop so short that instead of there being a surplus to sell, the bees will require feeding to save their lives. Our winters are so warm that bees fly all through the season, and there are very few honey-producing flowers in bloom at that time, they require a large stock of honey in their hives to carry them through. There are very few doing anything in that line in the State, and those who really *understand* bee keeping are still more rare.

✣

In making hot beds for "Early Gardening," if you have plenty of manure, it is a great saving of time and labor *not* to dig a trench. Build up a square pile of manure two feet larger every way than the frame of your bed, being careful to tramp it well and keep it level so that it will settle down evenly. Make the depth to suit the season of year and the crop will be grown. Set the frame on the manure and put in the earth just as you would into a bed made in the old way. Then bank up the outside of the frame to the top with more manure. This is not *theory*, but the result of years of experience, and has been tested during some of the coldest winters of northern Indiana. If more beds are wanted they can be made along side, leaving a foot or fifteen inches between the frames. A great deal of nonsense has been written about the waste of using stable manure for hot beds. Of course, if the manure "fire fangs," as it is called, or burns dry and look white and mouldy when forked over, there has been waste. But if there is plenty of litter (straw, old hay or leaves,) mixed with the manure, and the whole mass *soaked* with water as it is tramped down, there will be very little loss. When the manure is hauled away it will be found to be black and evenly rotted with seldom any signs of burning. If in making a bed in cold weather, it is found that the manure is not heating satisfactorily, by using boiling water to soak the pile the heat can be hastened very much.

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I have found early onions quite as profitable as beets and more so than radishes. In fact the latter are very apt to be so wormy, in many places, as to be unprofitable. I have grown crops of them where not one in half a dozen would be salable. The easiest way to get very early onions is to plant out old onions in the fall. Each one will make two or more young onions which will usually be large enough to sell before the seed stalk starts. If not, then the seed stalks should be broken out as soon as they appear.

✣

I think that if I were going to build a green house or a propagating house in this state, I should arrange for heating it artificially. There are often times when it would be better than depending on the sun, even 150 miles south of this place, even in Orange and Volusia counties. It is often cold enough to stop the growth of tender plants when there is no frost, and when hot-bed plants are once stunted by cold they are very hard to get started again. I should build the house 10 feet wide with a four-foot bench on each side and a two-foot path in the middle or else six feet wide with a four-foot bench on the upper side and a two-foot path on the lower. The length of the house would be regulated by circumstances. The benches should be two feet and a half above the path. They must be made very strong to support the weight of earth necessary to grow good plants. The best way is to have 2 x 4 scantlings run the long way of the bed, supported on posts and lay the boards, for the bottom, across, then if one rots off it is much easier to replace it than if they were long and ran the other way of the bed. The front and back boards should be six or eight inches wide, as a depth of five to six inches of earth is necessary to prevent the plants from drying too easily. If I were not going to have any artificial heat in the house I should not make benches, but would dig out a path two feet wide by two or two and a half deep, boarding up the sides to prevent them from caving in. Such beds could be made much more easily and cheaply than benches. They would not require so much watering and the plants would thrive better than on benches. In case of cold weather these beds would not cool off as rapidly as those set up on posts.

A MISERABLE PEST.

By J. W. Darrow, Chatham, N. Y.

We cannot think of a better appellation for the common white grub (*Lachaerstema Fersca*), than the above. It is death to almost everything in the garden, and there seems to be no practical plan of checking its depredations. On a small scale something may be done to thwart their purpose, but not on a large scale.

This fall we hear much complaint from their injury to the potato crop; they eat the tubers until there is no goodness left in them. We do not confound them, or their work, with the wire worm, or anything else. It is the "miserable grub." To satisfy our own curiosity, we lately dug five hills at various points in a field said to be infested, and we found in five hills just twenty-five grubs. If we had been digging after grubs, we should have thought our efforts well rewarded, but if after potatoes, quite the reverse, for there was scarcely a sound, smooth tuber in the lot. The hired man said the patch was sometimes white with grubs when he had been digging. Think of it! Five grubs to a hill all over the field. A potato patch stands small chance with them.

If the white grub, larva of the May beetle, devoted its attention, strictly and solely to this crop, it might be fought to some advantage; but it cuts off the young corn plant quite below the surface, it attacks the roots of young fruit trees, it destroys the strawberry beds, it cuts the lettuce, it consumes the potato crop, it causes the flowers to wither and die, in its unblushing boldness it attacks almost every live root. It *is* a "miserable pest."

BONE-DUST FOR MELONS.

By Thomas D. Baird, Greenville, Ky.

The melon crop is getting to be one of considerable importance to the farmer as well as the gardener. This being the case, a few items on manures for melons may be of interest to your readers.

In the spring of 1883 I planted my melons, using two tablespoonfuls of Homestead fertilizer and two of Tobacco Grower in each hill; also in each hill we put two tablespoonfuls of bone-dust (the bones were dissolved in ashes), except one row running through the middle, in this row no dust was used. When all the vines were four feet long, looking quite rank, this row was only two feet, looking well, but far behind the other vines. When the melons were ripe, this row was behind in size and quantity.

This last spring I planted my melons on inferior soil, using the same Homestead fertilizer on half of the ground. Four spoonfuls were scattered on the hill and worked in the soil. On the other half, one gallon stable manure and four tablespoonfuls of bone-dust were put in each hill. This bone-dust was a considerable portion ashes. When the vines were two to three feet in length, an equal quantity of hen manure was broadcast over the entire patch. On the half that the fertilizer was used, there were but few saleable melons, while on the half that bone-dust was used there was but few that were not large, nice, saleable melons. From my experience with bone-dust, I urge the readers to avail themselves of this cheap fertilizer for their melons and cucumbers. Now, the season for hilling beeves is at hand, carefully save all the bones. Collect all the old bones that are lying about the premises, giving it a golgotha appearance. Do not be afraid to take hold of them. A farmer must be bold and fearless in such things, if he would succeed.

ORCHARD AND SMALL FRUITS

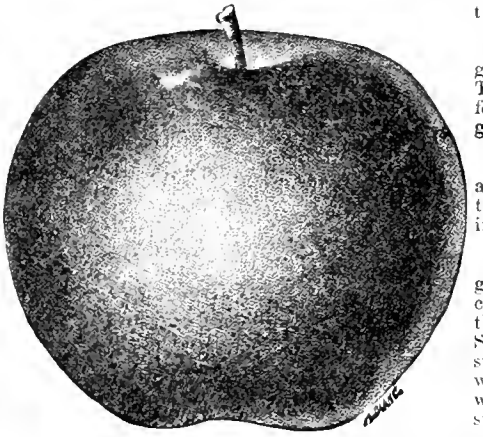
SELECTING VARIETIES OF FRUIT.

By L. H. Bailey, Jr., Cambridge, Mass.

Whether or no an orchard returns a profit to the owners will depend in a great measure upon the kinds of varieties, and the number of each, which it contains. There is probably no greater mistake among orchardists than that of neglecting to give much thought to the kinds of varieties to be planted. Care in the selection of varieties, is the first stone in the foundation, the first step to success. It is to the orchardist, what the selection of the breed is to the stock-raiser.

There are several things to be taken into consideration in the selection of varieties. For profit, an apple must combine these three qualities and preferably in the order named; *hardiness, productiveness, and good quality.* These terms are all relative. An apple which is hardy in one part of the country, may not be hardy in another part; the same is true of productiveness, and to a less extent of quality also. Hence, the subject of the selection of varieties must be a local question. The same apple may not succeed in different parts of the same State. I have known good Sour Boughs to be raised abundantly while sixteen miles from a place where they grew small, black, gnarly. In setting a young orchard, if the grower has not had personal experience in his locality, the safest plan to pursue is to visit all the apple growers in the immediate vicinity, and to ascertain the most satisfactory varieties. Ask what apples endure extremes of weather best, which ones bear the best, which are handsomest and best in quality, and which ones keep the longest. It is not necessary that experienced orchardists live in the neighborhood in order that this information may be secured. Select several of the most promising varieties grown by the neighbors, and as an additional guide write to the leading dealers of the market to which you will ship, asking what ones of your list will meet the best demand in the market. Experienced dealers' judgements are invaluable in this matter, but they do not, of course, cover the subjects of hardiness and productiveness. What dealers can sell best, is not always what farmers can raise best. Some apples are nearly cosmopolitan. Such, for instance, is the Baldwin, which is a superior variety from Maine to Michigan. But even in this case there are localities in the Northeastern States where some other varieties are preferable for winter markets to Baldwins.

The varieties once decided upon, plant enough of each variety to pay for the hauling. Fifty barrels of Gravensteins are worth as much as seventy-five barrels of mixed apples of similar size. Plant each variety by itself. It is a most exasperating operation to be obliged to pick Baldwins first in one corner of the orchard, then in another. An orchard of five hundred trees, if set for profit, should not contain more than five varieties, and on an average, four of the five should be winter



THE LIMBERTWIG.

apples. Three varieties are preferable to six. I recall a story of a prominent pomologist, who, when asked what varieties he would plant in an apple orchard of one thousand trees, replied, "Nine hundred and ninety-nine Baldwins." When asked what the other tree would be, he replied, "I should make that a Baldwin, too."

THE LIMBERTWIG APPLE.

We give this month a cut of an apple for our readers in the Middle and Southern states. The Limbertwig is a medium-sized apple, of a deep dark crimson color, roundish, oblate in form, firm fleshed, does not bruise easily, and is most valuable for its long keeping qualities; keeping easily in the Middle States until May. This apple is more apt to shrivel up than rot. A rotten one is seldom seen. It is the best keeping apple in North Carolina, where it originated. The tree, as its name indicates, has slender branches and of drooping habit, but the tree is a good grower, a young and an abundant bearer, and hangs well late on the tree. This apple succeeds well in wet soils and dry sands, and in the South is a valuable mountain apple, and a good keeper everywhere. It is one of a list of Southern seedlings that will prove one of the most valuable keepers where long keeping apples are desired.

FRUIT NOTES.

For the information of our readers who wish to test the Comet and Lawson pear, we would say they are claimed to be the same pear, only the introducers of them each gave what seemed to them an appropriate name. We wish the pear had but the one name, as two names will lead to confusion, and when both names get before the public it will be difficult to make change. Why not at once make the change?

✢

The fruit crop this year has been unusually large, and prices have ruled low. It is not probable that the crop will be as heavy next year.

✢

Much discussion has taken place in regard to the culture of pear trees, and allowing the land to lie in grass without cultivation. The idea seems to grow that the blight is in a measure prevented by seeding the pear orchard to grass as soon as the pear trees are well rooted. The grass should not be pastured, but let lie to act as a mulch.

✢

Strawberries should not be mulched with coarse manure and litter until after the ground is frozen. If covered earlier the mulch often smothers the strawberries when the plants are not in a dormant condition. After a hard freeze there is no danger.

✢

Potash salts are still found useful in peach growing. Their use will doubtless increase. The kainit (crude sulphate) is very cheap, and found very beneficial. Ashes and lime are also good for peach orchards.

✢

While in most sections of the country the apple crop is large, yet in some sections where the May frost injured them the crop is light, as in some parts of Connecticut.

✢

If not already done, cut scions for spring grafting. No matter if they are frozen when cut, if they are at once buried in the soil, but if thawed out rapidly they will dry out and die. Scions are best buried, and dug when wanted for spring grafting. Select now the kinds you would like to propagate, and be ready to graft when spring comes. Early grafting, as a rule, succeeds better than late grafting.

✢

Much has been said in the Mississippi Valley in regard to wet and dry orchard sites. Mr. B. F. Johnson, of Illinois, deems low ground better than the high ridges. We believe that the exposure of orchards to drying winds on high ridges is very injurious, but not all varieties will flourish in low grounds. Some varieties of apple will not flourish in a wet soil, while others will do well. We wish some of our readers would give their experience.

✢

The Wealthy apple still seems as popular as ever for cold regions where the tree must be an iron-clad. The Wealthy is a fine apple in regard to size, color, early productiveness, good for cooking, and dessert. Our Northern friends should try the Wealthy. The Wealthy is too early to be valuable for the Middle states, earlier, perhaps, than the Baldwin, but much hardier.

The Massachusetts Horticultural Society, in their discussion on grapes, named the Concord, Moore's Early, Worden and Delaware, as grapes that could be relied on in Massachusetts. The Concord fails to ripen one in four or five years, but is, as elsewhere, a hardy and valuable grape. The Brighton was excellent, but sometimes mildews. The Francis E. Hayes was promising white grape, but not yet fully tested.

✢

The year this number closes, has been one of fruitfulness. The promise we had of an abundance of fruit, by the profusion of the blossoms last spring, was generally fulfilled.

The untimely frost last May, injured, and to a great extent ruined the fruit crop of Connecticut and a portion of New York, and to a small extent elsewhere, did not seriously injure the generally abundant crop. A portion of Maryland had a light crop of fruit; but 1884 has been a year of abundance. The outlook for fruit the coming year, especially apples, is not good. So many trees in the Mississippi Valley have been ruined by the cold dry winters of the past two years, that the trees are not very vigorous, and many trees are so far ruined that their recovery is doubtful. The dry weather over so large a portion of the States, will seriously injure the fruit prospects of 1885. What we need is a moderate, warm and wet winter and an early spring, and we may have a fair fruit prospect the coming year.

✢

Our readers have had an opportunity to see how well the old varieties of small fruits have done with you as well as the new ones. You are now prepared to plant more largely next year of the varieties you know that do well. We have tried to keep you informed in the past, as we shall in the future, of all the new fruits that you might find worthy of a trial. You now have the leisure, on these cold stormy December days, to make out a list for spring planting of 1885.

✢

The Le Conte pear is being tried extensively as a stock on account of its vigor, for stocks for grafting standard pears. It is too soon yet to know the value of the Le Conte as a stock for such purposes; but if successful will make a new era in pear growing. The Le Conte pear is reproduced from cuttings easily.

✢

In selecting a place for an orchard in a locality where the trees are apt to winter-kill, do not select a southern exposure, for the trees are then more apt to winter-kill than when planted on a northern exposure. The repeated freezing and thawing of the south side of the hill, with the the sun drying the branches, will injure a tree more than severe cold. Dry, cold weather, long continued, will winter-kill a tree when a damp air thirty or forty degrees would not injure it. Sudden changes from cold to warm, as is common on the south side of an orchard, is very injurious. The dry air of the North-west, winter-kills more trees than the cold. Branches protected by snow from dry air are never winter-killed, no matter how severe may be the cold winter.

✢

DWARF PEARS OR STANDARDS.—P. T. Quinn, speaking from twenty-five years' experience in growing pears for profit, and from unusual opportunities for observation, both in this country and Europe, says in the New York *Tribune*:—"If I were about to plant a pear orchard now, and could get dwarf trees for nothing, and was compelled to pay five hundred dollars a thousand for standards, I would not hesitate a moment in making a selection of standards. The tempting theory that dwarfs will bear fruit in a couple of years from the time of planting, is a dangerous and bad theory to practice. A pear tree should not be allowed to bear any fruit until it is five or six years in place, and one healthy standard pear at twelve years of age, is worth a dozen of dwarf trees, kept as dwarfs, at the same age."

✢

WINTER VARIETIES OF TREES.—According to the *American Farmer*, B. G. Buell, a well-known orchardist, of Michigan, finds top grafted trees on such hardy stock as Northern Spy and Duchess of Oldenburg to withstand the effects of intensely cold winters much better than root-grafted trees; and the Red Canada top-grafted on the Northern Spy nearly escaped in the unprecedented cold of 1875 and 1873, when others, such as the Baldwin, were killed outright. Tompkins County King was much injured by this intensely cold winter, and the trunks were split and many of the larger branches killed. Wherever the trees thus injured were severly pruned and shortened in, the trees were saved; those not pruned died in a few years, thus showing the injury a trees suffers from neglect in removing dead limbs.

The New Orleans Exposition, which commences on the 16th of December, will be the largest Exposition of the kind, and will probably be the largest exhibition of fruits ever held. The premiums are large, and the list extensive, and will draw an exhibit from all parts of the world, and of all the varied classes of fruits, both temperate and tropical. Owing to the changes now introduced by cold storage, fruits can now be kept sound long after their season of ripening. This fact will allow many of the fruits, such as peaches and pears and some of the tropical fruits, to be shown much beyond their usual season, and visitors will see those fruits in fine condition, and the fruit exhibit will be one of great value to the visitor.

✢

WOOD ASHES IN THE ORCHARD.—Among the most common and most valuable of special manures I place wood ashes, says Prof. Kedzie. The amount of ash and its relative composition vary with the kind or part of vegetable burned, but we may safely take the ash of the body of a beech tree as representing the average composition of wood ashes. One bushel of ashes represents about two and a half tons of dry body wood. Wood ashes contain all the required elements of plant nutrition except nitrogen. One hundred pounds of wood ashes contains sixteen pounds of potash worth 80 cents, three and one-half pounds of soda worth 2 cents, sixty-seven pounds of lime and magnesia worth 8 cents, and five and one-fourth pounds of phosphoric acid worth 26 cents. If we had to buy in market the cheapest form the manurial materials contained in one hundred pounds of ashes the cost would be $1.16. Can you afford to throw away such valuable materials, or sell them for sixpence a bushel to the soap boiler? No argument is needed; here is the value and there is the selling price. Draw your own conclusions.

✢

Apples for export must, at no distant day, attract the fruit growers attention if he looks to his interest and profit. The English plan of selling all fruit at auction at one place on arrival at Liverpool, and in the hasty manner with which such sales are made is not conducive to uniform prices for the best fruit, nor to the satisfaction of the shipper. What we need is a good American commission house, where apples, on arrival, can be sorted, and then placed for examination and sale. Such a plan would open a wide field for profitable exportation.

DOUBLE HYACINTH.

OUR FLOWER GARDEN.

WINTER BLOOMING BULBS.

We imagine that by this time many of our new subscribers who received bulbs from us are enjoying a beautiful feast of flowers, and be the envy of their neighbors. Of course all now wish they had bought some, and fully intend to do so next season. The roots that are now showing flower spikes must now be brought into a warmer place, and close to the glass. Watering must be attended to regularly, and a little manure water now and then will give them strength and large flower spikes. Do not bring them all in at once, but prolong the show of flowers as long as possible. Crocus, if planted in pots or boxes, will need a much cooler place, and will require more air as well, or else they will not bloom.

LILIES,

If placed in the cellar, may also be brought forward and forced a little, no doubt by this time the pots are full of roots. Small pots are best for Lilies to begin with, and when the leaf stalk is well above the soil they may be shifted into a larger pot, setting the ball of earth way down, and covering the bulb with as much soil as possible, roots generally form first above the crown of the bulb, and they help the flowering very much.

BEDDING PLANTS FROM SEEDS.

It is not everyone who has the space or means to provide and winter a large number of Geraniums and other tender bedding plants. No matter how favorably one may be situated, the keeping of a large stock of such plants involves a good deal of trouble, and takes up space that might be more profitably occupied. Moreover, it is quite practicable to make a garden very gay in summer and autumn with seedlings alone, without keeping or purchasing a single plant, and a comparatively small amount will buy the seeds required. There will, of course, in some cases be a difference in habit, and some variation in color, as in those particulars a certain natural freedom, involving some departure from the normal type, is nearly always perceptible in seedlings, and must be expected; but to many people this will not be an objection. There are, however, a few plants which come true from seed through many generations; among these are the Verbenas, which are of the best and pleasing bedding or border plants. Another plant which comes true from seeds is

SALVIA PATENS,

But both this and the preceeding should be sown in a hot-bed early in spring, in order to get them into flower early. Can anything again, as a mixed bed, be more showy than a mass of seedling Petunias? The colors are not harsh and irritating, but soft and pleasing. Verbenas make a handsome bed, little inferior to the Petunia, and for a large bed, where the soil is good, few things are superior to the double Zinnias, which can be had in various colors, separately if desired. Balsams, again, are not half so much used as they deserve to be. Those who have only seen them starving in pots cannot form any idea how beautiful they are when planted out in good soil, in an open situation, away from trees. Among yellow flowering plants, the small, single Tagetes Signata Pumila is as useful, but it is not equal, to the double variety. The yellow and orange varieties of the African Marigold are very lasting and showy. The dwarf kinds of Ageratum, if selected and saved with care, may be raised with but little trouble, and, with little management in summer, very effective masses may easily be had. The Tuberous Begonias form a prime feature in sheltered positions, they will grow in all colors of Pelargoniums.

We said nothing about the large number of perfectly hardy plants, well suited for massing, and that cost nothing to keep. Take, for instance, the large family of Violas, in almost all shades of purple, yellow, and white. Varieties which formerly took two years to come to perfection may, now that selection and fertilization have so much improved them, be raised in the early spring for bedding out the same summer. This applies especially to such plants as the Verbena, Viola, Pansy, Geranium, Golden Feather, Salvia Patens, Salvia Argenta, Heliotrope, Dwarf Antirrhinums, which should be sown in January, also, the Petunias, Phlox Drummondi, Dianthus Heddewigi, Indian Pinks, etc. Ageratums and Lobelias, which may be sown in a warm place in February, and if kept growing will be ready for planting out in May. Begonias for bedding may be grown from seed in the same year, but are much more effective if raised the preceeding year, and selected according to color, and stored in the winter ready for bedding out in early summer. The same system may be employed for indoor decoration, for Gloxinias begin to flower in June, if sown in January or February; Begonias in July, and then they last throughout the autumn, when last year's bulbs are overblown indoors. Fuchsias sown in January flower well in August, and many other plants, also. Of fine foliage plants adapted for bedding, which can be raised from seed, there are the useful Amaranthus Melancolicus, and the drooping Amaranthus Salicifolius, Celosia Huttonia, with its fine habit and effective coloring, all of the Centaureas Cineraria Maritima, and Humea Elegans.

Then we have the Cannas, Chamæpence, Nicotianas, Ricinus, Solanums, and Wigandia; these are all large growing plants which produce a fine effect on the lawn and are much admired. In fact, if we were not so much accustomed to depend on cutting plants stored over the winter, we could make a display on seedling plants alone. If Fuchsias may be grown to the flowering stage during the current year, there can scarcely be any difficulty in getting a large stock of plants for the open garden in the same way. The cleanliness resulting from this plan would be a gain in itself, because the tendency of old propagating plants is to harbor the eggs of vermin through the winter, which are always ready to eat up the collection if neglected for a week. But, starting with thoroughly clean boxes, if an amateur, or houses and frames, if a florist, and good reliable seeds, one cannot fail to be successful. For many reasons, the raising of bedding plants from seed is preferable to growing from cuttings, and yet the latter way is most desirable when only a limited number of plants is necessary. We know well that everybody raises plants from seeds; but, the early thinning, the perfect exposure to light, the sturdy growth, the unchecked culture that seedlings require, are seldom given them, owing to the little space and little thought they usually occupy.

ARUMS.

Several of these are very beautiful plants as regards to foliage, and interesting when in flower. They are mostly from tropical countries, while others, like A. Italica and Dracunculus are hardy. The foliage of A. Italica is very handsome indeed in winter and spring, and rivals many of the Marantas and other plants that are raised only for the beauty of their foliage. When several roots are planted in a pot of soil, composed of turfy peat mixed with a little fresh moss, they will soon fill it with magnificent leaves, attaining their full development very early. If planted out, they form a very attractive feature in the flower border. In the autumn, when the leaves have died away, the groups of scarlet berries, supported on foot stalks, ten or twelve inches long, have a very attractive appearance, which they retain for a considerable time.

ARUM CRINITUM. (*Dragon's Mouth.*)

The appearance of this plant when in flower is very grotesque, from the singular shape of its broad speckled spathe. The leaves are divided into five or seven deep segments, the centre division being much broader than the others, and the leaf-stalks overlapping each other, form a sort of spurious stem one foot or fourteen inches high, marbled and spotted with purplish black. The treatment of this plant is similar to that given for A. Dracunculus, but it is rather more tender, it will require a little more care and shelter in winter; a mild situation will suit it best. The appearance of the flower is rather repulsive, the disagreeable odor being strong enough to attract the larger flies in quest of a suitable place wherein to deposit their eggs. It is a strange plant, seen in a group of fine-leaved subjects, or holding its blossoms from out a mass of low shrubs.

TULIPS.

The varieties of Tulips are so valuable that no garden or window sill should be without them, as indeed very few are, particularly as their culture, described before in these pages, is so simple. The blooming season is not so short as is generally supposed, for between the earliest and the latest flowering kinds a considerable time intervenes. Beds of Tulips may be carpeted with tufts and clumps of small creeping plants suited for the purpose. The White Rock Cress (*Arabis Albida*), together with it variegated form, the Aubrietas, Hepaticas, Primroses, Cowslips, Pansies, early flowering Violas, Sedum Acre Aureum, the pretty creeping Ajuga Reptans Rubra, and many others make pretty carpets for beds of bulbs. When a collection of Tulips is sufficiently large to admit of its being done, it is a good plan to rest the bulbs every third year, by preventing them from blooming. They occupy but a small space in the reserve garden, and can be planted quite thickly. In order to grow Tulips to perfection, a light, rich, well-drained soil is required, yet, almost any soil will give astonishing results. They should be planted with from three to four inches of soil above the crowns of the bulb; if planted nearer the surface and a severe winter follows they are liable to injury.

The late flowering Tulips are chiefly descendant from T. Gesneriana, itself a very handsome plant in the wild state, particularly its variety Fulgens, which has very large cup-shaped flowers of a glossy, deep crimson. For centuries this class of Tulips has been cultivated, and at one time, and even still, are classed among florists flowers. They are now divided into four sections, viz.: Breeders, or self-flowers; Bizarres, Bybloemens, and Roses. When a seedling Tulip flowers for the first time, it is usually a self, and in the course of a few years (but occasionally as long as thirty years) they will break into the flamed or feathered state. A feathered Tulip has the colors finely pencilled around the margin of the petals, the base of the flower being pure; in the Bizarre it should be clear yellow, and in the Rose or Bybloemens, white. In the flamed flower, stripes of color descend from the top of the petals towards the base of the cup. The colors in the Bizarres are red, brownish-red, chestnut, and maroon; in the Bybloemens, black and various shades of purple are the prevailing colors, and in the Roses they are rose of the various shades, and deep red or scarlet. They can be planted as long as the soil is in condition for it, and need a little protection, viz.: Some covering of hay or straw. In planting the bulbs it is usual to put a little sand around them. Although many varieties are of a tall habit, and the flowers are heavy, the stems are usually strong enough to support them without sticks. The time of lifting the bulbs should be fixed by the condition of the flower stems; when these will bend without breaking they may be taken up, dried, and stored away until planting time.

PARROT TULIP.

People are beginning to appreciate the beauty of Tulips and Hyacinths more and more every year. There is so little trouble in bringing them to perfection, whether planted out or in pots. All you have to do is to plant them in a pot in good soil, set them in a cellar, cover them up to the depth of three or four inches with soil or ashes and leave them there until the leaves appear, then bring them in and they will at once come in bloom. When planting Tulips in pots, a few bulbs of Crocus may be set around it close to the edge of the pot. They will not interfere at all, and make a charming addition, as they will be in flower some days before the Tulips; besides it will save a good deal of room. Our illustration shows a full-size flower of single Tulip, and also a spike of double Hyacinths, although the latter is not done justice, as the flower spikes are generally much larger and fuller.

TULIPA GREIGI (*Turkestan Tulip*)

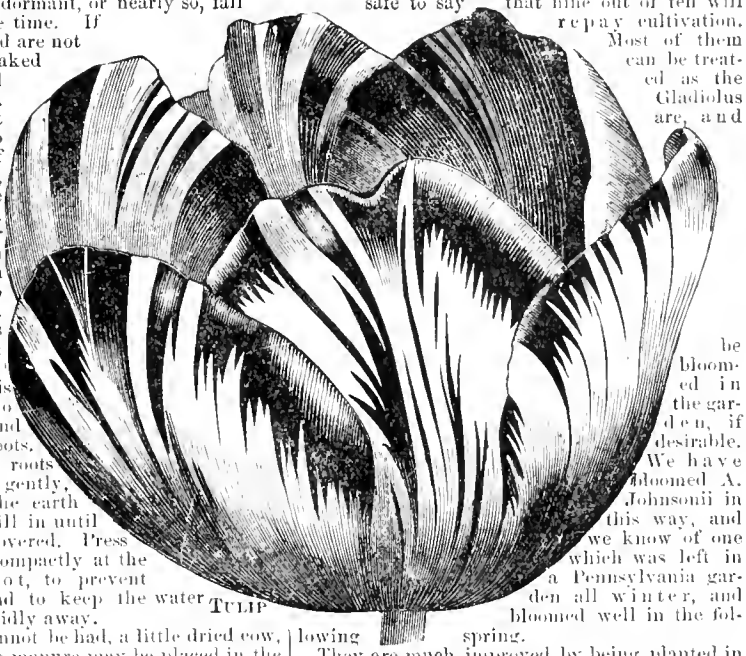
Is undoubtedly one of the finest, most showy, and most desirable. Its large goblet-shaped flowers are generally of a vivid orange-scarlet color, but there are also purple and yellow-flowered forms. The bulbs are so extremely hardy that they will withstand freezing and thawing with impunity, and even when the leaves are half grown they will endure a temperature as low as zero without any protection. It is a high-priced plant compared with the trifling cost at which other Tulips may be procured, such as the Parrot and single Tulip, shown here.

TO BLOOM AMARYLLIS FOR WINTER.

By Anna Griscom.

These are properly Hippeastrum, but generally receive the name of Amaryllis. To bloom them well they should be potted in very rich earth. Only well-rotted manure must be used, as all partially decayed substances prove injurious to the bulbs, and when placed in the heat of rooms ferment, and sour the earth. One-third of manure, one-third of wood's earth, and one-third of garden mould, are good preparations. Add to these enough sea, or other sand, to allow water to pass freely through, and the compost is complete.

Just after bloom is a good time to repot Amaryllis, but if dormant, or nearly so, fall is a very suitable time. If the pots to be used are not new, have them soaked and well scrubbed before potting. Put into each pot from one inch to two inches of broken crocks, according to the size of the pot. Broken oyster shells are even better than broken pots, as they help purify the earth. After the crocks are placed fill in with the mixed earth until there is just room enough to set in the bulb and spread out the roots. Then cover the roots and shake the pot gently, so as to settle the earth about them, and fill in until the bulb is half covered. Press the earth down compactly at the edges of the pot, to prevent hollow places, and to keep the water from draining rapidly away.



TULIP

If rich earth cannot be had, a little dried cow, chicken, or pigeon manure may be placed in the bottom of the pot after the drainage is covered. One or two inches of earth must be placed over this before the bulb is put in, so as not to have the roots come directly in contact with the manure, until they are growing and ready to absorb it. If the potting is done in the fall (before frost) the bulbs may be set to rest in the cellar, or a dark closet, or other place not too light or too warm, so as to force growth. Here they should remain until the middle of December, receiving water at intervals of two or three weeks. They then may be removed to a warm, sunny window, and be well watered for a day or two, or be soaked in a basin of water until the earth and pot are thoroughly saturated. They should not be watered afterward unless they show signs of growth, for if kept constantly wet when not vigorously putting forth leaves or buds they lose their roots, and the bulb decays. The bud should be entirely out of the bulb before much water is given, for if chilled at this stage of growth by a sudden change of weather, it may take weeks for the bud to resume growth, if it does not eventually decay.

The ordinary bloom, five-inch pots are large enough for most Amaryllis bulbs, but for extra fine flowers they should be repotted as often as the roots reach the outside of the earth, until an eight or ten-inch pot is needed. When repotting is inconvenient, a top dressing may be given once or twice a year, or liquid manure may be used once or twice a week, when growing freely. Horse or cow manure may be scalded, and the liquid be mixed with half the quantity of water.

When a bud becomes chilled, the water given should be as warm as the hand will bear, and be put into the saucer and around the inside edge of the pot. If the water is not absorbed from the saucer, remove it as soon as it becomes cold.

There bulbs can sometimes be forced into bloom by placing them near a warm stove or on warm bricks, but such a proceeding is apt to weaken the bulb.

Of these splendid flowering bulbs, there are too many varieties to enumerate, but it is safe to say that nine out of ten will repay cultivation. Most of them can be treated as the Gladiolus are, and be bloomed in the garden, if desirable. We have bloomed A. Johnsonii in this way, and we know of one which was left in a Pennsylvania garden all winter, and bloomed well in the following spring.

They are much improved by being planted in the garden after frost is over and allowed to grow there until just before frost returns. In this way the young plants or seedlings develop rapidly, and bloom sooner than if left in pots. It is best to grow all varieties in small pots until they show bloom, as they produce buds sooner when the roots are crowded, and their merit is sooner known and judged. Especially is this desirable when seedlings are raised or when the young ones become mixed. By other modes of treatment they may require from three to five years to develop into blooming size.

The fall-blooming varieties of Amaryllis should be potted in the spring and rested during the summer months. This mode of treatment will cause them to bloom near Christmas. They require the same earth as the spring-blooming kinds, but are less liable to dry off, and produce leaves at shorter intervals. They are generally not so handsome in the form of flowers.

WINTER CARE OF FLOWERS.

A beautiful window of flowers in winter is easily had with but little care and attention if properly done. Do not keep the flowers too wet, especially in dull weather. Air as often as possible when not too cold. Do not allow the cold air to blow on them, but lower the top of the window to air them, and do it in still weather. When there is danger of freezing, place a cotton cloth, such as an old table cover, over the plants and support it by light sticks. Place pails of water among the plants, as the water will freeze before they are injured. If the plants are frozen immerse the whole of it in cold water by turning the pot upside down, taking care not to allow the plant to fall out. The leaves are much improved by taking a small syringe and spray the leaves well, which will make fresh, green foliage.

LIVE STOCK.

"SCRUBS."

By Eben E. Rexford, Shiocton, Wis.

I called at the house of the neighbor, the other day, and found him a contented man. But his contentment was not of the kind I like to see. They say that a "contented mind is a continual feast;" but I am more and more convinced that if very many men had less of this man's kind of contentment, they could afford a much better feast than they partake of at present. This neighbor is content to jog along through life precisely as his father did. But his wife is not; she believes in improvement, and sees that the old ways are not always the best ones to follow. She is ambitious to get along in the world. She does not believe in merely "holding your own,"—a principle governing too many men to-day; but rather in getting ahead. Not because she is mercenary, but because she wants to be able to help her children to get a start in the world, and because she sees that it costs as much to live in a "well-enough" fashion, as it does to live in a progressive one,—in short, that shiftless, careless management requires the outlay of quite as much labor and money, as is needed in a go-ahead way of doing business, and brings in little beyond a living, while the energetic, progressive farmer lives better, and lays up a little for a coming "rainy day." She believes it pays to get a good article when you buy; that it pays to get rid of anything you have to dispose of if you can get something better to take its place. This she considers good economy. So do I. They keep six or eight cows. As country cows go, they are probably as good as the average. They give eight or ten quarts of milk per day, for some months in the year, and this milk gives an average of three pounds of butter per week. The cows have the run of one of the best pastures in the neighborhood. They have all that is necessary for cows to have, and do well, and I suppose they do as well as you can expect them to, but that does not satisfy my friends enterprising wife. "I want John to get a Jersey or an Ayrshire," she said to me. "If *I* were a man, I wouldn't be satisfied with 'scrubs.' But he says we can't afford it. *I* know he can, and that he is working against his own interests in keeping the cows we have, when it would cost no more to keep a kind which would bring us in as much again." She is "level-headed." She sees that money used in purchasing good stock, is well invested. The first cost may be considerable, but the returns would be so much more, that before the farmer realized it, the extra first cost would be made up to him. If he could be convinced that it costs no more to keep a good cow than a "scrub," and see how much greater the profits are, he might be induced to purchase. But he gets frightened at the cost, and resolutely refuses to be convinced. Such farmers are short-sighted, and rob themselves by their non-progressive ideas. They have only to read the papers to find out how much better it pays to keep good stock. But the trouble is, you cannot get them to read, and if they do read, they are skeptical. Let them find out by going into a neighborhood where "scrubs" are things of the past.

THE HOLSTEINS AND AYRSHIRES

These two breeds are the only true dairy cattle. Not that cows of other breeds may not prove excellent for the dairy, for there are exceptions in many cases, but the Holsteins and Ayrshires will always increase the yield of milk when used for improving the native cows. The Ayrshires are earlier in maturing, as they are smaller than the Holsteins, and are able to subsist on poorer pasturage, but if the best results are to be expected, both breeds of cows should be allowed upon the most favorable pastures only. It is a mistake in dairying to select stock for the reason that it is adapted to inferior pasturage, as no breed of cattle will give satisfaction where the conditions are not favorable for large yields. The Holsteins have the advantage of making good animals for the butcher when no longer required at the dairy, owing to their large frames, upon which heavy weights of flesh may be placed, but they are not equal in quality in that respect to the Herefords or Shorthorns. The Holsteins are best suited on level pastures, but the active habits of the Ayrshires enable them to utilize rich hillside pastures, and in that respect they have no superior. For dairy purposes both breeds yield largely in milk, and though often good butter cows are found among them, the milk is not equal in richness to that of the Jerseys or Guernseys.

THE BARNYARD IN WINTER.

How often do we witness the cattle standing in the barnyard with manure up to their knees, and no signs of comfort or warmth in any form. This may be easily prevented if the yard is provided with plenty of absorbent material. It is wasteful to allow the straw and fodder to be picked over and trampled for the sake of using it in the manure heap. Nothing is gained by the process, for if such material can be passed through a cutter it will not only serve as food, but the manure in the yard will be in a finer condition. To obviate the difficulty of muddy yards, plenty of saw-dust should be added to the yard, and as soon in the spring as possible, the manure should be hauled out, and the yard again covered liberally with saw-dust. Instead of compelling the stock to remain in the stalls on wet cold days, they should have a large dry open shed outside, with a floor higher than the yard, and facing the south. They can then exercise themselves a little, and will keep in better health. An occasional cleaning of the floor of the shed, and liberal use of sawdust, will keep the standing places clean. Saw-dust also makes excellent beddings in the stalls.

HOG KILLING.

One of the notable days in the good old-fashioned farmers life, was the annual hog killing. The cozy farmer who had the killing was happy. His pen, which was the pride of the neighborhood, was full of large well fed porkers, that were too fat and lazy to walk; but were always ready at the trough to the accustomed feed, and then as ready to pass away the day in sleepy enjoyment.

We well remember those days, and the busy women folks too, who with bustling activity prepared the day before, perhaps long continued into the night too, the pies, cakes and doughnuts that were to add the staple luxuries of the farmer's hog killing dinner.

The long anticipated day arrived, and with it the neighbors who were to assist in the hog killing, with their wives and children. There was one day we children could have to do just as we pleased, as everybody on hog killing day was too busy to pay any attention to us. What romps we used to have, and what fun in those old-fashioned hog killings. But the fashion is changed. A professional does the killing, a few do the work, and one of the great days of the old-fashioned farmer is passing away. Those good old customs of the country farmer are passing, and country life is becoming city life, and the old country gatherings and country hog killings will soon be no more.

STOCK NOTES.

Motto for stockmen:—Feed well, water well, and sell well.

Warm the water for your animals to drink in cold weather. Cold ice water is a poor drink for a cold, exposed, shivering animal. A little labor is required to do it. A merciful man will be merciful to his beast. Please see to it.

QUARTERS FOR SHEEP.—An open shed, facing the south, with a close roof, is better than a closed building for sheep. The floor should be of boards, and kept clean. Damp sleeping places conduce to distemper, while muddy yards promote foot-rot.

Stable well all stock, in good, dry, warm, well ventilated stables. Water regularly, and if the weather be cold, draw fresh water, and do not use ice cold water, as it chills animals too much. Let them out each day for exercise, and you will find your animals better for it.

The Holsteins are coming into prominence as a butter and dairy cow. The breed are remarkable for large size, coupled with great milking qualities. They are "the cattle" of Holland for dairy purposes. The milk, while not as rich in cream as the Jersey, is more in quantity, and makes a fine gilt-edged butter.

Cleveland Bays, an English breed of coach horses, are attracting a great deal of attention among stockmen. They are of a beautiful bay color, and all the colts bred from them are all so near the same style and action that they will nearly all easily mate. They make fine road and carriage horses, and are excellent for the farm.

A dry pen is, to a pig, of more consequence than many suppose. It pays to keep the pig dry and warm. The sleeping part of the pen should be raised a foot or so above ground, and allow the air to freely circulate under the pen, to dry the bed. The cold does not hurt a pig if the bed is good and dry; but wet pens are one of the greatest nuisances of a farm.

Turnips, Ruta Bagas, and the like are good feed for cows and horses. Cut them into thin strips, (if cut thick, animals choke with them), spread a little meal over them, and give milch cows their feed after milking. The flavor is not so strong in the milk if fed while, or after, milking. Carrots are better to feed, and make, when fed, a beautiful yellow colored butter, even in winter.

THE PIG PEN IN WINTER.—The pigs are expected to keep the pen dirty, owing to the amount of sloppy food they receive, and without a plentiful supply of absorbent litter, mud and dampness cannot be avoided. The sleeping quarters, however, may be kept dry. By scraping the floor clean with a hoe every morning, and scattering saw-dust or chaff over it, the pigs will have a comfortable place in damp weather. On cold days, a bed of straw should be provided, which can be changed whenever it becomes damp.

CHANGING THE COWS TO HAY.—The sudden change from green to dry food is not favorable, In the spring the change to green food is done gradually, and in winter the loss of green food is seriously felt at first. As the cows must now breed upon hay, a warm mess of cooked roots in the morning will greatly promote the flow of milk, which is gradually falling off; while a few turnips, carrots, or beets, at night, will be highly relished. Dry hay should be varied with other food as much as possible.

The Poultry Yard.

(EMBODYING RESULTS OF ACTUAL EXPERIENCE.)

FATTEN THE FOWLS FOR MARKET.

A great many farmers who have large flocks, are in the habit of holding on to the extra fowls until Christmas, as the prices are then good. They will find it a great advantage to coop them up for ten days before selling. Turkeys fatten very rapidly when cooped, but after they reach a certain stage, they begin to decline, and fall off in weight. This is due to the fact that they begin to worry and fret from the confinement. To fatten them, therefore, the work should be done quickly. It is much better to feed them a little at a time, five or six times a day, than to feed them full meals two or three times, the object being to induce them to eat as much as possible. This can be done by giving them a mixture of ground oats and corn meal, warmed with hot water, early in the morning. Then mashed potatoes or turnips, thickened with bran or ship-stuff. Cooked clover hay, mixed with corn meal should follow, and milk, to which a little rice or beans has been added, should constitute one feeding. At night, give them a full meal, as much as they will eat, of wheat and corn. Keep plenty of gravel, charcoal, and clean water in the coop, and keep it clean and warm. A turkey fattened in that manner, will be all that can be desired in ten days, and the flesh will be tender and the carcass plump, bringing a good price for quality and increasing in value from the extra weight. Coop each turkey alone.

Hens may be cooped in lots of three or four, and may be fed the same way, only they may be allowed two weeks instead of ten days. Never put cocks and hens together when being fatted. When about to kill them, omit the night meal, and feed nothing until after they are killed, except to give a little milk to drink. During the time they are cooped the meals should be fed warm, and a pinch of red pepper and salt should be given at least once a day. Pick them while the bodies are warm, throwing the carcass in cold water as soon as picked. For family use, scald the fowls, which is the easiest and cleanest method.

WATER-PROOF RUNS FOR CHICKS.

In winter there is always difficulty in securing warm, dry runs for early hatched chicks. Glass is too expensive, besides, it is not every one who understands glazing. A cheap substitute may be used instead of glass in the shape of muslin. For twenty-five young chicks, make a run four feet wide and twelve feet long, by nailing laths to upright strips. Now tack the prepared muslin all around the sides of the yards, in order to shield the chicks from the winds. The yards may be as deep as preferred, but should be high enough to allow the attendant to move about in the yard. Make a top for the yard, of lath, nailed by the ends to two running strips, and cover it with prepared muslin. Do not nail the top on, but place it so that it may be removed whenever desired. The yard will then be protected on the top and sides, and the heat of the sun can enter, while hawks, cats, and rain are prevented.

To make the prepared muslin, soak muslin (bleached or unbleached), in a strong solution of soap for twenty-four hours. Then hang it in the shade to dry, without wringing. When dry, soak it in a strong solution of alum, and allow to dry without wringing, as before. The muslin will then be water-proof. To stiffen the muslin, and render it still better, brush it over with a mixture of fresh blood and lime, or lime and white of eggs. Milk and lime is also excellent. Muslin so prepared will make a light and warm run, and can be prepared with very little expense.

TO MAKE HENS LAY IN WINTER.

We often receive letters from our readers stating that they provide their fowls with warm quarters, and feed regularly and on a variety, but, yet they get no eggs. Such cases are numerous, and we will endeavor to point out a remedy for the difficulty. We well know that if we keep a horse in a stable, and feed him well, that he becomes restless and unhappy, and in order to keep him in good health he must be exercised. With fowls, the winter prevents foraging, and our kind readers go to the coops in the morning and give the hens a heavy good feeding. The hens, being full, are *satisfied*, and have no inducement to ramble, consequently, do not take any exercise, and become too fat. The better plan is to get some chaff, cut straw, leaves, or even dirt, and place it where the hens can scratch in it. In the morning give the hens a mess of warm food, but *only a little*. Now throw some grain into the scratching heap, and make them *work* for the balance of their meal. Feed nothing but what they will have to *work* for. At night feed them all they will eat. The object is to keep the hens busy during the day, but let them go on the roost full. Hens that are compelled to work will lay better, and keep in good health, while the eggs will produce stronger chicks. They should always have a warm mess early in the morning, especially in the winter, but the meal should be so given as to leave them somewhat hungry. Do not feed them at noon, except by putting their food in the scratching heap, and never give soft food in the scratching heap. In other words, keep them scratching for oats, wheat, seeds, and even for ground shells. Give no corn except at night, and give them their nights meal without making them scratch for it.

POULTRY FOR EGGS.

We will say nothing in this article about the advantages of hatching chicks, as we wish to give a few hints to those who wish to keep hens for eggs only. The best breed is the White Leghorn, and they should be hatched in March, if possible, and pushed in growth. They will begin to lay in August, and with good management will lay all through the winter. Another plan is to hatch them in August or September, allowing them to grow during the winter. They will begin to lay in February and continue laying until the next August, when they may be sold. Such hens, of course, only produce eggs when eggs are cheap, but a careful manager will keep no cocks, but pack his eggs away for high prices. Eggs from hens that are not in company of cocks will keep twice as long as those that are fertile. To prove this we will state that when such eggs are placed in an incubator, and subjected to a heat of 103° for two or three weeks, they often are taken out in a sound condition, while fertile eggs cannot endure such heat at all without change. To keep such eggs, pack them end downwards in a barrel, placing a layer of wood-ashes (finely sifted), on the bottom of the barrel, then a layer of eggs (no eggs touching each other), and so on, until the barrel is full, filling all the spaces between the eggs with ashes. Pack and press the eggs, head up the barrel, lay it on its side, and roll it half round every day, and the eggs will keep nearly, if not quite, a year.

POULTRY POWDER.

One of our readers inquires for the more expensive Condition Powder for chicks mentioned in a past number. Well, here it is: Ground saffron, 1 pound; ground meat, 5 pounds; ground bone, 2 pounds; ground linseed cake, 2 pounds; ground oats (parched), 3 pounds; ground charcoal, 2 pounds; ground fenugreek, 1 pound; sulphur, ½ pound; salt, ½ pound; carbonate of iron, 2 pounds; hyposulphite of soda, 1 pound—20 pounds. Give a teaspoonful in the soft food in the morning to each hen daily. The saffron, meat, and fenugreek are the most costly items.

POULTRY SCRATCHINGS.

Frosted Combs.—Try and prevent this, as the hens will not lay until the injured member is healed.

Hay Seed.—This is cheap, and is often given away. It is not only an excellent food for a change, but just the thing for young chicks.

Periods of Incubation.—Three weeks are required for incubation of the eggs of a hen, and four weeks for those of the turkey, goose, duck, and guinea.

Winter Intruders.—This is the season when the minks and hawks are unusually hungry, and every precaution should be taken to prevent damage from them. Should a pair of minks effect an entrance in the poultry house they will not leave until they have killed all.

Successful Management.—Twelve hens will lay more eggs, in proportion to numbers, than 100, for the reason that the smaller number have more room and a greater variety. To keep more than twelve requires that the flock be divided, in order to prevent crowding and competition.

Bantam Ducks.—It is often desirable to keep Bantams, and in connection with them, Bantam Ducks. The Grey and White Call Ducks are the Bantams of the duck family and are very attractive and pretty. They derive their name from the fact that they were at times used to decoy or call wild ducks within the reach of the sportsman.

Judging Poultry at the Fairs.—It would be a good plan to have an expert to act as judge at the State and county fairs instead of leaving the awarding of prizes to a committee who give the premiums for size only. The form, condition, color, marks, and peculiar characteristics, which are very important, are seldom considered except when an expert is selected to do the work.

Something to be Provided.—During this month the ground may be covered with snow, or be hard and frozen. Something else is required, therefore besides food, which is gravel, or ground shells. Fowls will find such articles as ground bone, charcoal, coal or wood ashes, all serviceable, and will thrive all the better from being provided with such.

Meat in Winter.—A small piece of beef, or liver, boiled to pieces in a large quantity of water, and thickened with ground oats and corn meal, is a cheap mode of supplying animal food during this season, as a small piece of meat will provide a large quantity of such food. A pint of fresh bullock's blood will improve the mess, and such additions as potatoes or turnips will be of valuable assistance.

Pigeons.—Pigeons are not troublesome, and afford much interest to those who have the time to attend to them properly. The fancy kinds, such as pouters, tumblers, fantails, barbs, owls, and carriers, may be kept in the same loft, but they must be mated first. This is done by confining a pair together, away from the others. After the pigeons are all mated, no danger will arise of distinct breeds mixing.

The French Breeds.—Every attempt to introduce the French breeds, with one exception, in this country, has failed. The Crevecours and La Fleche do not withstand our climate. The Houdans are hardy, however, but no heavily-crested fowls are safe from roup, as the wet weather causes the crests to become water-soaked. The best use to which the Houdan can be put is to cross the males with large Asiatic hens, for which purpose the breed is unexcelled.

Dominicks and Plymouth Rocks.—These two breeds are very similar in plumage, but the Plymouth Rock is much larger. The Dominick, however, has the advantage of a rose comb. In using the breeds for crossing on common fowls, the Plymouth Rock is better where market chicks are desired, but, the Dominick is better if early pullets are to be produced, as it, being smaller, matures early. A cross of the Dominick and Wyandotte is a good one, and produces hens that do not have frosted combs in winter.

Whitewash in Winter.—There may be lice present in winter as well as summer, and no limit should be placed on the amount of whitewash used. But we have another reason for recommending whitewash at this season, which is, that it renders the inside of a poultry house light and cheerful. The hens prefer to remain outside in preference to the inside, if the house is gloomy. They love the light, and will endure cold rather than darkness. A good whitewashing brightens up the interior and promotes cleanliness.

Ventilating a Poultry House.—One-half of the appliances for ventilating poultry houses in winter are useless. An opening at the top simply lets in the cold air and keeps the house cold. Foul air in winter falls to the floor, being chilled as it is created. The safest and best method is to use a large roomy house with no cracks or openings of any kind. In the daytime keep the door open, and at night shut the house up close. If it is clean no danger will arise from having the fowls shut up for a few hours. The difficulty in winter is to keep the cold out, not to let it in.

Eggs From Fancy Breeds.—A good many persons are opposed to paying from $3.00 to $5.00 for eggs. Now, friends, it is not the *eggs* that you buy, but the breed. Take a flock of twenty turkeys, and suppose they average fifteen pounds each, at fifteen cents a pound. We consequently have 300 pounds of meat, worth $45.00. Now introduce Bronze gobblers, and each turkey next year will weigh from five to ten pounds more, and if continued until the turkeys are three-quarters Bronze, the weight of each member of the flock will be from thirty to forty pounds. It requires no calculation to show the profitableness of the original outlay for eggs.

Number of Eggs from Different Kinds.—A hen will lay, on an average, about nine dozen eggs in a year, and perhaps hatch two broods, though some hens have been known to lay as many as fifteen dozen. A turkey seldom lays over two dozen eggs, a goose three dozen, a duck eight dozen, and a guinea eight dozen. These figures are not exact however. We have known flocks of geese to only average twenty eggs, though individuals have laid as many as forty. A flock of turkeys often will not average twenty, but hens may be induced to lay more by taking away the eggs. Guineas are prolific, and if deprived of their eggs, sometimes excel the hens. A duck will lay anywhere from fifty to one hundred eggs.

THE HOUSEHOLD.

THE GREAT GIFT DAY.

Mrs. J. E. McC.

Christmas is pre-eminently "children's day," the Christian world all over; and there is much left out of the landscape where there are no sweet memories of the day to recall in later years. Said a little girl, whose parents had met with sad reverses, as she spoke of their present troubles:—"But they can't take away the memory of the good times we have had."

When happiness is so cheap, it seems a pity that some should be so saving of the little outlay it requires to secure it. An evening's planning and making of home-made toys; a morning's work at the cake board; a small sum invested in sweets and toy books, and a tree may be laden with such fruit as it bears only at Christmas time. And, oh! the difference to the children!

I have trimmed a Christmas tree for nineteen successive years, and the gifts have been many and varied, both as to expense and size, but often I have found that the simplest gave the most long-lived enjoyment. I remember once, a well filled tree with many handsome toys bought in a city bazaar, which was almost eclipsed by a pair of snow white rabbits, with pink head eyes, which sat under the tree. They were caught up and hugged and loved long after the eye had been satisfied with just looking at many more beautiful objects. Something with which a child can really play, is of far more interest than cold silver cups and table-sets and costly jewelry.

The pretty, soft toys, so easy to make with the aid of a good pattern, such as elephants, rabbits, dogs, and cats, are a never failing source of pleasure to the little folks, who are very mild art critics. It is pleasant to have something left for a child's invention and imagination to lay hold of, and these faculties may both be largely trained by the toys they receive. I have always regarded them as very essential text-books, in these early forming years. I pity the poor children whose super-tidy mother "will not allow her house to be littered up with such things." I know they have a dreary Christmas time.

Some mothers are unwilling to prepare a Christmas tree because of the supposed expense of the mere decorations. These may be made very bright and pretty at home, with but little expense. All sit around the table some evening and cut from newspapers, little patterns of shields, butterflies, maltese crosses, hearts, or whatever is fancied, until a pretty good pattern is secured. Then cut out the figure in pasteboard, and cover with any bits of bright paper you have (as red, blue, gilt), and daintily bar or dot them with some contrasting color. Bright paper, in all colors, may be bought for a few cents each, at any stationers, and one of a kind is quite enough. Little fans of red or blue paper, with a gilt border, look very pretty among the green leaves, and so do large butterflies. A bright card here and there is very effective, so are red apples, and cakes in fanciful shapes. Having the tree decorated, it is easy to furnish it by adding the gifts you propose to give to one another, and these should be kept secret as far as you can. It spoils half the poetry of Christmas for the little folks to "know beforehand." I know it is hard to keep such secrets, but it does "break the charm" partly, to tell them. Especially does "the child that peeps," detract a good deal from her days enjoyment. Shut and lock the warm parlor, and let some trusty person trim the tree and lock it up securely until Christmas morning. Then make an unbending law that each must dress completely to the last shoe button, before they go down to the well-warmed, well-lighted room. For if you do not see that dressing is done beforehand, you will find it a hard matter to enforce the law afterwards. The dressing will go on with a rapidity and a chatter and laughter that will be unusual on a cold winter morning. You will not need to "hurry up" even your laziest boy.

Even simple presents look twice as valuable coming from the branches of a well-trimmed Christmas tree, and the associations are better even than the gift. Bridget in the kitchen will by no means be forgotten. And it is well to teach each of the children to be thoughtful with regard to domestics; especially the little daughters of the house. Presents she will best appreciate, will be of a substantial, practical kind, and a little tact and discretion on the part of the mother can contrive something acceptable. The domestic machinery will run far more smoothly if she is in good spirits for the day, to say nothing of the moral duty of kindness to "the stranger that is within thy gates." Try to fix the good lesson of giving as well as getting on the hearts of all the dear children.

HOME MADE.

By Ruth.

The little Conovers were apt to come in with feet all snowy and wet, making a change of stockings necessary at once. That being done, the school shoes were placed in a row by the kitchen stove to dry, and the little folks trotted around stocking-footed for the remainder of the evening. This worried Aunt Esther, who did a good deal of knitting, and who had sat up nights with croupy children, many times in her life.

"They'll wear their stocking-feet all out, Cynthia, and catch their death of cold besides," she said. "They ought to wear slippers in the evening." "I know it," said mother, looking troubled, "but it would take five dollars to slipper them all around, and I have not the money to spare." "Oh," said auntie, "I will see that they all have slippers, and it shall not cost us five cents." Mother was rather incredulous, but cheerfully brought out her old rolls of thick cloth, for inspection. Some thick pieces were found, and laid in a pile, and then Aunt Esther proceed to cut a pattern over a Sunday shoe front. The back of the slipper was a straight strip. A pair of slippers were cut out and fitted to Josie's feet, and thick cloth soles were sewed in, and the top bound with a strip of silk. They proved so popular that their was a clamor as to who should have the next pair. But as it took only half an hour to make them, all were soon supplied, and walking about with great content, often looking down to their feet. Aunt Esther assured them that they "would not pinch their toes in the least."

Any skillful needle-woman can easily fashion these simple moccasins for her children use, morning and evening, and will find them a great saving and comfort.

Little mittens, too, can be cut from soft woolen cloth, and quickly stitched up on the sewing machine, and they will help greatly to keep the frost away from little fingers. They are especially good for rough work, like handling wood, which would soon tear out your boy's fine knitted mittens.

Many mothers cut and sew little polo caps for their boys, out of pieces left from their suits. A little observation of a "regular made" cap, will show one how to make it, and it is quite the style to have one match the other clothes.

If you make the small jackets and pantaloons, spare no pains to procure an excellent pattern to begin with. It is hard on the little fellows to shuffle around among well-dressed school-mates in ill-fitting, ill-made garments, all for want of a little pains-taking on the part of the mother.

VENTILATION IN WINTER.

By Olive

Some house-mothers complain of a large increase of head-ache as soon as the house is shut up, and the fires lighted for winter. One reason is that they pursue the Icelandic plan of ventilation.

A gentleman spending a night in an Icelandic house, slept in a room with a number of Icelanders. During the night he woke up almost suffocated for a breath of air. He awakened his host and asked if some air could not be obtained. The man reluctantly arose, and going to a knot-hole in the side of the house, pulled out a cork and held it in his hand a minute or two, then with a shiver, he put it back and pounded it down, saying they should "all freeze to death," and returned to his pillow.

A warm house is an excellent thing in the winter. So are warm sleeping rooms, despite the old prejudice some still hold against them. There is nothing health-giving in children shivering half the night in cold beds trying to get warm. Many a delicate little one has gone to its grave by such a hardening process. No donbt one great cause for the increased longevity of the race in our land, is because of our warmer houses in winter. My children have slept in well-warmed rooms all their lives, and are never under the doctor's care; often for a half dozen years at a time, never have to consult one, an uncommon thing among village children of my acquaintance. Depend upon it, there is a fallacy in this theory of toughening children, and hardening their constitutions by exposure to cold. Dr. William Hall, says he "would as soon think of improving a new hat by banging it around." The only way to harden the constitution, is by taking good care of it.

Well-warmed sleeping rooms in winter, are a blessing indeed, and a stove in an upper hall can often secure this. But the rooms should also be well aired sometime during the day, and all the blessed sunshine of the short winter day let in somewhere.

RECIPES.

ROAST BEFF.—Almost every Christmas table will be supplied with a generous roast of beef, and even so common a dish needs to be well prepared to be a success. To insure this, it should be well floured to keep in the juices, should be basted often, and turned frequently, and the oven should be kept at a good even heat. Place in the dripping pan, with the bony side up, at first, and finish with the other side uppermost, just as you wish to serve it on the table. A general rule is twenty minutes time for each pound.

OYSTER SOUP.—Most Christmas dinners begin with soup, and probably nine out of ten have oyster soup. To make it, take 2 quarts of water, 1 tablespoonful of salt, 2 of butter, half teaspoonful of pepper. Heat to a boiling point. Add pint of oysters, 6 rolled crackers, 1 cup of sweet cream. Remove the moment it boils up, and serve immediately. No one asks for soup twice, nor is it considered good style to pass the plate a second time for any dish. On Christmas day especially, is it unwise, if one desires to live and dine another day.

THE DESSERT.—The dessert on Christmas day is the feature of the dinner to which the little folks especially look forward. It should be made as decorative as possible, so it may gratify the finer sentiments as well as please the palate. A central dish should contain oranges, apples, grapes, and bananas, gracefully arranged. On one side of it should stand a dish of almonds and raisins, on the other, one of candies. Plum pudding and mince pie (especially the latter, with us American folks), have come to be thought most necessary adjuncts to this feast, and almost every comfortable child in the land will believe that his "mother's mince pies" were the best that ever were eaten. So, no housekeeper wants a receipe for them; all know how. The order of serving a desert is, pudding and pastry, first, ices, fruits, nuts, raisins, bonbons, and then small cups of black coffee, (by way of medicine probably).

ODDS AND ENDS.

SKETCHES OF CHINA AND JAPAN.

ARTICLE IV.

Education in Japan is not such a slow institution as one would naturally suppose, judging from the ignorant look the subjects so often show.

As a specimen of Japanese intellect, I herewith present a copy of the Mikado's Proclamation, taken from the *Japan Gazette*. It also fully explains some reports that seem to have been circulated in regard to the new move on the part of the Southern government, which I gave in Chapter 4, of these sketches.

PROCLAMATION.

"Being now established in my reign, and in the Government over all people, (of Japan), I have taken into consideration that Yeddo is well adapted for the seat of Government, inasmuch as it is the greatest, the most populous, and the wealthiest city in the Eastern Empire. I therefore decree that Yeddo shall be the seat of my Government, and the city shall henceforth be called Toukei, or the Eastern Capitol. This I do because I consider my whole Empire as but one body, and therefore I am anxious to show no partiality to either the Eastern or Western provinces.

"Let all my subjects be informed that such is my decree, given in the seventh month of the the year Tatsu.

"The aforesaid being the order of the Mikado, the people of Japan are further notified that since the establishment of the Government at Yeddo in the 11th year of Kecho, (A. D. 1606), the city has attained a state of enormous prosperity; but through the recent change in the form of Government, it has been feared that the inhabitants would lose their wealth, and the city would fall into decay. The thought of such a calamity causes great grief to his Majesty.

"And further, owing to the recent extension of our foreign intercourse, it is desirable that the whole of the Japanese military forces should be so proportionately distributed as best to protect the interests of our Empire.

"His Majesty, therefore, taking all these circumstances into consideration, has determined to visit alternately, his Eastern and Western Dominions, and thus he will be able to learn, from personal observation, the extent of his people's prosperity. Accordingly, his Majesty will reside sometimes at his Eastern capitol, (Yeddo), and sometimes at his Western, (Kioto).

"Such is the beneficient intention of His Majesty for the welfare of all his subjects: this his edict is to be proclaimed to all, and to be fully understood by all, so that his people by appreciating it, may be able to express their grattitude.

"Yet, let their be no reason to fear that our people shall become proud because they are prosperous; and let them not neglect their ordinary employments. A state of luxurious idleness is a natural consequence of prosperity and wealth. Should this be so with our people, they will endanger their prosperity, and even cripple their resources. With due regard therefore, to their future welfare, let them attend studiously to the development of their arts and manufactures, and to the extent of their commercial interests. By sneh wise action our people will best preserve their Country's prosperity.

"[Printed by order of the Japanese Governmant, and published by Suwaraya Mohe, living at Nihon Bashi Dori Ichoomi, in Yeddo.]."

There certainly is a very prominent mark of civilization in the Mikado's proclamation, even sometimes one thinks it goes a step farther than ordinary civilization. Where is the American Governor who feels for his people as this Mikado did? Willing to inconvenience himself by the establishment of two Dominion, in order that "the inhabitants would not lose their wealth, and the city fall into decay." It shows humanity; and now that THE FARM AND GARDEN is the first of the American Press to recognize this fact, it is well worthy of our people to consider the kind suggestions of this ruler, whom it is natural for us to look upon as a heathen Prince; but back of it all, notwithstanding, there is the brightest example of a christian career. The last paragraph, extorting the people not to "neglect their ordinary employments," and engage in "a state of luxurious idleness,—a natural consequence of prosperity and wealth," is well worthy of a sermon; and the Prince's prediction that such "will endanger their prosperity, and even cripple their resources," is indeed well said, and goes to show what great minds these heathens have.

EXERCISE FOR THE GIRLS.—Dr. H. F. Hamilton says, that at least once a day, girls should have their halters taken off, the bars let down, and be turned loose like young colts. Calisthenics may be very genteel, and romping may be very ungenteel, but one is the shadow and the other the substance of healthful exercise.

Hon. David Davis likes to do a kindly d[illegible] in his own way, and is much annoyed by being "found out in it" by those Argus eyed people the reporters. One holiday time, a little ragged newsboy, from whom he had often bought a morning paper, appeared before him at the usual hour. Calling a messenger he sent him out to buy the boy a suit from cap to boots. When they returned, he directed his barber to cut his hair and give him a bath. He then took the metamorphosed boy to his room and gave him some kind advice, which was supplemented by a handful of small coins for Christmas, and then sent him home to his mother. That she hardly recognized him is not strange, but neither will be likely to forget that day, or the kind man who had so generously provided for them.

ASTHETIC FOWLS.

A gentleman owned some ducks which used to stand for hours about some very brilliant China Asters in his border, as if admiring their color. They did not peck at them as if drawn there by insects, but stood quite still and looked, and looked, as if fascinated by the brillian hues. By and by, some rich purple flowers of another sort bloomed out brightly, and this spot too became a magnet for the ducks.

They showed their refined taste also in another way. A young lady was playing one day on the piano for company, and when she ceased, two ducks, which had by some means stolen in, waddled out from under the sofa, and quacked loudly "encore." All were surprised, and tried the charms of music again upon them. Instantly they crouched down and listened as attentively as before. After this they were often noticed to leave the field and travel towards the house whenever they heard the piano. May be the old fable of Orpheus had some foundation in fact after all.

DREAMS.

An English scientist held the opinion that one might manufacture dreams to order. So he made up his mind to dream one on Polar bears. He shut himself up all day to Polar bear literature, excluding, as far as possible, everything else from his mind. The last impression left on his mind before dropping asleep, was of a large Polar bear just stepping off a cake of ice.

But he saw no Polar bear in his dreams. Instead he dreamed of whale fishing, with many thrilling adventures, from which he awoke in terror. His Polar bear experiment was a failure. But he was puzzled to trace the connection between the day's thoughts and his actual dream. Finally, he remembered that in one of the books he had read, there was in one corner of a large plate, a tiny picture representing whale fishing, and upon this his eye rested only for an instant. But out of such meagre material the dream had been manufactured. He tried a similar experiment for six consecutive days, taking a different subject each time. But only once did he dream on the one he had selected, and then it was mixed with other subjects on which he had not thought for weeks.

FEMALE THUMBS.

The female thumb is said to be an important index to the female character. Women with large thumbs are held by phrenologists, physiognomists, etc., to be more than ordinarily intelligent—what are called sensible women; while women with small thumbs are regarded as romantic. According to certain authors, who profess to have been observers, a woman's hand is more indicative of a woman's character than her face, as the latter is, to a certain extent, under the control of temporary emotions, or of the will, whereas the former is a fact which exists for any one who understands it to profit by. Women with square hands and small thumbs are said to make good house-wives and gentle wives. This sort of women will make any man happy who is fortunate enough to win them. They are not at all romantic, but they are what is better, thoroughly domestic. Women with long thumbs have tempers of their own, and generally a long tongue.

There is a hint in this to a lover. Let him, the first time he seizes hold of his mistress' hand, examine, under some pretext or another, her thumb, and if it be large, let him make up his mind as soon as he becomes a married man, he will have to be very careful. Again, if a young man finds that his lady love has a large palm, with O-shaped fingers and a small thumb, let him thank his stars— for in that case, she is susceptible to tenderness, easily flattered, very easily talked into or out of anything, and readily managed. But if she is a woman with a square hand, well proportioned, and only a tolerably developed thumb, then she is either one of two distinct classes of women—a practical female who will stand no nonsense, or she is a designing female—a woman who cannot be duped, or a woman who will dupe him.

A CLOSE SHAVE.

A close shave by a cannon ball in battle produces some queer sensations in those who happen to have had the experience in such matters. The London *Herald* relates the experience of M. Boutibouse, the French *savant*, who served in Napoleon's army and was present at many engagements. At the battle of Wagram, in 1809, he was in the heat of the fray; the ranks around him had been terribly thinned by shot, and at sunset he was nearly isolated. While reloading his musket he was shot down by a cannon ball. His impression was that the ball had passed through his legs below his knees, completely severing them, for he suddenly sank down, shortened, as he believed, to the extent of about a foot in measurement. The trunk of the body fell backward on the ground, and the man's senses were paralysed by the shock. Thus he lay, motionless, among the wounded and dead all night, not daring to move when consciousness partially returned, lest the loss of blood should be fatally increased. That he felt no pain he attributed to the stunning effect of the shock on his nervous system, and he was still mentally too numbed as to be able to reason as to why he had not bled to death. At early dawn he was aroused by one of the medical staff, who came round to help the wounded. "What's the matter with you, my good fellow?" said the surgeon. "Ah, touch me tenderly, doctor," replied M. Boutibouse; "a cannon ball has carried off my legs!" The surgeon examined the limbs referred to, and then, giving him a good shake, said with a loud laugh: "Get up with you; there's nothing the matter with your legs!" M. Boutibouse sprang up in utter astonishment, and stood firmly on the legs which he had thought lost forever. "I felt more thankful," said he "than I had ever felt in the whole course of my life before. I had not a wound about me. I had indeed been shot down by an immense cannon ball, but instead of passing through my legs, as I firmly believed it had, the ball had passed under my feet and had ploughed a hole in the earth beneath at least a foot in depth, into which my feet suddenly sank, giving me the idea that I had been thus shortened by the loss of my legs."

VOL. IV., NO. IV.

CONTENTS OF THIS NUMBER.

EDITORIAL COMMENT.

These papers are especially recommended to our readers, and sent each one year, with FARM AND GARDEN, for the following prices:—

Rural New Yorker and Seed Distribution,	**$2.25**
American Agriculturist and Encyclopedia,	**1.65**
Farmer's Review,	**1.25**
Home and Farm,	**.75**

Owing to the unsuitableness the building now occupied by us we intend removing December 15th to a larger office, at No. 723 Filbert Street. We were already crowded in our old quarters by our increasing business. Our new office will be on second floor, within two squares of Philadelphia Post-office, and we hope all our friends will visit us.

OUR JANUARY NUMBER AND ANNUAL PREMIUM LIST, 350,000 COPIES.

In order to increase the subscription list of the FARM AND GARDEN it has been the custom of the publishers to send out in December each year a special number containing premium offers to those who will get up clubs. The premium list now in preparation has occupied the labor and thought of the editor of this paper, the artists, contributors, and the compositors who set it, for some months, and it is our hope that it will excel anything of like nature ever published. Among the valuable and interesting articles to be offered, are:—Complete collections of Vegetable Seeds, Niagara Grapes, Seed Corn, Pansy Seed, Roses, Marlboro Raspberry, Seed Potatoes, Meech's New Prolific Quince, and other varieties of value and interest. This number will be mailed you on or before December 10th. It will pay you to wait and send a club with your renewal.

December. The year's end is near. All nature rests. This gives us the needed opportunity to relax our efforts, physically; yet, to increase them mentally. Let the wearied limbs cease their excessive activity. The farmer's work during the winter should be principally brain work.

Though the snow-flakes may fall thick and fast, enveloping the landscape in one vast cloud, we know that a kind Providence intended them as a protection for the tender wheat and rye plants, and as a fertilizer for our fields; though the quicksilver in the thermometer may sink down to zero, we cannot forget that we need ice to cool the fiery breath of the summer to come; though a cold north-wester may sweep through the leafless tree tops, we can feel comfortable and secure in our cozy homes, where a bright fire in the stove and the happy faces of wife and children greet us at the very threshold and spread warmth and sunshine.

The days are short; feeding and caring for the stock in the stables is the most important work, and a duty, which the good farmer discharges with the regularity so essential to the best results. These "chores," on most farms, will occupy the farmer's attention during the best part of the day and leave only time for chopping and sawing wood just enough to keep your muscles in practice and to sharpen your appetite.

Many an hour of these long evenings will be spent in harmless gossip. Beware of the venemous kind.

Give the back numbers of your agricultural periodical a thorough over hauling and reviewing, not to forget FARM AND GARDEN.

Spend an hour or two occasionally with your neighbor, and talk over the problems of agriculture and the prospects for the future. Two heads know more than one.

Show him the latest numbers of THE FARM AND GARDEN. It may help him, and will be a kindness to us, which we always appreciate.

Talk with your children about their studies, and look over their lessons with them as often as practicable. They will take greater interest in them and learn them faster.

Christmas is drawing near, the time when we hear again the happy tidings of the redemption, and of "peace and good will to man." May every farmer be freed from whatever bondage is pressing upon him; be it the bondage of prejudice, or of old foggyism, of mortgages, or of the unrelenting grip of note-shavers, swindlers, and demagogues. Often he can throw off the chains of his own might, by dint of hard work and great efforts; oftener he needs the assistance and good will of his fellowmen. Let us do to others what we would wish to have them do by us. This, then, is our Christmas greeting to our readers:—"Deliverance from bondage! Peace and good will to men!"

It is hardly in season to talk about orchard culture. There is but one tree which appears to the fullest advantage in the month of December, the Christmas tree. Outside of its load of sweet and glittering flitter, it bears the most wonderful and valuable fruit, *the happiness of your children*, and cultivates the tenderest emotions in their young hearts, *love and gratitude*. Plant a Christmas tree on your table on the 25th. It is worth all the trouble and expense.

Important Questions. Are your cattle and horses in the proper condition to face the rigors of winter?

Are your stables and sheds comfortable and warm?

Does your hen house keep out chilling wind?

Do you feed a warm meal to your poultry once a day?

Do you provide them with good drinking water?

Is your corn and grain well secured? Your stacks protected?

Is your cellar frost proof? Are your potatoes stored in the dark?

We hope that you can answer a cheerful "yes" to all these questions.

On many farms in the extreme North, it takes nearly everything produced during the summer, to keep the family and the stock through the winter. Now, at the time of consumption, it is advisable to study how we can economize, that is, how we can avoid all waste and make the most judicious use of all our stores.

The prevailing habit of feeding stock much more than they can eat at one time, is a frequent source of waste. The animal is tempted to eat more than it can digest. Feed and strength is lost at the same time. A horse should not have more than he will eat up clean, and not be fed oftener than three times a day. Avoid excess as well as irregularity in feeding. Enough is a feast. That sentence tells you the secret, how to obtain the best results, as far as flesh and general health of your stock is concerned, with the least amount of feed.

Half an hour spent in drawing the file across your saw teeth, often saves a half day drawing the saw through a big log.

And the grindstone must help you chop wood. Sharp axes, sharp saws, and sharp appetite, should be the order of the day.

Seeds, and nursery men are now at work about their spring catalogues. We, the farmers, who are their customers, ask and expect from them, now and forever, fair and truthful statements in regard to the goods they want us to buy from them. Reform in this novelty business is needed, and we will have it.

Poor labor may be cheap, but it is not profitable. We have seen the effects of careless stacking of wheat during the last harvest. A crop of 1700 bushels of wheat was greatly damaged by the rains leaking through the stacks. The grain had to be spread in thin layers on board floors, repeatedly shoveled over and run through the farming mill. After all this trouble it was difficult to find a market for it at several cents per bushel below market price. The stacking was the work of a Virginia negro.

We know a peach orchard in the city of Richmond, which bears heavy crops every year. But we are uncertain whether the fact that it descends towards north-west, its elevation, or good cultivation, is the real cause of its productiveness.

The Granger's pic-nic, in William's Grove, Pennsylvania, certainly was a great success. Yet, perhaps even the Grangers, an organization formed for the purpose of self-defense against monopolies, etc., allow themselves to be used as tools by their leaders.

"I want every farmer to have his fowl in the kettle each Sunday," was the favorite expression of the Monarch of France who was called "*le bon roi*, (the good king).

There is nothing to hinder a realization of such a wish *in this blessed country*. Chickens are a great delicacy, and yet, every farmer is able to enjoy it. Make it a rule to raise plenty of poultry and to have a chicken or duck or turkey for your sunday dinner.

In buying nursery stock, farmers cannot be too careful. In 1882 we planted fifty Delaware grapes, on good land, and gave them the very best of care and cultivation ever since. The plants, however, when planted, were only second or third class, and in spite of all favorable conditions otherwise, they have made but a weak growth, and will continue to be inferior and undersized for their age for all time to come. Stock once stunted, does not seem to recuperate very easily. It also shows, that vigorous one year old vines are better than two year olds, which are generally grown from the second and third grades of the previous year.

The individual vigor is destroyed and irreparably lost.

We shall welcome all our old subscribers, and as many new ones as possible for the new year. The small price at which we issue this journal brings it within the reach of every one. If in getting up a club you do not have names enough, take a copy for some one else: it would make a good Christmas present, whose coming, twelve times a year, would be a reminder for the whole year, of your friendship for them. We believe you could make no present more appropriate than a subscription to THE FARM AND GARDEN.

The price of farm products, such as wool and grain, is very low, and there is a general stagnation in business, and an unsettled state of the markets. The foreign production of wheat has been very large as well as the home production. Should the prospects of winter wheat continue as good as they are, there can be but little change in prices for the better. Good crops, as a rule, have been grown all over the grain producing parts of the world. The year of 1885 has been one of a bounteous harvest, and with the present price of grain, stock feeding offers a good home market for grain.

The wool market shows that the price of wool is not likely to again reach the former high prices. The population of the world has not increased as fast as sheep husbandry, or in other words, the consumption has not kept pace with production. Before Australia, Texas, Colorado, California, and the plains began to be wool producers, the supply of wool was grown on dearer land and on small flocks, as a branch of farm husbandry, not as a business. Now the business of wool growing has assumed vast proportions, and has become a regular business, and flocks that usually were counted as hundreds, are now numbered by thousands. The wool grower will be compelled to look for larger breeds of sheep, and breed more for mutton than for wool, and the price of mutton will pay for the loss of price in wool.

When partaking of your Christmas dinner, which no one deserves better than the farmer, and while your tables are loaded with plenty, and prosperity has crowned your labors, we hope a feeling may go out for the less fortunate around you. That some new, good act of yours may make happy some other less fortunate home. A load of wood now lying perhaps useless to you, if delivered at the door of some deserving poor family, will make you, as it always has, happier for the good and deserving deed.

We feel that we have done our duty by our subscribers, and that we have given you the full value of the price paid for THE FARM AND GARDEN. Have we not? It will not be more than fair, that you should exert your influenae and work a little in our behalf. We are entitled to your favor, yet, we ask nothing without compensation. See our liberal *special offers* every month. Wa have tried to please and assist you. Do the same by us. We deserve a much larger subscription list.

Now roll up a rousing majority for The Farm and Garden.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of THE FARM AND GARDEN, *even though he takes no other paper can feel in a measure acquainted with all the leading publications.*

From "Poultry Keeper," Chicago, Ill.

IS IT MEAT OR FEATHERS?

What good are feathers or a scale of points to a happy family gathered around a dinner table? This is a direct question to those who carry their "gospel" in their hip pockets. We will picture a large family enjoying a huge poultry dinner. It is Sunday, and the meal is well under way. The fowls were brought in from our coops; when alive they were excellent in build, healthy, and strong; they were two-thirds Brahma and one-third Leghorn. The smoking fowls soon parted company, and the expressions of satisfaction, the crumbling of the tender bones, and the smile of contentment crossing the face of the happy cook, added with the merry cackle of outside fowls who would soon follow in the smoke, all cast a charm over the scene, so that we could not help exclaiming, "Who would not be a poulterer of the *legitimate school?* We now turn our thoughts to the man raising fowls in wire cages and spending the Holy day in "scaling-up" his pets and feeding his family off of stew beef or poultry purchased from neighbors. He is a great fancier, but there is no *pleasure* or *profit* in the method he rears his fowls. The legitimate breeder is one whose effect is flesh and egs.

From "Iowa Homestead," Des Moines, Iowa.

THE THRESHERS AND THE FOWL.

In going from house to house the thresher expects to meet with some pretty old poultry, as they are the easiest caught; but at one place over in Hoop Pole Township a trio of threshers encountered a rooster that was particularly venerable, in fact, a regular patriarch. For three successive mornings they hurled their forces against him, but were obliged to withdraw at last without getting beyond the "picket lines." As they retired the lady heard the fellow that drives the horse-power and wipes the lard paddles on his boots, say: "I tell yer what, boys, I've struck it.

The lady said she noticed from an adjoining room that the next morning they ate their breakfast, one at a time, and as there was no one else at the table, the following conversation seemed strange to her at the time.

1st. Thresher. (Directing his eyes to the rooster.) "Good morning, sir; seems to me I've n e yet before. (Silence.) How's times; kinder tough? (No response.) Wall, Im'st be goin'. Take care o'yersell."

2d. Thresher. "Wall, my friend (addressing the fowl), how goes it? How do you stand the "wear and tear"? (Still no response.) You look stout for one of your years. (Silence accompanied by agitation in adjoining room.) Wall, good day, I'll see yer later."

But they never met again, the threshers say, for some cause.

From "Live Stock Monthly," Portland, Me.

BREED SYSTEMATICALLY.

The only way to real and lasting benefits from improving one's flock or herd is to stick to the work of breeding up, without cessation or intermission. Spasmodic and irregular efforts in this line are in the main futile. What is gained in one year by the introduction of a well-bred breeder or two is often lost in the next by heading the farm stock with the grade progeny of full-blooded sires. The trouble is that a great many farmers stop too soon. They apparently forget that good blood can be bred out as easily as it can be bred in, and that it can only be held by the process by which it is first introduced. The services of a thoroughbred bull are obtained this year, and his place is taken after a while by his half-blood progeny, a mistake which is made in every stock-raising neighborhood in the land. The genuine process of improvement on the breeding up plan requires the use of a thoroughbred sire on grade dams, the grade of the latter thus improving with each generation. The use of grade sires, however, should never be tolerated, as it essentially reduces the percentage of good blood already secured. It is a waste of money to begin to improve, and then stop just where it is most important that the course of improvement should be steadily held. One had better not begin at all than begin without the fixed intention of carrying the enterprise through to a successful outcome. A temporary saving of a few dollars just when the fruits of good breeding are beginning to crop out is frequently the most expensive economy in which the farmer can indulge. The thoughtful stock-raiser should ponder over these things, and allow nothing to stand in the way of carrying out a well-chosen plan of improvement.

From "Breeders Gazette," Chicago, Ill.

FROM SHEEP TO CATTLE.

An observant gentleman, recently returned from a somewhat extended stay in Texas, mentions the fact that the rather discouraging conditions surrounding sheep husbandry for the past few years have operated to check the rapid increase in the number of sheep which has for some time past characterized the history of the wool-growing industry in that State. This may possibly prove good policy, but the *Gazette* does not so consider it For the time there may be found in Texas and surrounding territories conditions which lend a more encouraging outlook to cattle-raising than is just now to be seen from the shepherd's standpoint. Cattle prices are exceptionally high and sheep prices are exceptionally low. There can be no doubt as to which is the more profitable now; but conditions of the market for flock and herd products are liable to change before the majority of sheep-owners can change their business from wool growing to beef production. In fact, a change of any considerable proportion of sheep-owners to cattle-raisers—which means diminishing the number of sheep and increasing the yearly output of beef cattle—will not only hasten but insure in the market for the latter just the same discouraging conditions that now render sheep husbandry less profitable than formerly. Flock products are now low because of full markets and limited inquiry. Any marked increase in the annual production of beef will, in time, bring down the price of that article. The flock-owner who now attempts to change his business is quite likely to find his advent as a seller in the beef market co-incident with a range of prices much less alluring than those now obtainable, while the wool-buyer, whose eye has allowed none of the "pointers" to a future market to escape his notice, will be ready to advance his offering as the "visible supply" of wool shows evidences of lessening proportions. Thus, too late to avoid disaster, the discontented flock-owner will realize that while escaping from the frying-pan of low prices in one line of stock husbandry he has landed in the fire of equally discouraging results following his efforts in his newly-chosen calling.

From "American Agriculturist," New York.

WALKS AND TALKS ON THE FARM.

An English gentleman who came over in the "Oregon" in less than six and a half days, was looking at my Northern Spy apples. "If you would put them in small pails," he said, "and send them to Liverpool, I could sell them for you at a good price. People do not want to buy a whole barrel at a time. But they would gladly buy a pailful. Your barrels are worth little or nothing after the fruit is out, but the pails would be worth with us more than they cost you here. I saw a pail to-day used for shipping tobacco that is just the thing."

"I am afraid it would not work," said the Deacon. "The apples would have to be pressed, just as we now press them in barrels, and in such small packages the proportion of apples injured in pressing would be much greater than in barrels of the present size. And besides they tell us that our Western New York apples will not sell in England because we use barrels that do not hold quite as many quarts as flour barrels."

"They must be great duffers," said the Englishman. "Our apple crop is a failure this year, and your apples will be wanted. We have had the grandest crop of strawberries this year I ever knew, and they sold as low as a penny a quart. We have not learned how to get them to market in as convenient packages as you use. Your agricultural papers have done great things for American farmers and fruit growers in many ways, not least in recommending more attention to the methods of marketing."

"That is true," said I, "and while at first thought I was inclined to agree with the Deacon, that we could not use small pails for shipping apples, I am not sure that the plan will not work. We could avoid the crushing the Deacon speaks of by using a false-head for pressing down the apples. This false-head could be covered on the inside with some soft, elastic material that would not bruise the apples in pressing. We could fill the pail, as now we fill the barrel. Put on this false-head with the soft lining, press the apples down firmly, and then take off the pressure, remove the false-head, and put on the regular wooden head and nail it down or use a hinge strap to hold it in place."

"But," said the deacon, "could they be sent on the cars and steamers?" "Why not?" said the Englishman, "you send your lard over in pails, and I do not see why you cannot send apples. And, as I said before, people would by them because they are easily handled, and because the pails would be useful after the fruit was removed."

From "Farm Journal," Philadelphia.

FAMILIAR TALKS.

Hay, in this section of the country is very high, and it has bothered me what to winter. We have to look ahead and go slow sometimes. I believe in manure more than I do in the new notion about "phosphates." "Phosphates" are the god-fathers to laziness, and the death-knell to good farming. They will do very well as an expedient, but that is not the way to maintain a good farm any more than good religion. There must be a substantial foundation to both. My foundation for grass and grain is what some old-fashioned farmers used to call "barn-yard manure." This is according to the working of nature, to put back to the earth that which is taken from it. I can see from my door a mountain side that was once covered with huge pine trees and other forest, but which is now almost barren. It was first robbed of the trees, and then by cropping, of all vegetable substance, until it has become impoverished. The soil was sandy and it could not stand the drain as long as stronger land.

I like sheep, and so I have started another flock along with my Delaine Merinos. I have bought the best lot of mutton lambs I could get, at a cost of $4.50 each, and when they are coming two years old I shall cross them on a pure-bred Oxfordshire ram and breed me a flock of mutton sheep. This is a high price for lambs, with hay nearly $20 a ton; but my balance comes out of a paying flock of sheep in two years and more manure. I could have bought old sheep for less than half the money, but in the long run the lambs are best. I had to compete with the butcher, who would have paid the same price.

I have had a kind of revelation. It did not come to me in my dreams, or in the night, but while I was walking over the field where I wanted to sow something which would pay the best. My wife is a little tasty about some things. She does not like the flour the country mills grind, so we do not *raise* wheat to eat. I had six acres to seed down, and winter grain is the thing to do it with. First I thought of rye. Now comes my revelation: "Sow Clawson wheat and feed it to the animals on the farm." It will yield more than rye, the straw is better for fodder, and the grain more nutritious. Now what grand food it will make for the hogs, the cows, and the horses. A little will go a great ways. Instead of worrying as a people about who will buy our surplus wheat, let American farmers make it into beef, mutton, and pork, and supply the world with their meat. Wheat is the most complete single food of any grain. What an advantage it will be to feed it on the farm If this is done only in part, we can keep on raising wheat always, so far as the soil is concerned. Wheat. JOHN TUCKER.

From "Country Gentleman," Albany, N. Y.

ABSURD POULTRY STATISTICS.

For many months past some figures, which any reasonable man must know at a glance to be perfectly absurd, have been in circulation in the papers, as regards the enormous value of the poultry products of this country. Several times as they have attracted our notice it has occurred to us as only matter of duty to prick the bubble, but other subjects of more importance have intervened, and this has been dropped. Who was the discoverer of the statistics referred to, or from what origin they were derived—unless from some publication of the United States Department of Agriculture—we cannot tell. In the latest publication of them they are credited to the *Poultry Bulletin*, and read as follows:

"According to the statistics of 1882 the value of poultry produced in the United States exceeds the value of either hay, wheat, cotton, or dairy products, as the following figures will show:

Wheat, ...	$488,000,000
Hay, ...	436,000,000
Cotton, ...	410,000,000
Dairy, ...	254,000,000
Poultry Products, ...	560,000,000 "

The only light really accessible on the subject must be from the United States Census of 1880, and in the official summary of the statistics of agriculture in that work, part 3, page 21, we find the following, which is simply a condensation of detailed tables published later on:

"Probably few persons appreciate the importance of the contribution to the annual production of wealth by the common barn-yard fowl. The statistics of poultry and eggs were gathered, for the first time, by the census of 1880. This is a subject to which the limitations of popular statistical enumeration, already noted in these remarks, apply with special strictness; yet there is no reason to doubt that the figures approach the facts of the case for the country as a whole, and exhibit with great accuracy the relative importance of this interest in the several sections and states."

"The number of barn-yard fowl reported in the census, exclusive of spring hatching, was 102,272,135; of other fowl, 23,235,187; the number of dozens of eggs, 456,940,916. At twelve cents a dozen, certainly a moderate estimate, the annual value of the egg product to the farmer would reach nearly $55,000,000; while we may suppose 150,000,000 to 180,000,000 pounds of meat sold annually out of the stock of fowls reported."

Here we have the estimated value of the egg product in dollars, and if we "suppose" the meat product to be 180,000,000 pounds at fifteen cents a pound, which is probably a liberal estimate, we shall have the following total:

Value of Egg Product, . . .	$55,000,000
" Meat " . . .	27,000,000
Total, ...	$82,000,000

Showing an amount about *one-seventh* of that stated in the table quoted. In fact the aggregate value of the entire stock of barnyard fowls in the country, as it stood in the spring of 1879, if we call it fifty cents a head, would be only about $50,000,000, to which may be added whatever the reader pleases for the "other fowl."

In the census of 1880 the return of money values of farms and farm products as enumerated in previous censuses, were omitted. But, on turning to the census of 1870, we find that in that year the entire value of "animals slaughtered or sold for slaughter," including live stock of *all kinds*, was $338,956,376, or much below what some enthusiast wishes us to believe is the present annual product of our poultry only.

CORRESPONDENCE.

R., of New York City, asks how to grow English walnuts from seed. Answer—Gather the walnuts and bury them in sand in the cellar or out of doors where not too wet, and in spring plant early about 2 inches deep in a clay soil, deeper in a sandy soil, and they will vegetate freely. If the walnuts are kept too wet the seed will rot, and if kept too dry will fail to vegetate. When kept dry it sometimes takes two years to vegetate. English walnuts are also often budded on common walnuts.

✢

S. W. Williams, of Atchison County, asks: 1.—Can sugar-making be made at a profit from Amber and Orange cane in Kansas? 2.—Will fruit growing be likely to be profitable? Answer: 1.—We believe sugar can be made at a profit in Kansas. On the dry soil of Rio Grande, N. J., the culture is profitable. The cane is richer and the sugar better when grown on a light soil, and in a dry season rather than a wet one. 2.—Yes; Kansas must become a great fruit State. The apples are finely colored, and the cost of freights to Philadelphia and New York are as low as from near points in New York or even New Jersey. The cheap freight rates on fruit in car-load lots make Kansas as near in point of cost of transportation as some points within one hundred and twenty-five miles of our large Eastern cities. Your success in fruit growing will consist in cheap transportation.

✢

Subscriber, Tenn. 1. What is a safe cure for colic in horses? 2.—Cure for worms in horses? 3.—What to do for a swelled hock joint, caused by accident. 4.—Can peanuts be grown as far north as 40° north latitude? 5.—How to tell when citrons are ripe? Answer: 1.—A safe cure for colic is hot water applied externally by taking a thick sack and wetting it in hot water, and putting it over the animal, and as soon as cool pour warm water over the sack; this remedy is safe and easy of application. Exercise the animal while applying the water. 2.—For worms give a handful or two of *good wood ashes* to each feed daily for a week; it not successful try aloes. 3.—Apply liniment, rub well, and bandage loosely. 4. Yes, if soil and conditions are favorable. 5.—Preserving citrons are fit for gathering as soon as the rind changes color. They are ripe when the seeds are fully colored.

✢

H. G. McGonegal, New York City, asks: 1.—how to propagate cucumbers from vine cuttings. 2.—Where eggs can be obtained for hatching purposes. Answer 1.—Cucumber vines will make cuttings that will take root when set in a warm, moderately wet soil. Pieces of vines are taken and cut into lengths of six inches or less, and set in pots in a hot house, with only a small bud above the sand. In a few days, if the heat is regular, the cuttings will have taken root and grown finely. In garden culture in the spring, plants may be thus increased in open air. 2.—Eggs as sold by dealers in our city markets have often been kept for a long time in pickle, or in cold storage for months, and will not hatch. Your only chance to obtain a supply of fresh eggs for your incubator, will be to get, in some local town near you, an agent to purchase for you eggs especially for that purpose, and have them shipped to you in Stephen's patent egg crates, for if sent in bulk, if one should break, all the eggs soiled by the broken one will seldom hatch well, even if well washed.

✢

D. S., of Cumberland County, N. J., asks: 1. How to make good barnyard manure. 2.—Will it pay to purchase commercial fertilizers? Answer: 1.—In any good market for beef and mutton, manure is best made by purchasing stock in the early fall and pasturing them, selling all the animals ready for market as soon as fatted, if prices are favorable, and the balance fed on grain in the stable, using a change of hay and corn fodder, and selling when a fair price can be obtained. Sheep are often more valuable to keep for spring lambs, and selling the ewes, when fat, after the lambs are weaned. Raising the lambs takes more pasture land, but when they are dear it becomes profitable. A large amount of excellent manure is made in stock feeding. 2.—Commercial manures often pay in the start—they give crops, regardless of other benefits. Thus, an application of 300 pounds of some commercial fertilizer may give a start to a field of late-sowed wheat that will insure a crop, or it may give a set of young clover and make a good stand of grass. In either case the value might be in the start it gave the crop. We hope to give the subject of commercial fertilizers the attention it deserves in the next spring numbers.

Wait until you see our Annual Premium List and January number.

INDUCEMENTS TO RENEW.

The coming rage in hair is a soft and tender red, like that of a tomato which has grown old and lost usefulness.

It is hardly probable that there are any telephones in heaven. And yet every angel will be recognizable by his halo.

The evil things that men do live after them. Even when an amateur cornetest dies, he leaves the fatal instrument behind.

"Now children," said the teacher, "what do you call the meal you eat in the morning?" "Oatmeal!" promptly replied a member of the class.

"Captain! Captain! cried the nervous traveler, "the vessel is sinking; I'm sure it is." "Calm yourself, my dear sir," replied the Captain, "we have a large insurance on the cargo."

A Scotch physician claims to have discovered a way to make the hardest voice soft and sweet. It is probably to jump on it until it becomes flexible.

An egg farm is to be started near Birmington, Ala., and all the darkies within a hundred miles of it have suddenly come to the conclusion that the climate of that place is just what they have wanted for years.

If there is any girl who doesn't like to pop the question, even if it is yet leap year, she can get around it by asking her young man if he'd be willing to fill in his name on her marriage certificate.

A book just published, is entitled "How to Make $500 Yearly Profit with Twelve Hens." During the past few years, some persons have asked such a high price for eggs, that an impression prevailed that they wanted to make a profit of $500 a year with one hen.

A little girl accompanying her mother on a visit to an old lady, the latter showed the child her parrot, in his cage by the window, warning her at the same time not to go too near, lest he should bite her. "Why should he bite me?" she asked. "Because my dear, he doesn't know you." "Then please tell him that I am Mary Anne"

"Will you kindly tell me what is going on in that church?" asked a tramp of a gentleman who had just descended the steps.

"They are holding a church fair."

"I am very sorry."

"Why are you sorry, my friend?"

"Well, I was going to ask you to help me, but if you have been in there it ain't no use."

A lady—a French lady— is showing a visitor the family portraits in the picture gallery.

"That officer there in the uniform," she says, "was my great-great-grandfather. He was as brave as a lion; but one of the most unfortunate of men—he never fought a battle in which he did not have an arm or leg carried away."

Then she adds proudly: "He took part in twenty-four engagements."

A Montpelier five-year-old of our acquaintance was once invited, with the rest of the family, to take tea at the house of a friend. The head of the family had taken pains to prepare a tempting supper for his guests, and, when all were seated at the table, and it came five-year-old's turn to be helped, the host said: "Well, Johnny, what will you have?" Johnny looked over the table a minute, and then made this crushing reply: "When I am at home and don't see anything good to eat on the table, I have crackers and milk, and I guess I'll have crackers and milk now."

He was telling them in the village store that his son in Chicago had failed, and when they asked for particulars he explained:

"Why, he writes me that he bought wheat for July delivery and got left."

"How left?"

"I dunno, but I guess he couldn't deliver it. Mebbe teams was awful skeeree, and mebbe the roads was bad."

"Well," said one of the crowd as he brought his hand down on the counter: "If I had a knowed that your son Bill was pinched to deliver wheat, I'd gin him the use of my team a whole fortnight for nuthin', fur Bill was one of the best boys who ever left this town."

"And me, too!" added every man in the crowd, while the old man observed:

"It'll probably be a warning to William, and mebbe he'll set in and buy watermelons for January delivery and get on his feet again."

Your renewal is now solicited. See our Annual Premium List.

A COLLECTION.

BROUGHT BY UNCLE SAM'S MAIL AND IN OTHER WAYS.

We cheerfully recommend to our readers the Franklin News Co., of this city. The books they advertise are pure in tone and valuable to all our readers. They send by mail promptly, free of expense, any or all the books they advertise. We recommend them and their advertisement, which may be found in another column, to all our readers who may wish good books.

C. W. Dorr & Co., of Des Moines, Iowa, have a very unique and wholly original plan of advertising in our January number. It is certain that Mr. Dorr must have great faith in his seeds as well as in the virtue of printer's ink.

CATALOGUES RECEIVED

Kriebel Portable and Semi-portable Engines and Boilers—West Point Machine Co., West Point, Montgomery County, Pa. This catalogue gives a full description and price list of the engines and boilers made by them. Any of our readers wanting an engine should address them.

HOW THE FARM PAYS. By William Crozier and Peter Henderson. Peter Henderson & Co., N. Y. This work contains the experiences of forty years of successful farming and gardening by the above well-known authors. The work is a practical one by practical authors who are well known to our readers. Sent by mail from this office on receipt of price, $2.50.

From the "Boston Evening Traveller"

MUSICAL.

The Knabe Piano, which has such a wide popularity, is considered by many experts to be superior in every way to any other piano in the world. The success of this piano has only been attained by years of careful study, and the Knabe, with its excellent singing qualities, its great power, the elasticity of touch, and superior workmanship, is justly the favorite. Herr Faelton's piano solos at the recent Worcester festival, the Schumann's concerto, in A minor, op. 54, and Liszt's Rhapsodie No. 4, which were so highly praised, were both performed upon a Knabe piano. Herr Faelton pronouncing it to be the best piano he had ever seen.

ARE YOU GOING WEST?

Hon. H. W. Dana, Lincoln, Ill., is making up a colony for Swift County, Minnesota, in corn-growing and dairying region of central Minnesota. Farmers, mechanics, and business men who value society, schools, and churches, wanted. Particulars on application.

CAUTION TO DAIRYMEN. Ask for Wells, Richardson & Co.'s Improved Butter Color, and take no other. *Beware* of all imitations, and of all other oil colors, for every other one is liable to become rancid and spoil the butter into which it is put. If you cannot get it write to us at Burlington, Vt., to know where and how to get it without extra expense. Thousands of tests have been made, and they always prove it the best.

Are you intending to subscribe for any Agricultural paper? If so, just look at these prices!

And take their receipt for it!

The prices given are for yearly subscriptions to the papers named—and include a yearly subscription to the FARM AND GARDEN. Should you desire to take any publication without the FARM AND GARDEN deduct 25 cents from price, and we will send it. In some cases two prices are given. The lowest price is for new subscribers, the other for renewals. There is no use in attempting to deceive publishers on this point. We are only the agents of the publishers of the papers in this list: We pay them your money and they are then responsible to you, and to them all complaints should be directed.

Agricultural Editomist,	$0 60	Home Farm,	$1 85
Agricultural World and Mich Homestead	1 10	Hoshandman,	$1 10 1 25
American Bee Journal,	2 20	Indiana Farmer,	1 35
" " Month.,	75	Iowa Farmer,	1 10
American Agriculturist,	1 25	Iowa Homestead,	1 85
American Agriculturist,	$1 15 1 35	Journal of Agriculture,	1 25
American Cultivator,	75 2 65	Kansas Farmer,	1 35
American Dairyman,	1 35 1 60	Kentucky Stock Farm,	1 00 1 10
American Farmer,	60	Live Stock Indicator,	1 35 1 55
American Farm Journal,	65	Live Stock Monthly,	85
American Field,	4 35	Maryland Farmer,	1 05
American Garden,	85	Michigan Farmer,	1 60
American Grange Bulletin,	1 50	Midland Farmer,	85
American Poultry Journal,	1 05	Minnesota Farmer,	1 35
American Poultry Yard,	1 35	Mirror and Farmer,	1 20
American Rural Home,	1 10	National Farm and Fireside	1 00
Bee Keepers' Guide,	75	National Live Stock Journal	2 60
Bowditch's American Florist and Farmer,	95	National Poultry Monitor,	85
Breeder's Gazette,	2 35	Nebraska Farmer,	1 35
Cincinnati Live Stock Review,	1 45	New England Farmer,	2 00 2 20
City and Country,	60	New England Homestead,	2 35
Colman's Rural World,	1 60	North Carolina Farmer,	1 00
Connecticut Farmer,	1 85	Ohio Farmer,	1 35
Cotton Plant,	85	Ohio Poultry Journal,	60
Cultivator and Country Gentleman,	2 35	Orange County Farmer,	1 55
Dirigo Rural,	1 35	Parks' Floral Magazine,	70
Drainage and Farm Journal,	1 10	Pennsylvania Farmer,	1 05
Duncan's Mo. Magazine,	1 75	People and Patriot,	1 35 1 60
Dunton's Spirit of the Turf,	3 35	Poultry Journal,	1 60 1 85
Empire State Agriculturist,	60	Poultry Bulletin,	1 05
Fanciers' Gazette,	1 10 1 35	Poultry Keeper,	70
Farm and Fireside (Ohio),	75	Poultry Messenger,	60
Farm, Field and Fireside,	95	Poultry Monthly,	1 10
Farm and Home (Mass.),	85	Poultry Nation,	85
Farmer and Horyman,	85	Poultry World,	1 10
Farmer and Fruit Grower,	1 25	Roanoke Patron,	1 10
Farmer and Manufacturer,	80	Rural New Yorker,	2 25
Farming World,	2 10	Rural Home,	60
Farmers' Companion,	60	Rural Record,	85
Farmers' Friend,	70	Seed Time and Harvest,	55
Farmers' Home Journal,	1 00 1 60	South and West,	55
Farmer's Review,	1 85	Southern Planter,	1 35
Farm Journal,	60	Southland,	1 00
Floral World,	60	Southwestern Poultry Journal,	85
Florida Agriculturist,	1 85	Spirit of the Farm,	1 85 2 10
Forest, Forge and Farm,	70	Spirit of the Times,	4 85
Fruit Recorder,	85	Texas Farm and Ranch,	95
Game Fancier's Journal,	70	Texas Live Stock Journal,	1 35 1 85
Germantown Telegraph,	1 60 1 85	Texas Planter and Farmer,	1 10
Good Cheer,	65	Texas Stockman,	1 85 2 25
Grange Visitor,	80	Tribune and Farmer,	1 05
Green Mountain News,	1 60	Vick's Monthly Magazine	1 15
Green's Fruit Grower,	55	Western Cultivator,	85
Home and Farm (Ky.)	75	Western Farmer (Wis.),	1 45
		Western Plowman,	70
		Western Rural,	1 85
		Western Sportsman,	1 85

If this has three dots after it, please read a special notice on bottom of page 20.

The Farm and Garden.

Vol. IV. JANUARY, 1885. No. V.

INSTRUCTIONS TO CORRESPONDENTS.

Subscriptions may begin with any number, but we prefer to date them from January of each year. Price fifty cents a year, in advance.

Renewals can be sent now, no matter when the subscription expires, and the time will be added to that to which the subscription is already entitled.

Notice is always sent of expiration of subscription. If not renewed it is immediately discontinued. No notice is required to stop the paper, and no bill will be sent for extra numbers.

Remittances may be made at our risk by Post Office Order, Postal Note, Registered Letter. Stamps and Canadian Money are taken, but if sent in ordinary letters are at your risk. We do not advise you to send money or stamps without registering. See Instructions on page 12.

Receipts.—We send a receipt for all money sent us. If you do not hear from us in a reasonable time, write again.

Addresses.—No matter how often you have written to us, please always give your full name, post office and State. We have no way to find your name except from the address.

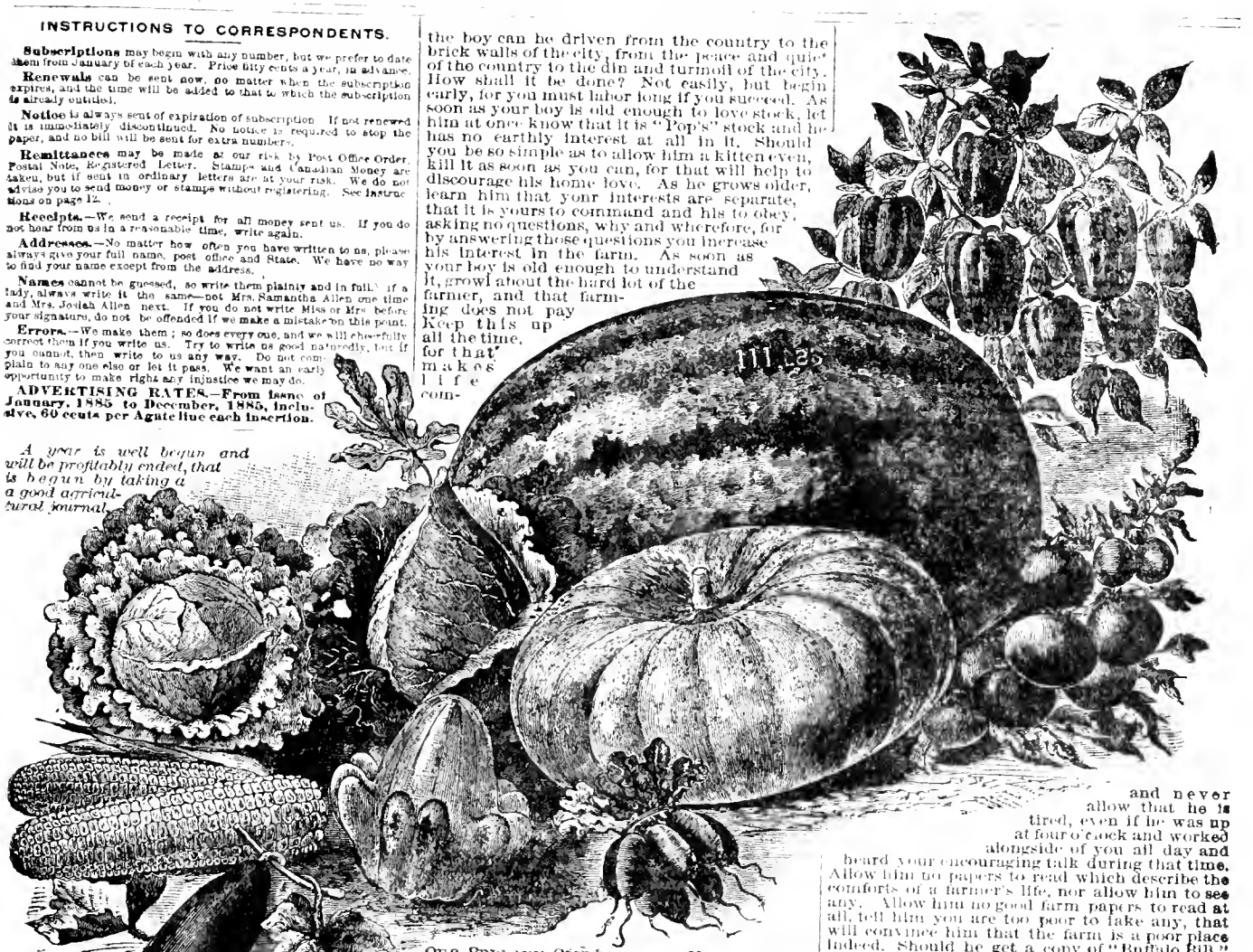
Names cannot be guessed, so write them plainly and in full: if a lady, always write it the same—not Mrs. Samantha Allen one time and Mrs. Josiah Allen next. If you do not write Miss or Mrs. before your signature, do not be offended if we make a mistake on this point.

Errors.—We make them; so does every one, and we will cheerfully correct them if you write us. Try to write as good naturedly, but if you cannot, then write to us any way. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

ADVERTISING RATES.—From issue of January, 1885 to December, 1885, inclusive, 60 cents per Agate line each insertion.

A year is well begun and will be profitably ended, that is begun by taking a good agricultural journal.

While a little foolishness may be pleasing, yet like chaff, when fed alone, is poor food to work on.



OUR PREMIUM COLLECTION OF VEGETABLES. OFFERED ON THIS PAGE

THE CITY OR THE COUNTRY?

HOW TO DRIVE THE BOYS FROM THE FARM.

By a Grumbling Farmer.

So much has been said and written as to how to keep the boys on the farm, that I will take a field new to most writers: how to keep the boys from the farm. To keep the boys from the farm is not so easy a task as some think. There is a natural love in a boy for the old homestead, a love for the green fields and the pure invigorating air of the country hills and dells. Yet, it can be done, and the boy can be driven from the country to the brick walls of the city, from the peace and quiet of the country to the din and turmoil of the city. How shall it be done? Not easily, but begin early, for you must labor long if you succeed. As soon as your boy is old enough to love stock, let him at once know that it is "Pop's" stock and he has no earthly interest at all in it. Should you be so simple as to allow him a kitten even, kill it as soon as you can, for that will help to discourage his home love. As he grows older, learn him that your interests are separate, that it is yours to command and his to obey, asking no questions, why and wherefore, for by answering those questions you increase his interest in the farm. As soon as your boy is old enough to understand it, growl about the hard lot of the farmer, and that farming does not pay. Keep this up all the time, for that makes life comfortable, and after a while the boy will believe what you say and begin to complain of his hard lot as a farmer's boy. When he gets older, give a highly-colored picture of the city, and a dreary one of the country. That will encourage him to hate the farm, and look toward the city; but in no case allow him to go to the city, for he might not find all your assertions true, and still love the farm.

Keep up your growling all the while about hard times, and the farmers' bad luck, about it being too hot or too cold, too wet or too dry, make your boy as miserable as possible, that will aid to make him hate the farm. When he gets older, allow him no privileges at all. If you should allow him any favor, do it grudgingly, and growl about it all next day. Make his home life as irksome as possible. Should he still have left a love for the farm, and want a strawberry bed, raspberry row, or a melon patch, by no means allow it to him. Do not let him know that there is any comfort or pleasure on the farm, and if he gets any of these privileges he must get them on a neighbor's farm while you are away or asleep. Be sure and tell him every day how lazy he is, and never allow that he is tired, even if he was up at four o'clock and worked alongside of you all day and heard your encouraging talk during that time. Allow him no papers to read which describe the comforts of a farmer's life, nor allow him to see any. Allow him no good farm papers to read at all, tell him you are too poor to take any, that will convince him that the farm is a poor place indeed. Should he get a copy of "Buffalo Bill," or "Life upon the Plains," sit down and read it with him with zeal, for this will show your interest in his growing idea of how to leave the farm. When your boy approaches manhood, always order him in an arbitrary manner to go and do this, or go and do that, like a man of authority, and let him feel that he is talked to like a puppy and treated like a dog. Should he work with a plow, give him the poorest one, and teach him that he is an underling, but expect of him the same work as the man who has the good plow. Should he help mow, give him any poor, old scythe, and let the hired man have a good one and if the boy cannot keep up, call him idle, lazy, good-for-nothing, or any choice name of the kind you can think of. This makes him feel the justice of some farmers' idea of a boy to do a man's day's work with the poorest tools on the farm.

To discourage him the more, allow him a pig or a lamb and tell him that it is his and take good care of it. That will encourage him to work. When the animal is grown, sell his pet lamb or calf and put the money in your pocket. Should he fail to see the justice of it and say anything, tell him to shut up, that you have no patience with him. Make him believe you are injured, not him. Disappointment and injustice helps wean him from the farm. Should your boy still love the farm, do not be discouraged, but growl a little more, and try again in some other way. Should there be a picnic or an excursion or a pleasant school entertainment, never let him go, but tell

him that it is his place to work, work, work. Little by little your plan *will* work; the farm without comforts, the home without pleasure, the life without hope, will by-and-bye wean the boy from the farm; and the glare and the glitter of city life, like the moth is drawn to the candle, will draw your boy to the city. Dazzled and bewildered by the change, he is loth to leave the city with its allurements, to again go back to the country, where his early life was shorn of its pleasures, and the brightest days of his boyhood were lost and obscured by a cloud, with no bright spot in the memory of his youth to call him back to the farm.

The father on the farm is alone in his old age, he is burdened with sorrow. The old homestead is going to decay, the farm is a ruin. The vigor of manhood is wasted in the city, that labor which would have ennobled the farm and beautified its landscape, made productive its fields, and ornamented the home, is lost in the care and distrust of the city. Its turmoil and anxieties, take the place of the quiet homestead, whose beauties are faded and whose opportunities are lost.

[*"How to Keep Boys on the Farm," will be given in February Number.*—ED.]

THE COMPOSITION OF CROPS.

PROFITABLE READING FOR THE SCIENTIFIC FARMER, AND NOT WITHOUT VALUE TO EVERYONE.

By "Composition"

So much has been written about potash, phosphoric acid, and Nitrogen, within the past few years, that the average reader of the agricultural papers knows that these are the names of the three substances needed in any soil to render it productive. In other words, no soil, no matter how well supplied with other things; no matter how well drained and cultivated, can produce a crop without the presence of sufficient potash, phosphoric acid, and nitrogen, and in an available form for the growing plants.

It will be interesting, now that the crops are all gathered, to sit down to a small table we have prepared, and talk over the amounts of the three leading essentials, above mentioned, required in the production of a few of our leading crops.

In the first group is placed the cereals and meadow hay, the second contains leguminous crops, and the third, root crops. The kind of crops is given in the first column, the weight in pounds, of the crop per acre, in the second; the same dry in the third; in the fourth, ash; followed by the nitrogen, potash, and phosphoric acid, in the last three columns:—

	At Harvest.	Dry.	Ash.	Nit'n.	Potb.	Phos A'd
		I.				
Wheat,	4,958.	4,183.	189.	45.	27.9.	22.7.
Barley.	4,527.	3,827.	146.	47.	31.4.	20.6.
Oats,	4,725.	3,978.	194.	52.	38.1.	18.9.
Hay,	8,860.	2,822.	208.	49.	56.3.	12.7.
		II.				
Beans,	4,160.	3,161.	187.	99.	81.1.	31.5.
R. Clover,	4,480.	3,703.	255.	102.	87.4.	25.1.
		III.				
Swedes,	80,064.	4,055.	288.	102.	79.7.	21.7.
Turnips,	49,505.	4,057.	364.	120.	148.8.	33.1.
Mangels,	67,513.	7,282.	690.	147.	202.8.	49.1.

It will be observed that the three grains do not show any great differences in the three substances under consideration. For an easy set of figures to keep in the memory, we may say that of a large number of analyses, the average amounts in round numbers, for the cereals is, per acre, nitrogen, 50; potash, 30; and phosphoric acid, 20 pounds. The meadow hay has a smaller average weight of dry substance, but a larger per cent. of ash than the cereals, and an increase in nitrogen and potash.

The most noticeable difference found in the next group, represented by clover and beans, is the greatly increased amount of the nitrogen, which, in even numbers, is twice that of the crops in the first group; this fact is easy to remember. The potash is nearly three times as much, and the phosphoric acid is somewhat more than that in the grains and grasses.

The first thing to be observed in the root crop is the larger weight of the green crop, which, when compared with the figures of dry weight is seen to be very largely water. The amount of ash is greatly in excess of that of the preceding crops in the table, reaching as high as 690 pounds in the mangels. The amount of nitrogen is also large, averaging considerably above that for clover. The potash is remarkably high in the turnips, and especially in the mangels, when it is nearly ten times that of the wheat. The phosphoric acid is also abundant in the mangel crop.

From this table the reader gets a general insight into the demands which the various farm crops make upon the soil. But this is about as far as the chemist can go. He cannot, for example, inform us, with certainty, where the nitrogen comes from. He cannot tell us why it is that a clover crop, requiring a hundred pounds of nitrogen, is a better preparatory crop for wheat than a cereal crop requiring half as much nitrogen. Such a question must be answered by the person who has made a study of the differences of growth and feeding power of the various plants. It is a good point gained when we know the composition of a crop, but there are things to be considered in supplying the soil with the substances out of which crops are made.

GOLDEN BEAUTY CORN.

A NEW VARIETY OF FIELD CORN, THE GOLDEN BEAUTY.

As corn is the most important crop of any grown in the United States, and probably is of more value to the farmer, in a general way, than any other, it certainly is of the highest importance to obtain that kind which will make the most bushels to the acre under the same treatment, and be of the greatest value for feeding purposes. Great improvements have been made within the last twenty years on our old-fashioned eight-rowed and thick-cob, shallow-grained, gourd-seed varieties. This has not been brought about by accident or high culture, but by judicious hybridizing and careful selections of the best, earliest, and most productive stalks year after year until the original type has become entirely changed, and a variety of superior quality obtained that will produce nearly twice as much per acre as our old-fashioned sorts.

The best and most productive of any we have yet seen or heard of is the "Golden Beauty," which was introduced a few years ago, and bids fair to outstrip all other kinds of field corn in productiveness, beautiful appearance of the ear, large size and depth of grains. The above illustration is an exact photograph of one hill grown on the seed farm of Samuel Wilson, Mechanicsville, Bucks county, Pa. This hill, as will be seen, contains three stalks and each stalk two large, full ears, (which is a great peculiarity of this valuable variety of corn,) was exhibited by Mr. Wilson at the Pennsylvania State Fair in September, 1884, and received the highest premium over more than one hundred samples of corn on the stalk. The Golden Beauty corn is a strong, healthy, vigorous grower; stalks medium height, very dark, broad, green leaf, large ears—10 to 14 inches long. Very small cob; deep, broad grain, of a bright golden color. Ripens medium early. Makes the richest and best corn meal, and is said to outyield any other variety in cultivation. We have reports of over 140 bushels of shelled corn to the acre the past season.

MORE ABOUT FLORIDA.

By W. C. Steele, Switzerland, Florida.

Since the publication of my letters on "Gardening in Florida," in THE FARM AND GARDEN, I have received several letters of inquiry from readers of the paper. It may be that others would be interested to know something more about the State.

There is very little difference of opinion as to the desirability of Florida as a winter resort. That it is as well suited for a permanent home, is not so generally acknowledged. I cannot with in the limits of this article give the arguments which prove this to be a fact. The best way is to *come and see.* For the benefit of those who may decide to do so, I wish to state a few facts that should be considered by any one who thinks of locating in Florida, before they do so.

It is not generally known at the North, that there is a strip of territory along the *east* side of the St. John's river, within from twenty to thirty miles of Jacksonville, where oranges and lemons are as successfully grown as they are 100 miles farther south. This is owing to water protection on the west and north-west; all our frosts come with cold north-west winds. At the points I speak of, the river is from two to four miles wide.

At this place the course of the river is such that a north-west wind must cross from ten to twelve miles of water, which is quite warm, flowing as it does, from points 100 to 200 miles farther south.

Last winter was the coldest that has been known in Florida for many years. Orange trees from six to eight years old, many of them large enough to have borne fruit this year, were killed to the ground on the west side of the river. On the *east* side, *no* trees were killed, and only a very few young trees were injured at all. At our place, the only signs of frost were that here and there a twig was touched a little, and dropped its leaves. A few citron trees, the tenderest of all the orange family, lost their leaves. Lemons, though more sensitive to frost than oranges, were not hurt enough to drop their leaves.

A gentleman from the west side of the river, who visited our place after the cold snap, said that he carried a box of seedling orange trees into the house for safety the coldest night, and yet they froze to death. My neighbor, whom he was visiting, then took him out and showed him several boxes containing hundreds of little seedling orange trees that had been out of doors unprotected through all the cold weather, yet, only one of the whole lot was injured.

One of the best things a farmer can do is to take a good practical paper on farming, not so much for his especial benefit, but for his family. They will prize it, and we believe you will too. Aid your boys or girls to get up a club. We would like to have a club from them.

The cold wave of January 6th, 1884, killed more seedlings and young orange trees in Orange County, 150 miles south of us, than it did within the territory I have been describing.

Guava bushes lost their leaves, and many were killed to the ground in Orange County, and they were no worse with us, in fact, a few bushes, near the river, under the shelter of some live oak trees, escaped without any injury whatever. There have been very few bananas set out in Switzerland yet. Of these, however, a few ripened fruit in 1883, though too much injured to fruit this year, none of them were killed, and they give fine promise for a crop next year.

While in Orange County, a year ago, I found that they did not expect to be successful in growing pineapples, unless they gave them some protection during the winter. Pineapples lived through the winter at our place without any protection whatever. They were badly hurt, but the same amount of protection necessary to secure a crop in Orange County, would insure one here.

These statements may seem exaggerated to some. I do not ask any one to take my word unsupported, *come and see.*

That our exemption from injurious frosts is due to our water protection, is proved by the fact that

as you go back from the river, the severity of the frost increases. So much so, that last winter, oranges on the trees in groves three or four miles back from the river, were spoiled by freezing, while in the groves along the river, very few were touched at all. Unimproved land at this place can be bought for about one-half the price asked for poorer land further south. The reason for this is that the most of those who settle in Florida, wish to grow oranges. They have heard that to do so successfully, they must get beyond the "frost line," which is located a long way up the river. The agents for all the transportation lines encourage this idea, because the farther south the people go, the more money they get for fare and freight.

It costs more to go from Jacksonville to Orange County once, than to make a dozen trips to Switzerland and back. There is also a very great difference in the cost of getting produce to market from the two points I am comparing.

The "frost line" has not been definately located for many years. *It is said,* that at one time it was marked by a rail fence, but this fence was burned by one of our forest fires, and since that time no one has been able to find it again. Seriously, there is a great deal of nonsense written upon this subject, and it will pay any one who wishes to settle in Florida, to look about him well before deciding.

I have *no* land for sale, nor any interest in the sale of that belonging to others. I began a year ago in the pine woods, and am trying to make myself a home in the "Land of Flowers." My only object in writing thus is to bring in more good neighbors, if possible. To that end I will gladly answer all inquiries from parties who enclose stamp to pay postage.

GOLDEN OPPORTUNITIES IN THE SOUTH

Continued. By Joseph.

GRAPES AND GRAPE WINE.

The United States opens a wide territory for successful grape culture. Grapes are grown with profit in many of the Northern States, but their home is further South. In Virginia, in the Carolinas, and in other Southern territories we find the vine in its natural condition, unimproved and uncultivated, and yet the fruit is often very acceptable to a not too fastidious taste. This circumstance proves beyond a doubt that both climate and soil is naturally adapted to the grape.

Friend Satterthwaite, in South Carolina, near the Georgia line, evidently believes that grape growing there is profitable, else he would hardly invest thousands of dollars year after year in planting Niagara's. He, like the genial P. M. of Richmond on his 15 acres raises the fruit for market mainly. I have visited the latter gentleman's vineyard. His Concords, Catawbas, Ives, and other varieties are growing luxuriantly, yield abundantly, and bring very fair returns. The Delaware there does not seem to be quite so reliable.

While writing this article I find myself right upon the very finest grape soil to be found between North and South, on top of the Blue Ridge, which divides the great valley and Piedmont. Soil and climate seem to be alike favorable to grape growing, and on either slope of this far-stretched mountain range.

A few weeks since I visited Messrs. Ashby and McKay, at Belmont near Front Royal, the largest individual grape growers and wine makers in the South. Nearly 100 acres are planted in grapes, mostly Concords, Delawares, Catawbas, also Ives, Hartford Prolific, and Norton's Virginias.

Suitable land—limestone soil—in this Blue Ridge section is plentiful and cheap, from $5.00 to $20.00 per acre. Therefore grape growers, to make a start here on a moderate scale, need but little capital, and have many other things in their favor. There is little danger from injury by late frosts in the spring, or by early frosts in the fall. Catawbas have a chance to mature every year. The fruit ripens early, and may be marketed weeks in advance of the New York crop. I do not see any reason why growers should buy high-priced land in the North for grape growing, and run all the risks of early and late frosts, when such advantages are offered a little further south.

Grape growing here, in the comparatively rare cases where we meet with it at all, is on generally the grander scale, which characterizes almost all farming operations in the South. Cultivators think no more of planting ten acres of vines, or tomatoes, or other produce, than a Northener would of planting one. No fuss is made about it, nor are great preparations considered necessary. The land is plowed, the grapes planted, rather close—six, seven, or eight feet is the usual distance—short stakes are driven in due season, and the vines tied to the one wire stretched on top of the stakes, or, as in the case of the P. M., and generally in other places, each vine is simply trained to a single stake. Our Northern grape growers, many of whom are Germans, grow up in the business, would treat a vineyard altogether differently. With more wire, more labor, some fertilizer, and perhaps a greater distance between the plants, they would raise two or three times the quantity of fruit on the same area.

Mr. McKay sells only his Delawares partly in the local market of Front Royal, partly in Washington City. All of his Concords, Catawbas, Norton's Virginia, etc., are manufactured into wine and brandy. It is not necessary in this connection to discuss the question, whether it be right or not to produce wine and brandy for sale. We may take it as a fact, that wine will be made and used as a beverage as long as grapes are grown. Mr. McKay finds the business profitable, and intends to plant still more largely. At present he makes about 1800 gallons or more per annum, and sells the product for from 60 cents to $1.25 per gallon. A number of his casks hold about 1100 gallons each.

"Show me," says he, "the 100 acres of land in this great and fertile valley which will yield to the cultivator as large net profits, with the same outlay of labor, as my 100 acres of grapes. You can not do it." And I think he is right.

We have heard occasionally about the garden spot of the South. The Blue Ridge, with its spurs would be my choice.

[The editors of THE FARM AND GARDEN by no means take this as a fact, but cordially disagree with it.]

In sending you our sample January number of THE FARM AND GARDEN, *of which we propose to issue 350,000, of course we must reach some who are not acquainted with us, or our journal.*

Four years ago, we believed that a monthly journal devoted to the interest of the farm and garden, could be made a success. With that belief we began the publication of THE FARM AND GARDEN, *and after our trial we find that our hopes and our expectations have been more than realized. For this we thank our many friends for the encouragement they have given us, and the kind appreciation they have so often expressed of our efforts to give an excellent journal at so low a price. We hope the same good feeling may continue with all our old friends who have so long taken* THE FARM AND GARDEN, *and all new ones who may subscribe to our journal. To those who do not know us, and who may receive the January (sample) number, we desire to say we were told that an agricultural journal could not be made to suit all parts of the country, but each journal must be local in character, and unsuited to the various sections of the Country. Our experience has proved this to be an error, for* THE FARM AND GARDEN *is now taken in all parts of the Union. Although it entails upon us much extra work, which others would perhaps not undertake, yet, we propose to study the wants of every section of the Union, and endeavor to fill that want for advice and information.*

A BUSINESS NCTICE.

We are now located at 420 Library Street. We will remove about December 15th, 1884, to No. 725 Filbert Street. Letters addressed to either place will reach us, or addressed simply Farm and Garden, Lock Box, Philadelphia, Pa.

GARDEN NOTES.

Spreading hay a few inches thick over the garden, will make the soil, when the hay is removed, easier to till and will keep mellow and moist longer in summer.

While at leisure in this cold and inclement season, get your pen and do what a farmer seldom delights to do, write a letter, more than one if you choose, but all of them for the garden. Ask the seedmen for their catalogues of seeds, the manufacturer for his price-list of plows, garden cultivators, &c., the publisher for book list, and then you will have something to advise you what to buy and what to do, and when spring comes you are all ready and posted for work. Do not put it off.

But little can be done in the garden at this season of the year. The compost may be prepared. Hog pen manure is very good for garden manure, and slaughter house manure is very valuable also, as it has so much blood and offal in it that it will make a vigorous growth of vine, and is very valuable for cucumbers, pole beans and running vines, but is apt to make the plants too vigorous for an extra early fruiting. Fresh stable manure is not good for the garden, for the manure will heat and the free Ammonia that will escape will injure the roots of early stuff, or as some farmers say, "burn up the stuff." Put no ashes or lime in your compost. Spread them broadcast over the garden, and the compost in the hill.

The season may not allow it this soon, to make a garden fence, if you have none, by all means get your lumber ready now for a good high fence and plan for a good garden the coming spring. If you wish an early garden, select a plot sloping toward the sun and build the fence high and tight on the north side of the garden and whitewash it on the south side. Should your garden soil be heavy and cold, look up some sand bank this winter, and cart sand and cover the garden well with it. If you do the job well, it will not require to be done again in a life-time. One hundred loads of sand, carted in a garden, will make a clay loam a sandy one. Try a corner of the garden with sand, any way, and see if you are not pleased with it.

When we ask the readers of this paper to send us a club, we mean you, of course. It is easily done.

THE ORCHARD, VINEYARD, AND SMALL FRUITS.

Noble is the man who plants fruit trees for the use of his children with the same zeal as he does for his own profit.

A tree, unlike some people, when kindly treated, seldom fails to discover it. It does not forget the kindness.

APPLES; CHANGE OF VARIETIES BY SOIL AND CLIMATE.

By Eli Minch, Shiloh, N. J.

In former contributions to your valuable journal I have considered a few of the many problems of fruit growing. I will examine at this time the effects of soil and climate, and the variation they produce in the growth of the tree and fruit, and how they affect the value of varieties in different sections of the country.

All varieties of apples are not at all similarly affected by soil and climate. Thus the Ben Davis is hardy and will thrive in the cold, icy regions of Canada, and withstand quite successfully the dry, cold winds of a Wisconsin winter. It will also grow in the dry soil of central Texas, and will endure the torrid heat of Alabama and Georgia, while the Swaar will only thrive in its native home on the banks of the Hudson. Each variety differs in adaptability to soils, but not so widely as Ben Davis and Swaar.

Upon this branch of apple culture more information is needed, for upon it depends failure or success. Published descriptions of fruit avail us but little, for the Swaar is highly commended for its fine quality, while the Ben Davis is always described as only passable. A reader would naturally suppose if he wanted a fine apple he must take the Swaar, yet a mistake could not be greater, for the Swaar would succeed only in a few places, while had he taken the Ben Davis, a supply of fair fruit would have been assured.

Now we want other varieties of fruit, and we must look over the list carefully to see what varieties we can safely plant to suit our soil and climate, and to give some light on this point I write this article.

Experiments that I have made with many varieties of fruit from various part of the Union seem to establish the fact beyond all question that apples which are good keepers at the North are generally worthless for keeping if removed from hilly regions of the North to the level regions of the Middle States, and that while early apples from those regions will be fine on removal, Southern early fruits are not so promising. Their winter apples are, without doubt, destined to be the winter apples of the middle sections of the United States.

Some of the effects of climate that are general over all sections of the country are that dry weather colors up the fruit handsomely, and if long-continued, it retards the growth and ripening, and makes the fruit keep better. Wet weather increases the growth and causes the fruit to ripen and decay earlier. Warm, late falls cause the apples to form fruit buds, and will make an apple that is a poor bearer in a colder climate be a good bearer, and a good bearer at the South a poor one north of its place of origin.

I find in my experience of planting trees from various soils and sections from very distant points of country, that those from the river bottoms of Georgia and rich bottom soils of Ohio are very fibrous—a solid mass of fine roots, while from the limestone soil of Tennessee the roots are long and clean; from the loam of New York they are freely-rooted and stocky, and from New Jersey the roots are long and fibrous. When planted all of them more or less lose their characteristics and form long and clean roots. One year will change all the fibrous roots of the fibrous-rooted trees of Georgia and Ohio into the long and straight roots so common in orchards of our section.

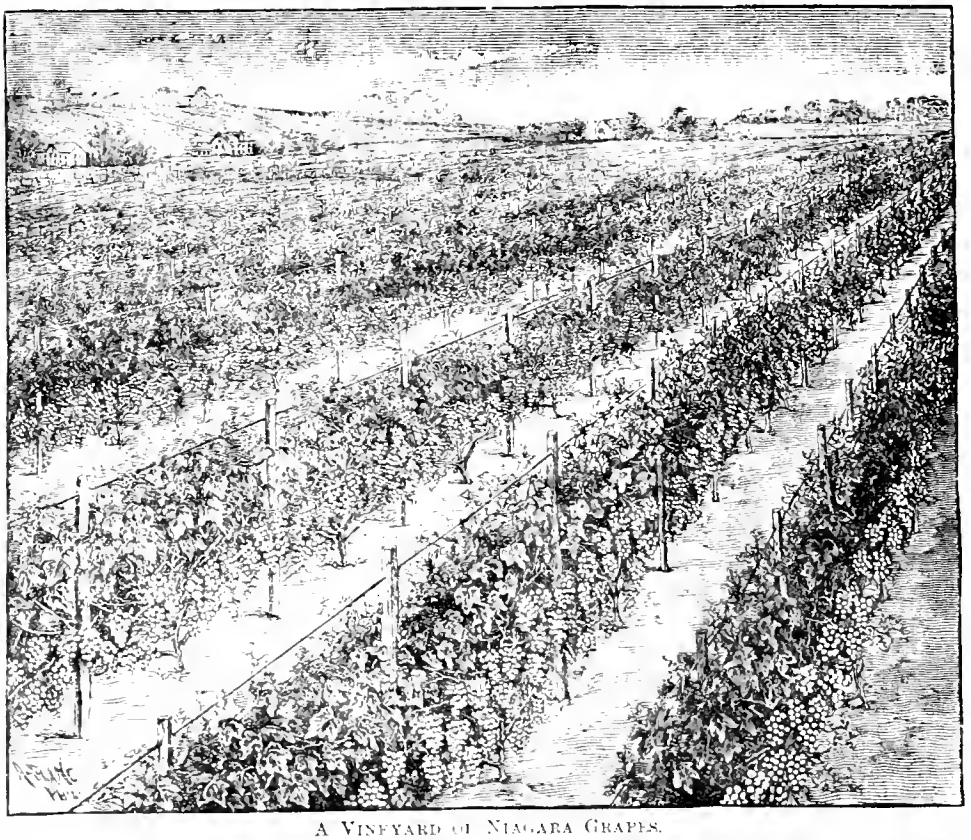
These changes affect to some extent the growth of the tree. The trees grown in river bottoms are sure to live, but do not readily change roots in less than a year. After they change their roots to suit our soil their growth is very rapid indeed. The trees from the lime one regions of Tennessee grow rapidly in any soil. I am making experiments with trees of other sections, and they will be continued until a satisfactory result is reached.

Studying, as I do, all the various changes that soil and climate produce in varieties, I am slowly finding the result. I wish to reach a variety or varieties of fruits that make us a list of apples, both early and late, that will be an acquisition to the country. It will take time to accomplish it, but I feel that in due time I shall have solved the problem. I am learning that an apple of another section top-grafted on one of our native seedlings is not the same as one grown on a tree that is grown in that section, planted and fruited here. That varieties also of a different soil and climate not grafted in their native soil, do not, if planted with me, produce the same tree or fruit as if top-grafted on one of our native seedlings. The cause of which I will explain.

Trees propagated in usual manner on small seedling stocks grafted in the winter and set in the spring only a bud or so above ground, take root from the graft very readily, and become a seedling in every respect as regards root and top, and will flourish with all the vigor of that variety in its native soil, or any soil of a similar nature, yet, if taken to a different soil, unless it can accommodate itself readily to that change, will not thrive or prove satisfactory. While this fact appears clear to me, I also find if we take the same variety and graft it on a vigorous native seedling three or four years old at the point where the top of the new tree is desired, will then have a vigorous seedling root to thrive upon, and will not be compelled to contend with an uncongenial soil.

In the one case the tree, as is usually grown by small seedling roots, will succeed in any soil in which the variety will thrive, but will not suit itself to an uncongenial soil. I think here my Western friends will find the secret of decaying orchards.

This article is already too lengthy, and I will, at an early date, complete it, and have something also to say on orchard sites and soils.



A VINEYARD OF NIAGARA GRAPES.

NIAGARA GRAPE.

This beautiful, new white grape was originated in Niagara County, N. Y., by Messrs. Hoag & Clark, and is a seedling of the Cassady as a male and the Concord as a female. It is being introduced by T. S. Hubbard, of Fredonia, N. Y. The Niagara is a strong, vigorous grower, and combines all the vigorous, hardy qualities of the Concord and the white color and peculiar sweetness of the Cassady, thus having all the good qualities of both parents. The bunches are often shouldered, and usually weigh a half pound or more, and those of a pound weight are very numerous. The berries are large, somewhat larger than the Concord, of a greenish-white color like the Cassady, and almost transparent, of a peculiar and distinct flavor pleasing to most lovers of the grape. One peculiarity of the grape is parting so freely from its seeds, and the seeds need not be eaten with the pulp, as it is necessary to do in most grapes. It possesses none of that burning character which causes some otherwise excellent grapes to give a peculiar acrid sensation of the tongue and at times an unpleasant soreness. The Niagara ripens with the Hartford Prolific, and will remain on the vine and not shrivel or rot, as is usual with grapes, but will continue in good condition until frost.

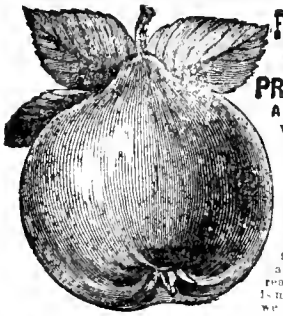
The vine is wonderfully productive. A one-year-old vine set in 1878 bore twenty clusters in 1879, and forty-seven in 1880, large crop in 1881, and in 1882 produced one of forty pounds of grapes. This was done in good vineyard cultivation. Our engraving represents a bearing vineyard of the Niagara grape set ten feet apart and four years old, and shows its beautiful appearance and great productiveness.

Small fruits are valuable for a farm, and often add much to its income.

What the Wilson strawberry was to the old kinds of strawberries some new berry may yet be to the Wilson.

We desire to serve our readers well, and we believe the Orchard and Fruit growing departments of our agricultural journals do not usually receive the attention their importance merits. We propose to make these departments of our journal both progressive and practical, and shall in the future as in the past, give all the various fruits in cultivation, each due attention. To further our plan, we shall incur the expense of sending a representative to the New Orleans Exposition to fully represent the varied interests of THE FARM AND GARDEN at the Exposition. Especial attention will be paid to the Pomological department of the Exposition, where there will be the largest and most varied exhibit from all parts of the Union, ever known. We feel that the expense we incur will be amply repaid in the information we shall gain in fruits and fruit culture, and all the benefit derived from it will be for the good of our extensive family of readers.

We are making experiments with new and valuable fruits, as also are many of our readers, and



shall, as we report our experience with them, give an accurate account of success or failure with each variety. We hope with the care and expense we incur in the Fruit department of THE FARM AND GARDEN, we shall make it equal to, if not superior to any agricultural journal published.

✢

It is a very good time now to cart a few loads of manure, and spread it over the strawberry bed. The more manure and the more evenly spread, the better. When the growth is stopped and the ground frozen, then is your time to manure. One load then is worth two in the spring. Do not be afraid to use manure. Muriate of potash, (if sowed early), 300 pounds to the acre, with 500 pounds of bone dust, is a good fertilizer in absence of barnyard or stable manure. The strawberry bed above all, needs weeding and feeding. While you are at it you might give the raspberries and blackberries a little too, they will repay you. If you starve your small fruits they will not prosper. One penny saved is not a penny gained in small fruit growing.

✢

We find in our experiments with apples, that the Santa, a seedling of White County, Georgia, promises to be a long keeper. The apple is above medium in size, smooth, and in color a light yellow, a good grower, and an early bearer.

We have many varieties of seedlings and new fruits that have been top grafted three years and bloomed very profuse y last spring and gave promise of a large crop of fruit; but a severe storm in June destroyed the fruit. We hope this year to be able to report on many of them which we hope to have in bearing. We do not carry on these experiments to get more varieties, but to secure the best, which can only be found by a thorough trial. What we want is to try all varieties of promise, and select the best and grow them only, and discard all kinds that are not very superior. We now have too many kinds, and many of them are worthless to the farmer.

✢

We earnestly desire a club from every fruit grower and consumer in the United States. You are one.

✢

As we promised in our July number to give a description of a quince of recent introduction, we now give a cut of the quince and a description of it. The quince is introduced by Rev. W. W. Meech, of Vineland, N. J. Mr. Meech does not claim to have originated this new quince, but found it growing on a lot in Vineland, and does not know where it originated. The tree being such an abundant bearer of fine large and fragrant quinces, attracted his attention, and he at once began to cultivate it for market. The quality of the fruit being so superior, and the market so ready, Mr. Meech engaged largely in its cultivation, to the exclusion of all other varieties, and now has one of the finest and most productive quince orchards in the State. The great drawback in quince growing is that the quince is so tardy in bearing, this is true of most quinces. Meech's new quince differs from the others in being a remarkably early bearer, and will bear in two or three years from cuttings. Trees bear at once, and are much more prolific than any known variety, while the quality is very superior.

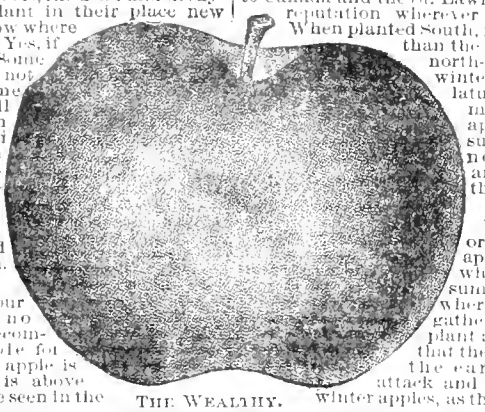
We have so much faith in the Meech's Prolific quince, that we offer it as a premium. See our premium offer.

We shall try to make this page of great value to every fruit grower. Worth more each number than the subscription price, and each number will pay a big dividend on a 25 cent investment. All for 25 cents. All yours, gentlemen. Walk in, and bring the neighbors with you.

Look over your orchard these cold snowy day, and see how many apple trees you have in the orchard, that are worthless, and take ground that should be set in better fruit. If the trees are young and vigorous, select the varieties that are valuable, and do not forget a few early ones for the children; and when the time comes in the spring, top graft the trees that are vigorous, (ample instructions, with full engravings will be given in our March number), the dead and decaying trees dig up, and plant in their place new ones. Will new trees grow where old ones have stood? Yes, if the soil will grow trees. Some spots in a farm will not grow grain well; so, some spots in an orchard will not grow trees. When you set a tree where an old one stood, ash the ground well, and lime it to take the sourness out of the old roots, and keep the soil mellow a short distance from the tree. Hard ground gets dry and hot in long summer sun.

✢

We believe we can do our north-western friends no greater favor than to recommend the Wealthy apple for trial, where an Ironclad apple is desired. The Wealthy is above medium in size, as will be seen in the cut, is oblate in form, and usually crimson red in color, but is occasionally striped with red on a whitish-yellow ground. The tree is very healthy and vigorous, an abundant and early bearer. It was originated with Peter M. Gideon, of Excelsior, Minnesota, and has proved and ironclad in the severest winters of Minnesota, and elsewhere. Although it only was originated fifteen years ago, its culture has extended to Canada and the St. Lawrence, and has made a reputation wherever it has been tried. When planted South, it is as early, or earlier than the Baldwin; but for the north-west it is a valuable winter apple. The Legislature, by a special act, made Mr. Gideon an appropriation of a large sum annually, to test new seedlings to find another of the merit of the Wealthy.



THE WEALTHY.

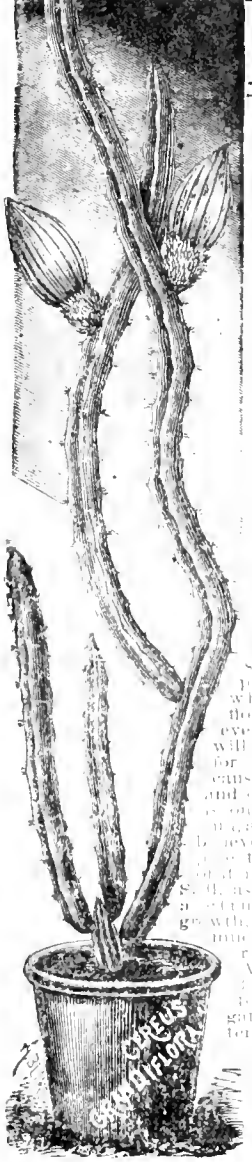
✢

When you plant an orchard plant the early apples near the house, where the hogs can consume the fallen fruit, and where the apples are easily gathered. The winter apples plant away from the house, that the worms that breed in the early apples will not attack and render worthless the winter apples, as they do when together.

OUR FLOWER GARDEN.

Give your wife and daughters help in the flower garden. A beautiful home is one of the delights of the country.

A well-kept flower garden and a well-tilled field should always be favorite children of the farm.



THE NIGHT-BLOOMING CEREUS.

Our talks about the Cereus and Cactus seem to have awakened quite an interest in these curious plants, and the demand for Cereus has been very extensive of late. Time enough, this night bloomer will prove to one satisfactorily, if it only produces one flower. Some people seem to be made to do anything with it, while others have no success at all in blooming it, as may be seen by our illustration, which represents a two-year-old plant, from a cutting, which has two open flowers and four buds. Yet, every bud, except a large, will not expand. Often for some unaccountable cause, they will shrivel up and drop off. Some say it is on account of the dust in a grand this season hardly believe, as one would suppose they must get plenty of rain in their native clime. Still, as this Cereus is really a strong grower, undergrowth it is possible that it is much shaded by surrounding foliage.

As we have said before, they are very easy to grow, and to propagate. A cutting, no matter how small, if placed in a small pot filled with sand, will root very quickly. When a sideshoot begins to form, it may be shifted into a somewhat larger pot; three inches is plenty large, filled with good, rich, porous soil, containing one-third manure, some coarse sand, and some bits of lime or stone. Then set it in a sunny place, and during summer water regularly. If planted out in the warmest part of the garden it will grow more vigorously than in a pot, but the roots will suffer somewhat when taken up in the fall. After October, water should be gradually withheld, and the plant kept in the sunniest window at hand, in order to well ripen the wood. As soon as the days begin to lengthen, watering may be commenced again, and if your plant is strong enough, buds will almost immediately appear. After they are large enough, cover them up with a small paper funnel, it cannot do them any harm and may protect them from the scorching sun.

At first the buds will not grow very fast, but, when nearing maturity it is astonishing what growth they will make in a day.

They always create a sensation when in bloom, on account of the magnificent large flower, which will often measure twelve and fifteen inches across. It is also very interesting to see the flower expand, one can really see it move like a living being. The perfume is delicious.

If one flower gives such delight, what must it be when a single plant is covered with dozens of them. A gardener near Germantown had as many as fifty flowers open at one time. What a sight this must have been. The fact of its blooming in the evening, when most people are resting from their days work is another desirable feature. You may call your friends and neighbors in and give them an agreeable surprise.

Seldom indeed, will a plant bloom the first year, but it is quite common to have them in bloom the second. Those who have greenhouses may plant it in the ground without fear, for, although it is recommended to keep them in comparatively small pots, and not repot them often, we know of several instances where they did ever so much better planted inside of the greenhouse and run close to the glass.

We offer strong rooted cuttings in our premium list, that if cut in three pieces, would soon make three good plants. A two inch cutting will really do just as well as an eight inch one; and three cuttings in one pot will soonmer make a fine specimen, than a single long cutting.

Some years ago, and even now, the plant is used for some medicinal purpose, and a very high price per pound is paid for it, as high as ten dollars we are told.

DAHLIAS.

We have now several classes of Dahlias: the large growers, the dwarfs, and the new single varieties which are much prized at present. We give an illustration of both double and single varieties. The large growing kind should be grown where they can have plenty of room to spread themselves in. The dwarfs make fine beds in the lawn. The single varieties are now readily more popular than the double, and are used much for forcing during winter, when they are very valuable. They are of great brilliancy of color, and fine stately habit, and make beautiful plants for sightly places. We have no flower that surpasses the Dahlia in magnificence of color, and a well-grown bed is a splendid sight in the early fall. If care is taken to start them early and keep them well supplied with water and rich food throughout the season, there need be no failure with them. Our illustrations show the flowers much reduced in size. Double Dahlias will often measure four inches across, and single ones five. Everybody who has a garden should plant them.

NIGHT-blooming Cereus is a most desirable plant for the house, and well-rooted, strong plants, such as we can furnish, will always accept the failure with them. Our illustrations show the flowers much reduced in size. Double Dahlias will often measure four inches across, and single ones five. Everybody who has a garden should plant them.

PLANTS FOR HANGING BASKETS.

We have often mentioned plants suitable for growing in hanging baskets, we have left out several of the best, for assuredly nothing can be finer or better adapted for furnishing hanging baskets than Hollisson's unique Pelargonium, the habit of which leaves nothing to be desired, as it trails over in the most graceful manner possible, and flowers profuse when suspended and exposed, as it then is, to plenty of light, which hardens and matures the growth. The effect it produces in baskets is greatly heightened by mixing with it a plant or two of the white Ivy-leaf or better still, L'Elegante, the contrast between the two colors being very pleasing, as they blend and associate so well together.

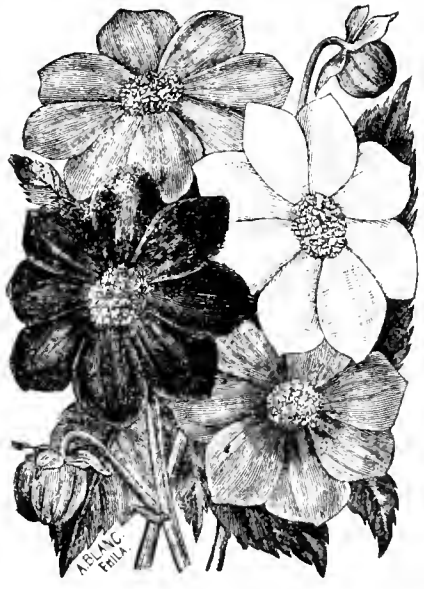
Next, perhaps, in point of merit to the above named Pelargoniums are Achimenes of different kinds, which in globular-shaped baskets are very beautiful, as they may be so distributed and grown in them as to cover every portion, and form a perfect mass of bloom. These baskets may be easily made by any ordinary handy man if he is supplied with stout galvanized wire, from which the frame can first be formed, and then the wire run round spirally about one inch or so apart until the basket is finished, shapeable like a bird's nest, when by laying moss around the sides it may be at once filled with soil and furnished with Achimenes. These can readily be inserted regularly over by making holes with the finger or a small dibble, but the plant must be put in when started or struck from cuttings, as then they have few roots and suffer but little check through the disturbance they undergo. For growing Achimenes in this way peat is the best soil, or a mixture of that and half-rotten Moss answers perfectly, as does also leaf-mould, and the latter with a little loam, the Moss being desirable on account of its sponge-like nature for holding and retaining water, of which Achimenes when flowering, require liberal supplies, and always suffer materially if allowed to get dry. Many of the fragile or procumbent Fuchsias are also grand for baskets, as their pendent flowers can always be seen to the greatest advantage when the plants are elevated; and then, again, there are tuberous and other Begonias that always look somewhat stiff and uncomfortable in pot where they have to be staked up and tied, but which hang naturally and gracefully over the sides of baskets and need no support. Single Petunias, too, are equally at home, and are gorgeously beautiful.

Another plant we can specially recommend for these is Convolvulus minor, the blue of which is quite unrivalled, and as the blooms are the same shape and size of some of the Petunias, the two may be shown together, when this is done, use white or light sorts of Petunias.

In addition to these we may mention Forenia Asiatica, which makes a very pretty trailing plant, with purple velvety flowers. It can be propagated extensively by cuttings inserted in sand, or grown from seed. Many make a mistake by putting too many varieties in one basket. There are some plants that will bear crowding, others that will not. Then, there is a difference in plants as to the amount of water they require. Othonna Crassifolia, for instance, is a fine plant for baskets, even if planted alone, but too much water and shade will cause the leaves to rot, and the plant will lose most of its beauty. Avoid this trouble and you will be greatly pleased with it. If an Aloe be planted in the centre of the basket with it, it will improve the looks very much. The Tradescantias are neat trailing plants, and four varieties planted together, form a fine basket. This plant will stand all the water you have a mind to give. Vincas, of which there are various sorts, do well; but are somewhat slower, and most people want basket plants to fill it in a few weeks. In large baskets we have seen Coleus, Maurandia Barclayana, Oxalis, Smilax and other plants growing together, and they made fine specimens. Begonia Glaucophaylla Scandens, when in bloom, is another good subject, and will give a profusion of waxy-pink flowers, lasting a long time.

We always pay a great attention to the ladies, for we believe they do serve it. And we shall try to get that husband of theirs to take with them an interest in the flower garden, for no home can be as pleasant as a floral and rural home. While thinking of your flowers, think of us, and show by a fine club of subscribers, what the ladies can do.

Select your varieties now, at your ease, by your fireside. Plant them in the spring early. Do your thinking now, and your planting then.
Send for the seedsmen's catalogues and read them. There is always something to be learned.



SINGLE DAHLIA.

A FINE SHOW OF DAHLIAS.

When we wrote the article on page six concerning Dahlias, we did not expect to say more about them so soon, but we feel that the subject merits this much more attention.

Years ago we used to regard dahlias as the most popular flower for the garden. Of late years we have not seen so much of them, for a great many persons have made up their minds from repeated failures with it, that it is an unsatisfactory plant, simply because one season it may do well, and the next fail. Now, Dahlias may be grown very successfully every year, if two things are attended to. The first is to start the plant into growth early in the spring, after having bought good stock from a reliable dealer. The Dahlia requires a long season of growth, longer than our brief northern summer affords, and unless we can give it about a month more of growth than it will be likely to get if we put it out in the open ground at once, we need not be surprised if it fails to produce a good crop of flowers before frosty weather comes. After frost we can expect nothing, for it is very easily injured. Therefore, to prolong its season, we must start the tubers in the house early in March. By the time the ground has become warm, we will have plants a foot or more in height. Always break the tubers apart when putting them in pots or boxes to start. One tuber makes as good a plant as half a dozen; then, after setting the plants out, care must be taken that they do not suffer from drought, for they require plenty of moisture, and one reason why we have good plants one year, and poor ones next is, that one season is wet and the other dry. If you have been observant you will recollect that your old Dahlias did well when there was a good deal of rain, and the reverse, when there was but little. Always give your plants all the soapsuds from washday, and in hot, drying weather, make a mulch about the plants from grass clippings from the lawn. Dahlias are gross feeders, and must have a very rich soil if you expect them to do their best. It must be dug to a depth of at least a foot and a half, and should be kept mellow. Stakes must be set about each plant to tie the branches to, as they are very brittle and break off easily.

GRASSES AND DRIED FLOWERS.

Those who have never seen the beautiful grasses that are cultivated by the florist and dyed with so much care and skill, have no idea of how much more attractive a room can be made at very small expense. A plain room, decorated with some of these grasses, with a mingling of everlasting flowers, can be made a constant source of pleasure during the dreary winter season. A few stately Pampas plumes, in beautiful colors, and a few bright everlasting flowers with some of the graceful feather grass, placed in a pair of large vases on a mantel, and home grasses gathered during pleasant walks in late summer time, with a small mixture of colored sea oats among them, will make attractive the plainest apartment. The Agrostis, too, for small vases, and other small varieties deserve honorable mention.

A BUNCH OF BALTIMORE BELLES. (*Climbing Roses.*)

If we look around in gardens where a warmer climate and more constant sun brings out luxurious growth in many things, we see such arcades, bowers, pillars, and climbing masses of beautiful roses on all sides as makes one discontented with our beautiful individual blooms, and the absence from our gardens of these luxuriant masses that neither require nor obtain any special care whatever from one year's end to the other. It, as is only too true, the varieties of the Rose that produce such glorious effects in foreign gardens, are not hardy enough for us, why do we not try to raise new varieties that shall resist our cold and changeable seasons. Surely there is choice enough of species and varieties in a plant that ranges, one may say, all over the world, among which we may find something that shall be the parent of hardy climbing varieties, as beautiful in our climate as the Noisette and Indica Major roses are in the south of France and elsewhere. Baltimore Belle and the many varieties of H. T. Roses that have lately been raised are all good in their way, but they demand good soil and space for themselves. Who is it is a warm wall that needs clothing, then it is that the Banksian or various hybrids of Noisette and Tea Roses may be used. Now let us advise our readers to prepare a good piece of ground near their front porch and as soon as the soil is ready for it, to plant at least a half a dozen of fine climbing roses of various colors. They will take good care of themselves if pruned when they need it, and a covering of manure be given them annually, and dozens of fine clusters of flowers may be cut from them weekly,—yes, daily.

DOUBLE DAHLIA.

House plants, well cared for, are an ornament to the farm house; and give a cheerful look to the winter fireside. To keep them well requires care; and no class of plants repay care better. The green color of foliage, so much admired by all, is given to plants by Ammonia. This can be easily supplied by taking a little manure and soaking it in water and allow it to settle, and, when clear, wet the soil very moderately with it. Little and often is the best.

Everyone should read the Rose offer on page 3, and the Night-Blooming Cereus on page 6.

Our requests to subscribers, though sometimes in a humorous strain, are intended by us to produce a real effect, and we are soberly in earnest in energetically pushing our business. Therefore let it be understood that we sincerely desire your aid in building up our circulation in your neighborhood.

Do you want to easily help us without any cost to yourself? We hope you do, and this is the way in which you can do it. Whenever you send an order or write for a catalogue to an advertiser, say you saw the ad. in the Farm and Garden. He will then give us credit for having brought him a customer, which will help us. Do this and we will thank you.

LIVE STOCK.

Good shelter, even watering and feeding, with kindness always pays on live stock. Neglect is always unprofitable.

If poor stock can be grown and fed at a profit, could not good stock be made to pay better? Farmers, think of this.

EARLY LAMBS THIS MONTH.

Some ewes in the flock may drop lambs this month, and if so, they will be twice as valuable as those that come in February, though the majority of the early lambs usually come during next month. There are two sources of profit in the earliest lambs, one of which is that the demand is much greater than the supply and the prices are consequently high. The other is that the earliest lambs can be sold at a time when they are very small, a fifty pound lamb selling as readily as one weighing seventy pounds, which was dropped later. Here is a profit in the saving of expenses, and as the sum derived for the smaller early lamb will be greater than that obtained for the larger later one, it will be to the advantage of the farmer to use every endeavor to avoid loss. The ewes must be carefully examined, and caked udder or deficiency of milk must be remedied. If necessary, each ewe must be placed to herself with her lamb. It will be a troublesome undertaking, but as young early lambs are sometimes worth $10, it pays to expend labor in that direction. Keep the earliest ewe lambs, if possible, for breeding purposes, as they will come in earlier when matured.

CURING MEAT. VALUABLE RECIPES.

Hams and bacon are, in the South, cured by dry salting. The Southampton and Smithfield hams and bacon are cured by packing the hams and pork, thoroughly cold before salting, on a table, bench, or slats a little slanting, to allow the blood and serum to drain off, with flesh side up, and for 1,000 pounds of pork, use from one to one and a half bushels of good fine salt, well rubbed in, especially next the bone. Pack the pork in bulk and sprinkle a little more salt on the thick pieces, and allow to cure. In mild weather, or in a cellar, two or three weeks will be long enough to absorb the salt. Then resalt the meat, using about a peck to the meat the second salting, more for large pieces. Allow the pork now to remain four or five weeks, and take it up and wash clean and after draining, apply to the flesh side of the meat, one gallon of molasses or ten pounds of sugar, and four pounds of black pepper are dusted over the flesh side. The meat is then hung up and smoked. Some use a little saltpetre to preserve the meat and give it a red color, one pound to 1,000 pounds of pork will be sufficient. Should sugar be used, melt it before using, as it will spread easier. For warm Southern sections, dry salting is more favorable to keeping, but in the Northern States, salting in brine is preferable, as being less troublesome. New Jersey has long been noted for fine hams, dried beef and sausage, and we give the recipe in use to make their renowned hams, beef, and sausage.

HAMS,—100 POUNDS.

Salt, eight pounds; sugar, one and one-half pounds; saltpetre one and one-half ounces; water, four gallons. Pack in a tub when cold, flesh side up, and pour the pickle over them. Allow them to lie in pickle, if the hams are large, six weeks. Dry and smoke to the taste. Some before using the pickle, boil it well and skim, and apply when cold. Keep the hams covered with pickle.

BEEF,—100 POUNDS.

Same pickle as hams, and allow to lie in pickle four weeks. Take up, drain, and hang up to dry, and when dried, rub Cayenne pepper over the dried beef. Wrap up the beef in strong manilla paper, and tie securely to keep out flies and meat worms, and hang up in a moderately dry place.

SAUSAGE,—48 POUNDS.

Salt, three-quarters of a pound; pepper, one and one-quarter pounds; sage, one pint. Cut in small pieces, equal parts of lean and fat meat, or more lean than fat, if preferred, and mix the salt, pepper and sage thoroughly through the meat, and cut fine by a machine. Bake in balls or pack in skins or muslin bags. Sausage can be kept for a long time, if partially fried and packed hot in deep tin cans, and at once cover the sausage up with the hot fat left in frying the sausage. Three things to keep sausage in this manner, are essential. 1st.—Narrow, deep tin cans. 2d.—To pack the sausage tight and hot. 3d.—Keep the sausage covered with the grease. When the cans are cold, pour a little hot grease again over the sausage, and that will fill all the air spaces and keep the air out. Earthern jars, when used, will allow the sausage to mold. To open the tin cans, set in hot water, and if the cans are made as they should be, without tops, or take tin cans with the tops melted off, and as soon as the fat melts, at once invert over a dish, and the sausage will slide out. The above recipes are worth to any man or woman who kills only one hog, four times the price of THE FARM AND GARDEN.

W. H. Bokford, Bridgeport, Connecticut, asks: 1.-For us to name a good work on stall feeding of beef cattle. 2.-The address of some of those engaged in it. Answer 1.-Henry Stewart has a very good work on "Feeding Animals." It will be sent by the Franklin News Company, of this city, on receipt of price, $2.00. The work deals upon the whole theory of feeding domestic animals. There is no bookwe know of that treats exclusively upon feeding of beef cattle. The practical parts of stall feeding in winter are, regularity in feed and water, good, healthy, rich food, and all of it they will consume without leaving any. Feed lightly on beginning to fatten an animal, and then increase the feed as the animals condition will require it. Warm, clean stables, a frequent use of the currycomb, and when first stabled, a sufficient exercise in the yard to keep the animal with a good and healthy appetite. Avoid above all, too much feeding at the start, as it will be a waste of feed and may ruin the digestion of the animal and prevent fattening altogether. 2. There are so many who feed beef cattle that we could not give the address of them even if we knew them. There are in Illinois very many who make a specialty of feeding beef cattle. But as each must learn by experience what his mark is are and know the conditions under which he labors, he can only know how it will pay by a careful practical trial. The manure is always allowed to pay for the labor.

One of the most successful pork raisers we know, says the secret of his success is his feeding. He begins on an eight weeks pig and feeds it just what it will consume of meal mixed with kitchen slops, regularly, three times a day. The feed is never increased as the pig grows older, but remains the same always. The pig makes a regular growth and is never over-fed or under-fed, but always remains healthy and in a good growing condition. When ready to fatten, he feeds all the meal the hog will eat, but does not at once begin the full feed, but increases the feed gradually for a week or two, before a full feed is allowed. His hogs, at one year old, often weigh 500 to 600 pounds, and the cost is much less than the usual plan of feeding. His pens are always kept dry, and in summer a cool shade is prepared for the hog. He believes kindness is cheaper and pays as well as so much corn.

ROOTS FOR HORSES.—Horses will eat all kinds of roots in winter, especially if they are sliced and a little salt sprinkled over them. Roots are dietary in action, keeping the bowels open, and take the place of green food. A mess of carrots is highly relished by horses, and horses so fed, are cleaner and in better order than when on dry food alone. Mares that have colts by their sides, will give a much larger quantity of milk when allowed roots, and the colts will be less liable to constipation. The roots also lessen the amount of grain required, and the labor of slicing them may be facilitated by the use of one of the implements for that purpose.

FEEDING PIGS.—The young pigs that have lately been weaned, should not be fed on slops unless such food has been warmed. The late fall pigs should be treated the the same way. A cold sloppy feed given to them on a very severe day is damaging, chilling the pigs completely, and greatly impeding growth. It will be found, by comparison, that warm food fed to young pigs, will make fifty per cent. greater increase with them than the same quantity of food fed cold. We do not allude to cooked food, but simply suggest that a few quarts of boiling water be poured into the feed for them.

For fear we might not have said so before we say:—Please send us a club.

THE POULTRY YARD.

(EMBODYING RESULTS OF ACTUAL EXPERIENCE.

The early bird catches the worm, and the early chicken catches the market.

Chickens, like men, get a living by scratching; but make sad havoc in the garden.

SOME FACTS ABOUT POULTRY DROPPINGS.

By P. H. Jacobs, Wayne, Ill.

There have been many valuable hints given in this and other journals in regard to poultry droppings, but few persons, however, are aware of the real value of such manure. The droppings are often estimated as equal to guano, but this is a mistake. As the manure from animals varies according to the quality of the food consumed, so with poultry droppings. The fertilizing quality depends upon the *food* and not upon the fowl. Growing chicks require a greater proportion of nitrogen and phosphates than do mature fowls, consequently, as the demand of the animal system is greater during growth, the droppings from chicks are not as valuable as those from adults. Fowls fed on grain do do not give as rich manure as do those fed upon meat scraps, or those that consume a large number of insects. In comparison with guano, therefore, poultry manure is greatly inferior. Guano is deposited by birds that feed principally upon fish, or other animal food, as well as being composed of the bodies of birds also, while poultry droppings are the product of food of a very different character. The best guano sells at a very high price, ranging from two to five cents a pound, at which price the droppings of poultry would more than return the cost of the food. But, as we stated, even the droppings vary in composition, and the same is true of guano.

The value of the droppings depends upon the manner of their preservation. There are several ways of so doing. Some mix the droppings with an equal quantity of plaster, while others mix one part droppings with two parts dry dirt, or muck, adding a handful of plaster to each bushel of the mixture. The mixture must be kept dry, however, as dampness induces decomposition, which liberates the ammonia. Wood ashes are unsuitable, though coal ashes are sometimes put to such service, first being finely sifted. The best method for preserving the droppings is by using an acid. If they are collected in a fresh condition, with but little earth combined with them, for every bushel of droppings enough water may be added to moisten them thoroughly, but do not wet them too much. Now add a gill of sulphuric acid to a gallon of water, and add to the droppings, stirring the mass well. Mix enough dry dirt with them to absorb the excess of moisture, and place the mixture away in a barrel, or any other suitable vessel. Be careful, however, in using the acid, especially when adding it to the water, as heat is created, and should any portion drop on the clothing it will injure it. After the mixture is dry, however, it may be handled with the hands with safety.

The advantages of the acid process are that the droppings become fixed, and the volatile matter will not pass off. They will need no grinding or other process at time of application to the soil, and so prepared they will be more valuable, and give better results than when preserved in any other manner.

JANUARY THE TIME FOR INCUBATORS.

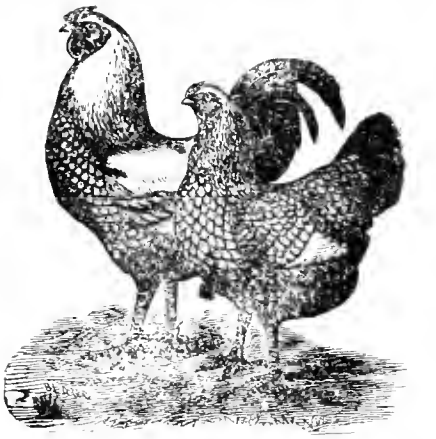
As the earliest chicks are those that bring the best prices, January is an excellent time to begin hatching, although February and March are not late months. We are often asked if incubators are reliable. We will give, as an answer, that we believe that there is not an incubator now offered but which will do as well as the most sanguine can expect, but we wish to state that artificial incubation is no child's play. That a child can manage them is doubtful, and that they require only a few moments attention daily must not be too strictly adhered to. The truth is an incubator is a *machine* for hatching chicks, and though constructed for a special purpose, has no reasoning powers. It is as necessary to have an overseer over it as to have an engineer to manage an engine. The great difficulty with artificial incubation is that operators expect too much. They wish to hatch chicks without any labor; which is an impossibility, but we admit that the incubators now in use are so constructed as to require but very little attention, but yet *that little* must be given. It is not so much in the amount of labor as it is in performing it at the proper time and in the right place. If you are prepared to do your part you will find an incubator a very profitable investment, but if you expect to procure an incubator that is to be filled with eggs and left to itself, then we advise you to have nothing to do with them. The operator should give his incubator as much attention as possible, and success will crown his efforts.

POULTRY HINTS FOR JANUARY.

January is the coldest month in the year, and deep snows will often seriously interfere with the operations in the poultry yards. In the South the snows do not remain long enough on the ground to cause much annoyance, but in the North the poultryman, when the yards are filled with snow, must either shovel it away or feed the hens in the poultry-house. If they are confined in the house the doors should be kept open during the day-time, provided the house faces the south, in order to allow of the light and air, or the fowls will prefer to remain outside. They should have sawdust or straw on the floor, and the food thrown into it in order that they may be compelled to scratch. The dust in the dust-box should be replenished often, and kept dry, and the house must be cleaned of the droppings daily. The water will freeze, and so will the soft food, if the weather is severe; of course these obstacles are discouraging, but as very little other work can be done at this season, there will be but a small loss of labor. It is no easy undertaking to properly care for poultry in January, but as there are many cases in which time and capital are not remunerated in other directions besides that of poultry raising, by comparing the labor bestowed in the poultry-house with other ventures, it will be found profitable to give the fowls all the attention possible. Eggs and chicks are both now, and amply repay the poultryman for his care and attention.

EGGS FOR HATCHING PURPOSES.

It is often a problem with some why they at times secure good hatches from a portion of the eggs placed under hens, while but poor results are obtained from other sittings. In the first place, in a majority of cases, the trouble is with the *eggs*, and not with the hens. For hatching purposes, especially in winter, the eggs must be collected as soon as they are laid, in order to prevent them from becoming chilled, for extreme cold is fatal to the germ. No monstrosities in eggs should be used, such as those large enough for two yolks, or that are pointed at both ends. Ordinary, smooth, medium size, well shaped eggs should be selected, and the fresher the better. The nest in winter should be made in a warm location, which is not exposed to drafts, nor is dampness essential, though a moist nest is better for the summer. Avoid giving the hens too many eggs to cover. Common consent has adopted thirteen eggs as a sitting, no matter whether the hen is large or small, but it is more economical in winter to place only ten eggs under a hen, as she will be enabled to haver more heat to a smaller than to a larger number, as a full nest sometimes does more injury than one but partially filled, owing to the larger number of eggs that become exposed, there to remain until they in turn are changed to the centre of the nest by the hen. In extremely cold weather an egg so exposed is destroyed by the low temperature, but if the hen succeeds in covering a smaller number she will save the difference in the cost of the eggs required, and also hatch more and stronger chicks. It would be well if the eggs were tested after being under the hen a week; the incubator operators understand this, and why should not the same practice be followed with sitting hens? It is a very easy matter. Make an egg tester by pasting paper boards together, or by using thin boards, if preferred. A box should be made so as to fit over a lamp globe; say a square box, with a round hole on top and an oval hole on one of the sides. Place the box over the lamp, allowing the chimney to pass through the hole on top; now darken the room, using no light but that from the lamp; hold each egg to the oval hole on the side, and look through the egg at the light. If the eggs are a week old they will appear dark, should they contain chicks, the upper part, or large end, appearing clear; this clear space around the inside of the large end is the air-sack (or air-bladder, as some term it). Below this air-sack the contents of the egg will appear dark. Should the egg contain no chicks they will appear clear, and if compared with fresh eggs will show the same appearance; therefore always use a fresh egg for comparison. Put the dark eggs back in the nest, and keep the clear ones, cook them, and keep them for feeding the young chicks.



THE WYANDOTTES.

As usual, from time to time, we present our readers with cuts of the finest breeds of poultry. We give at this time a cut of a fine pair of Wyandottes. This breed was formerly known as the American Sealbright, but is now known by the attractive name of Wyandotte. They are a beautiful laced plumaged bird, white and black laced, of full medium size. A good table fowl, and both good layers and sitters. They make, by their fine color, nice appearance, and stately habits, one of the greatest and profitable ornaments of the poultry yard.

POULTRY SCRATCHINGS.

THE BEST CHICKS FOR MARKET.—That is, for the cold months, the Plymouth Rock or Dominic crossed on Brahma or Cochin hens will prove superior to other crosses. After March the best market chicks are from Leghorns crossed with large hens of any breed.

LINSEED MEAL FOR FOWLS.—This substance is excellent, but should be fed moderately. A teaspoonful for every four fowls is sufficient if given three times a week. If sunflower seeds are convenient, however, the linseed meal should not be allowed, as they possess nearly the same value for feeding.

SAVING EGGS FOR HATCHING.—Put them in a box of oats, small end downwards, and in a place of even temperature, as they must not freeze nor be kept too warm. Packed carefully they will keep well for quite a length of time, and will hatch when two weeks old, but the fresher they are when placed under hens the better.

THE COCKS.—Should they become frosted in the combs, or appear droopy, they should be at once removed from the hens, as they will be unfit for service, and healthy vigorous ones substituted. When hatching chicks too much care and watchfulness cannot be given the cocks, as upon them depends the vigor and thrift of the young stock.

THE PRICES.—Do not send the old stock to market before the middle of this month, as prices usually take an upward course about that time, and maintain the higher figures until April. Chicks, however, bring the best prices at any time after Christmas, and the smaller the size the better when the hatching season begins. For chicks of more advanced size April is the best month for obtaining the high prices.

HOW TO HEAT A POULTRY HOUSE.—Make a small cellar and build an oven, which may be done cheaply: if a medium-size grate be encased in brick. Connect a chimney of six-inch drain tile to the grate, running the drain tile the length of the poultry house, terminating it at the end upwards, in order to allow of a draft. Let the tile be laid six inches down in the floor and covered with dirt, and at a small cost for coal the poultry house may be made moderately warm. It is not desirable to have poultry houses too warm. About fifty degrees is sufficient for adult fowls.

FEATHER PULLING.—This vice is one for which no cure has been found. Many remedies have been tried, but none have proved successful. The flock that becomes addicted to pulling feathers may as well be destroyed as to be retained, so far as the value of the fowls is concerned, for the hens will not lay and by plucking feathers from each other have a very unsightly appearance. The latest suggestion is to smear the feathers with some disagreeable substance, such as tar, which prevents the practice. If this can be done, and the fowls well supplied with animal food, the vice may be forgotten in a few weeks.

Continued on page 18.

One early chicken will more than pay for the FARM AND GARDEN. *Why not raise two more and sell one of them for the* FARM AND GARDEN? *We try to give hints in our poultry columns that will well repay you. Let us divide.*

THE HOUSEHOLD.

The result of economy in the kitchen is often greater than the gain on the farm.

The women who make our homes cheerful, are the mainstay of the nation.

$15 IN GOLD, —AND A PREMIUM FOR— PRACTICAL HOUSEWIVES.

OUR PRIZES FOR RECIPES.

For the best set of Six Recipes, suitable for the farmer's household, sent on conditions given below, we offer $15 in gold:—

For best set, - - -	$5.00 in gold.
Second prize, - - -	3.00 "
Third prize, - - -	2.00 "
And next 5 sets, as decided by the judges, - -	1.00 each in gold.

And for every carefully selected set of recipes not winning the prize—we will send a premium bulb or plant, to be selected by us.

CONDITIONS:—1. The contestants must either be subscribers to the paper or have it taken in the family, or send their subscription with the recipes. 2. The recipes must be written on a separate sheet from letter accompanying them, and contain the sender's name and address. 3. They may be either original or selected; but if selected, credit must be given to the book or paper from which taken. Home recipes preferred. 4. They must have been tested by the sender in the family, and be valuable and trustworthy.

The prizes will be awarded March 15th, 1885, and published in April issue. Preference will be given those sent early.

BY THE NEW YEAR'S FIRE.

By J. E. McC.

"Drop down the curtains, fold upon fo
Shut out the night with its bitter cold,
Its many voices of sorrow;
The wailing wind and the pitiless rain
Shall knock at the door of our hearts in vain,
For the New Year comes to-morrow."

New Year's Eve is apt to be a season for quiet loving converse and pensive thought, rather than for noisy mirth. The mother's heart grows more tender and her voice takes on a softer tone, as she looks back over the vanished days, and on into those to come; as she thinks of the "must be and may be," that they will surely bring for her dear ones.

"The children's faces are fair to see,
As they kneel, white-robed, by the mother's knee."

But a mist will dim her eye, as she recalls a little fair hand that gleefully patted her cheek last New Year's time, but now is stilled forever. Yes, we think of our loved and lost, with peculiar tenderness, as we pause for a breathing space at these mile-stones in life's journey. Happy is the mother whose loved ones are all in the home-fold, or in the fold above. She can well spare a tear of tender sympathy for that mother whose son is a wanderer, in the saddest sense, in the dreary outside world this New Years. The bitterest tears are not those shed by the coffin side. For there are sweet and hopeful thoughts for those whose dead are asleep in Jesus, just as there are for the world now buried in snows.

"What care we for the spring-time fled,
The roses withered, the violets dead,
The wealth of the vanished summer;
Fresh flowers will bud in the April rain,
And birds in the branches sing again
To welcome the Lithe new comer."

So too, our dead shall arise again to immortal youth and beauty. It is good to cheer our hearts with these bright anticipations, and then go forward hopefully into the unknown future opening before us. Only one day at a time of care, of labor or trial. It is not wise to burden the heart by borrowing a part of the next day's load. Forecasting trouble never pays, for the trials that have given us the most sorrow, were those which never happened; they existed only in our apprehension. There is a strong guide and helper ever ready to take our hand in his, and make the roughest road easy for our feet; leading us surely and safely to our journey's end.

GOOD MANNERS AT TABLE.

Eat without noise and the lips nearly closed. To make any sound with the mouth in eating or drinking is disgusting. Do not lean the elbows or lay the hands or arms on the table, and play with knives or forks or glasses, or lounge or tilt back the chair. Do not scrape your plate, or till it up to get the last drop, or wipe it dry with a piece of bread. It is bad taste to mix the food on your plate; it shows a coarse appetite and want of a nice appreciation of flavor of each particular dish. The mouth should not go to the food but the food to the mouth. It is very uncouth to take up chicken bones in the fingers when eating the meat from them.

When dining at your friend's house, it is not considered refined to talk much about the food, or to watch dishes as they are uncovered, or blow soup to cool it, or soak up gravy with bread. A loud voice and uproarious laugh are extremely out of place in the dining room; as is also any conversation that could possibly be offensive to the most refined taste. It is no place to talk of distempers, or medical treatment, though some obtuse people drag in such topics wholly regardless of the feelings of others.

Never sneeze at the table. It can always be prevented by pressing the finger firmly against the upper lip, under the nose. Talk in a low, but perfectly distinct tone to your neighbor, but, avoid anything that might seem like private conversation.

Whatever renders a person disagreeable, should in common charity be avoided. Nowhere is the distinction between the gentleman and the boor more marked than at the table. To have good manners set well, they need to be every-day, home affairs; and mothers greatly err, who allow children to grow up without them. Yet, some who live in "grand houses," permit them to rush in and feed like famished bears on whatever they can snatch.

"I must hurry home," said a lady to me one day, "for Ned is home from school, and he will eat up all the strawberries, and we shall have none for tea." It kept her invention busy to find new places in her large house in which to hide the cookie jar, if she would find one in it, when she wished a plate for the table. The boy's general manners are of the same type, and he is not greatly beloved in any social circle.

RESOLVING AND DOING.

By Lois.

It was eleven o'clock and Maud still lingered over her writing desk, with her hair in crimping pins, and room all in disorder. She looked up with abstracted gaze as Lucy came in, rosy and brisk, with a tidy sweeping-cap over her neatly brushed hair, and a broom in her hand.

"Why Maud, what a room, and how the boys will admire your style with that old wrapper on, when they come home to dinner. What have you been about all the morning?"

"Writing down my New Year's resolutions," said her sister with a satisfied air. "See I have more than four pages foolscap. Some I have changed and re-written. That is what took me so long. Are they not neatly done? After all, I have about concluded to ask father for a nice blank book, and copy them in that, and I think I will have it large enough for a journal also. I should take great comfort in writing down the day's doings. I wonder you do not write out a list of resolutions, Lucy. It is a great help to one," she added, quite patronizingly.

Lucy laughed a little as she tossed up the bed and shook out the pillows, but remarked that she had so much "real doing to take up her time, she had not much left for mere resolving."

Maud appreciated the intimation, and replied: "But I am going to begin fair to-morrow morning, and carry out strictly this programme, a whole page full, you see."

"I should feel more sure of you if you began this minute and set yourself and your room to rights. Mother would also be glad of your help down stairs, and this bureau drawer full of unmended clothes, would be thankful for attention. You will surely have to begin darning stockings soon, or buy more. I think you must have reached the limits of your stock."

"Darning stockings is such a bother," said Maud, pettishly.

"Put them into a resolution, Maud, that will make them easy."

"You have such a way, Lucy, of discouraging one about making good resolutions. I should think you would be glad to help me."

"Indeed I should, Maud, if I knew any way to induce you to put one into practice. But smoke without fire will never boil a kettle. You may resolve and resolve, the whole year through, but unless you get up and go to work it will amount to nothing. Resolutions are cheap and easy, but it is the real work that costs. I am not sure but you would do better to burn up your long list and take up the work that comes first to hand, and do it, then take the next thing. That is the only way I can manage. I do make lists often in the evening, of things I wish to do next day, and about the order I wish to take them up. When one is done, I cross it off, but I never lay down unbending rules. A housekeeper's plans must be of a very flexible kind, or she will find every-day life sadly jarring. Come, Maud, try my plan and lock up your resolutions for a while, and actually do some useful work. I know you will feel happier for it, and be able to see at night that you have made real progress."

THE WINTER'S READING.

By Olive.

Two good months of long winter evenings yet, and they may be made golden harvest time to our boys and girls if wisely spent. Reading without thought, is like pouring water into a sieve. But reading which we make our very own by turning it over and over in our minds, and which starts new trains of valuable thought, is the kind to make us strong intellectually. Always keep in view the two great ends of reading; first, to add to our stores of knowledge, and next, to strengthen our mental powers. Sometimes we may read for mere recreation, but one who makes amusement the end and aim of his reading, will grow neither wiser nor better, but the reverse.

A reading that is positively hurtful cannot be denounced too strongly. No effort is too great to use if one may break up such a deadly habit in a young person. Parents err who see their lads devouring the current dime literature and content themselves with old Eli's remonstrance:—"Do not so, my sons." They should be interdicted most kindly, but decidedly, and something interesting and safe substituted in their place. A reading boy will not content himself with last year's farmer's almanac, and the local paper. If the poison of bad literature has worked into his veins, you have a task before you to work it out, and harsh commands will only convince him that he is one of the "heroes" of his books, and you one of the parental tyrants.

If any one gives your boy that deplorable humorous work, "Peck's Bad Boy," remember that cremation is the only safe course. No matter how laughable the scenes depicted, they are demoralizing to all that is manly, honorable, and truthful in his nature. The moral standard will be materially lowered long before he has finished it. Hundreds of youths have been induced to try his experiments and improve upon them. One young incendiary in a city, arrested for his crime, told the policeman defiantly, "I am Peck's Bad Boy." Another frightened an invalid sister into convulsions by tying two bullfrogs in her bed. Depend upon it, these things are much more amusing in print than when they are acted over in real life, especially if the house where they happen is your house.

NEIGHBORLY ADVICE.

CHAPPED HANDS.—One of the best remedies for this trouble, is the simplest and easiest to procure. Whenever you take your hands out of water, wipe dry, and while yet damp, rub well with corn starch or clear starch powdered.

A POEM OF BURNS.—Burn's poem, "The Auld Farmer's New Year's Salutation to his Auld Mare Maggie," has been printed and circulated in the form of a tract amongst the Glasgow carters and cabmen, in the hope that the kindly feeling so beautifully expressed, may make them more thoughtful and humane towards their old Maggies.

ALWAYS HANDY.—Melt a teacup full of lard and a bit of beeswax the size of a hickory nut, in a tin cup, and then pour into a tin box which has a lid, and keep covered. It will be useful for any purpose where a salve is needed. As it is very healing and soothing and cost but a trifle, I have kept it in the house for twenty years, and would not be without it. It is especially useful in the winter time.

WASHING FLUID.—One pound of washing soda, quarter pound of unslacked lime, (or a tea-cup full of good whitewash,) gallon of water. Boil up and then set aside to settle. Use 1 tea-cup full to each boiler of clothes, and it will take out dirt and stains with almost no rubbing; and I have never thought that it injured clothes in the least, I have never found any machine or soap equal to it for lightening the labor of washing.

COAL ASHES.—What shall we do with the coal ashes is a problem with many. Made into an unsightly pile in the back yard, they are disfiguring, and a trial every time one looks that way. I make them into garden walks. Have the coal-sifter taken out to a path and the cinders sifted there each morning. No one walks in a garden much in the winter, and by spring you will have fine hard paths, well settled by frost and snow, which are never muddy or grass-grown.

"They talk about a woman's sphere
As though it had a limit;
There's not a place in earth or heaven,
There's not a task to mankind given,
There's not a blessing or a woe,
There's not a whispered yes or no,
There's not a life, or death, or birth,
That has a feather's weight of worth,
Without a woman in it."

We know the value of the kitchen of the household and the Fairy who presides over it. We try to aid her all we can, and give all the good advice to help her we know, and are pleased to do so. Will not the Fairy remember us too, and send us a club of four (more if she chooses) and get one of our premiums?

ODDS AND ENDS.

Always gather up the odds and ends. A farm looks better when all the odds and ends are picked up and put in shape. We pick up odds and ends the same as a farmer, and always put them on this page.

CHEERFULNESS

We all advise cheerfulness, and we all admire it—especially in other people—but we do not always attain to it ourselves. Of course, there are circumstances under which cheerfulness is simply impossible,—with a raging toothache, for instance, or when you have just upset the ink on the new carpet, or have been caught in a violent shower without an umbrella and with your best suit. To be admonished to be cheerful at such times is adding aggravation to misfortune, and might exhaust the patience of Job himself. But there are many very small annoyances, too insignificant to be mentioned, and yet whose daily occurrance may and must be expected, over which we have no right to lose our cheerfulness for a moment. There is no doubt that the happiness of many a home, the charm of many a fireside has been clouded and displeased by this want of cheerfulness in the elders of the family group. Little vexations were sufficient to chase the smile from the father's face, or cloud the mother's brow with annoyance, and so the home-gatherings grow irksome to the children, and the bond of sympathy was forever broken. Let us cultivate, therefore, a cheerful spirit, and like all efforts in the right direction, we shall find that we cannot improve ourselves without improving others. That the reflex of our cheerfulness will shine out in the tempers of those around us and brighten the darkest days.—*Christian Intelligencer.*

THE SULTAN'S TREASURY.

There is no such thing as describing in detail the splendor of the Sultan's treasury. There are antique arms and armor, heavy with gold and jewels; there are innumerable horse trappings and saddles, covered with plates of gold and studded with emeralds, rubies, topaz, diamonds, and pearls; there are saddle-cloths embroidered with precious stones. Several sofa-covers hang in the cabinets as background to the smaller artioles. They are worth $150,000 a piece, and are heavy cloth of gold, embroidered with seed pearls. In one of the cabinets are three uncut emeralds, the largest being the size of a man's fist, and the smallest larger than a hen's egg. The imperial princes appear to have gone to school in childhood, for here are the satchels in which they carried their books. Bags of velvet, embroidered with gold, pearls, and diamonds. In another place you see many mottoes from the Koran, embroidered in diamonds on red velvet. There are amber mouth-pieces for pipes, studded with diamonds and rubies. There are coffee-sets and tea-sets of all degrees of magnificence; and vases of crystal and agate and onyx. There are royal knives and forks and spoons of solid gold, with jewels on their handles. Among the articles in this imperial treasure-house, are many which must be regarded simply as toys. Of such is a tea-set of tortoise-shell, as thin as paper. Another toy is a lady's parasol, of white silk, exquisitely embroidered with gold, the stuff of which is a single branch of coral, so long and true, and well adapted to its purpose, that one might search years and fail to find its like.

CARLYLE ON INTEMPERANCE.

Is it a green, flowery world, with azure everlasting sky stretched over it, the work and government of a God; or a murky, simmering tophet of copperas-fumes, cotton-fuzzy, gin-riot, wrath, and toil, created by a demon, governed by a demon? The sum of their wretchedness, merited or unmerited, welters, huge, dark, and baleful, like a Dante on hell, visible there in the statistics of gin. Gin, justly named the most authentic incarnation of the infernal principle in our time, too indisputably an incarnation; gin, the black-throat into which wretchedness of every sort communicating itself by calling on Delirium to help it, whirls down; abdication of the power to think or resolve, as too painful now on the part of men, whose lot, of all others would require thought and resolution; liquid madness, sold at tenpence the quartern, all the products of which are, and must be, like its origin, mad, miserable, ruinous, and that only." Carlyle's appeal to the workingmen electors, doubtless led to the conversion of not a few of the long-deluded victims. "No man oppresses thee, O free and independent franchiser; but does not this stupid pewter pot oppress thee? No son of Adam can bid thee come or go; but this absurd pot of heavy-wet, this eau, and does. Thou art the thrall, not of Cedric the Saxon, but of thy own brutal appetites and this scorned dish of liquor; and the pratest of thy liberty! Thou entire blockhead!

LOOKING GUILTY.—This is often taken as a proof of guilt, but an innocent man is much more apt to be utterly confounded when charged with crime, than the real offender. He has, commonly, his face ready made up for the occasion, and all his sensibilities iron-clad. One says that "the guiltiest looking man he ever saw was one charged with stealing a horse, which afterwards proved to be his own."

UNSATISFYING.—How many imagine that with a million of dollars they could be perfectly happy. Here is the verdict of one millionaire, Stephen Girard. He says:—"As for myself, I live like a galley slave, constantly occupied, and often passing the night without sleeping. I am wrapped up in a labyrinth of affairs, and worn out with cares. I do not value fortune. The love of labor is my highest emotion. When I rise in the morning my only effort is to labor so hard during the day, that when night comes I may be enabled to sleep soundly." Retiring from business would have had no joys for him, if, indeed, it has for any one. Life without work, is not the happy state it looks to be in the far distance.

A CASE OF FORGERY.—A large dog had been accustomed to receive a slip of paper from his master, containing an order for a bit of meat for his dinner. The butcher became accustomed to it and tossed aside the paper without looking at it, and handed over the bone. The dog finally concluded that one piece of paper was as good as another. So, whenever he felt hungry he hunted up one and took it to the meat stall. By-and-by, a pretty long score was sent in for "dog meat," to the surprise of the master. It was a clear case of forgery, but the dog still occupies a respectable place in society, and the story of his smartness has often been repeated.

Mahomet, says:—"Wine has its uses, but its injury is greater than its utility."

The circular saw was introduced into England in 1790, but its inventor is not known.

Nothing serves better to persuade people of little sense than what they do not understand.

Mecca is called the holiest city in the world by the followers of Mahomet, because it was his birthplace. It is the only city of the East in which the houses have windows opening on the streets.

KIND WORDS.

R. G. Crane, Ipswich, Dakota, says:—"I like THE FARM AND GARDEN 'mightily.' It has become quite a necessity."

F. W. Emerson, Strawberry Point, Clayton County, Iowa, writes of THE FARM AND GARDEN:—"I must express my admiration of it."

William J. Oberlin, Massillon, Ohio, says:—"I am very much pleased with THE FARM AND GARDEN, from which I get many new ideas."

Elijah Smith, of Leesburg, Crawford County, Missouri, says:—"I am fourteen years old, and like your paper so well I thought I would try to write for it."

Mrs. R. B. Skinner, Albert Lea, Minnesota, says of the FARM AND GARDEN:—"Can truthfully say that it yields the largest returns for the least outlay, of anything I ever saw."

M. H. Wright, Hamburg, Iowa, says:—"I am much pleased with your paper, THE FARM AND GARDEN. I cannot understand how so good a monthly can be produced for so little money."

John Moorduff, Banner Ranch, Wyoming Territory, says:—"I find the reading matter, and the different advice and instructions very interesting, and should be very sorry to miss a single number."

S. R. Smith, Houlton, Maine, writes:—I like THE FARM AND GARDEN much. I think it would be hard to find two better papers than the *Farm Journal* and FARM AND GARDEN. Long may they live to fight for the laboring classes." He again writes:—"Was much pleased with the back numbers of FARM AND GARDEN. I am on the sick list, and am unfit for work, so I have had a 'big time' in reading the good little magazine. I shall (if I live), take THE FARM AND GARDEN right along. I like the paper ever so much. You shall have my little mite, financially, to help you along."

[We are just as pleased to learn we please our readers and are of use to them, as ever, and hope the good feeling may continue.—ED.]

We always give on this page all we have no room for elsewhere. We give much attention to this page. Now can you give us a word? If so, allow us to suggest that you send us a club (of subscribers, we mean.)

VOL. IV., NO. V.

The subscription price of The Farm and Garden is 50 cents a year, invariably in advance. It is sent in clubs at 25 cents a year when four or more subscribers are sent at one time, but no single subscription will be entered at less than full rate.

HOW TO SEND MONEY.

There is but little trouble in sending money any distance safely by mail. The safest ways are by post office money orders, postal notes, bank drafts, express, or registered letters. Small sums may be sent in postage stamps. Post office money orders can be obtained at any post office money order office for any sum less than ten dollars for eight cents, up to as large a sum as one hundred dollars for a slight additional cost. Bank drafts in the same way can be obtained of any banker for from 10 to 25 cents. Money can be sent from all points reached by the American Express Company to us for the small sum of 5 cents. Adams Express Company will forward monies in sums of twenty dollars or less, for 15 cents, larger sums in proportion. Our readers can see how easy it is to send money to us or to any part of the United States. Money can be sent in a registered letter from any post office in the United States for an additional 10 cents above the ordinary postage. Money may be sent very safely that way. Postmasters are required to register any letter when requested to do so. Please observe that postal notes are safer to send than bank notes as they can be made payable on the back to our order, and no one else would be able to get the money on them. Stamps are safer to send than silver, as it often cuts and wears through the letter and loses in the mail. Do not moisten the stamps or stick them on the letter, but put them in dry and loosely. Make all money orders, bank drafts, etc., payable to the order of Child Bros. & Co., Philadelphia, Pa. Send all letters securely and address them plainly to THE FARM AND GARDEN, Philadelphia, Pa. We are so well known to the Post Office Department that the above address is all that is needed for a letter to safely reach us.

EDITORIAL COMMENT

These papers are especially recommended to our readers, and sent each one year, with Farm and Garden, for the following prices:—

Rural New Yorker and Seed Distribution,	**$2.25**
American Agriculturist and Encyclopedia,	**1.65**
Farmer's Review,	**1.25**
Home and Farm,	**.75**

A well-edited paper is like a well-prepared dinner, it is sure to be appreciated.

A farmer who does his work out of season and a paper that tells you how to plant corn in winter does not prosper.

January. "The king is dead; long live the king."

The old year has passed away; a new one is born. We bury the one without song and without regret, and welcome the other with almost the same feelings of tenderness and joy which agitate the mother's heart when she takes the new-born babe to her breast. Great hopes are concentrated in the newcomer. We go about, our faces radiant with emotions of joy and pleasure; we want to shake the hands of everybody we meet, especially yours, kind reader, and heartily greet you, *Happy New Year!*

In many things the old year has disappointed us; but the blessings which it has refused to grant, we expect the new year to bring to us in abundance,—general prosperity, health, wealth, joy, and happiness. So passes one year after another. In the morning the skies may be serene and tinted with gold and rose, yet who knows but that clouds may appear at noon, and the evening be cold and stormy.

We will not speak ill of the dead. The old year has given us very little reason to grumble, after all. Rich crops have been the coveted reward for the husbandman's earnest efforts, and if prices have ruled a little low, yet we are in a fairly prosperous condition. May the New Year fulfill its mission as well as the old one has done, and be a happy one to every one of our readers.

January's work on the farm is not less important than that of any other month in the year. Do your chores regularly. Make the wood pile grow from day to day. Gather the ice crop as soon as ripe; it may "shell out" or melt away. It is one of the few crops that will grow without cultivation. All that it requires is the harvesting and storing. Perhaps that is just the very reason why so many do without it. Every farmer should have an ice house.

Draw wood and logs while there is sleighing.

Do not neglect to provide water for all of your stock every day, no matter how cold it is. Fowls need drink as well as cows or horses.

Get a new account-book, and above all, keep accounts.

If you turn that new leaf, mind to let it *stay* turned, and remember that the road to failure, like the way to hell, is paved with good intentions.

Have an occasional agricultural talk with your neighbor.

Read good agricultural papers and inform yourself about the doings of other farmers.

Subscribe at once for the FARM AND GARDEN, unless you have already done so.

There are some features in the English post-office regulations that should be introduced into the United States postal laws for the benefit of the American farmer. It is said the farmer pays all; that saying may not be true, but he does pay well for his mail privileges. In England an ounce letter or less is carried for two cents (an English penny), two ounces for three cents, four ounces for four cents, eight ounces for six cents, ten ounces for seven cents, twelve ounces for eight cents, and two cents for each ounce over twelve ounces. No letter mailed larger than eighteen inches long, nine inches wide, and six inches deep. The rates being so low, and the delivery so prompt, that parcels are mailed by letter-post, as there is no delay in letter-post. Books of any kind (not obscene), printed matter of any kind, is sent by book-post at the uniform rate of one cent (half-penny) for each two ounces or fraction of two ounces. No book packet can exceed letter size, eighteen inches long, nine inches wide, and six inches deep, or weight to exceed five pounds.

Parcels-post includes almost every form of merchandise, seeds, trees, metals, and even fish, meat, game, and eggs can be sent by parcels post. No parcel is mailable that measures over *three feet, six inches long*, or weighs over seven pounds in one parcel, but any number of parcels may be sent. The postage is very low. One pound or less, six cents; one to three pounds, twelve cents; three to five pounds, eighteen cents; five to seven pounds, twenty-four cents, which also includes free delivery in every town where there is a mail delivery. Had we the same rates which our government, with its overflowing treasury, could easily establish, we could receive by mail by parcel post, seeds, vines, plants, and merchandise, seven pounds for twenty-four cents, English rate, which now costs by mail at our rates, $1.12; or a letter-parcel of twelve ounces, which at the English rate would cost eight cents, or at our rate forty-eight cents. There is a great difference in the cheapness of rates. If we can carry books, &c. at English rate one cent for two ounces, why can we not carry letters and parcels as cheap? Let the average Congressman answer. In the meantime, the American farmer and business man must pay from four and one-half to nine times as much, for the same service, as his English cousin. Brother farmers, let us hurry up our Congress, and get a cheaper letter and parcel postal service.

Let us not forget the many new and important lessons which we have learned during the year just passed. We were brought face to face with new conditions and circumstance; we have been forced to abandon old methods and adopt new ones. Some branches of agriculture have suffered serious injury; some industries were nearly wrecked, others, new ones, were ushered into existence. Always ready to grasp everything that gives promise of utility and help, we never hesitate to change our plans and to fit our methods to the new order of things.

We can hardly conceive of a better plan how to impress the last season's lesson indelibly on our minds, than by studying again the agricultural papers which we have on file, and by measuring the teachings and doctrines of the writers, their predictions, methods and plans by the criterion of our own experience during the past year. We can now easily see where those writers were right or wrong, where our own management was at fault, and how we could have done better. Let these lessons guide us in the future.

The catalogues of our advertisers can be had for the asking. Send a postal to the seed dealers and nurserymen. Their catalogues will acquaint you with the prices of seeds, plants, trees, and implements, and give you otherwise useful information. Then when the agents and tree peddlers come along and ask you $2.00 a piece for pear trees, and $1.50 each for grape vines, as some agents did in Virginia, under the pretense that the pears, etc. were to fruit in two years, and the grape vines were a new kind, needing no trimming, you will know how to treat them.

While we endeavor to impart useful knowledge and deal out seasonable advice, it is also our duty to warn you against false prophets; expose the erroneous teachings of certain writers and journals, and point out to you popular errors.

Here is our first contribution to the list of injurious doctrines and pet notions: You should not believe—

That 2 pecks of seed wheat per acre are enough and better than six.

That cows should have no salt.

That cucumber vines can easily be grown from cuttings.

That it is more profitable to pack apples in "pony" barrels (of 2½ bushels), than in barrels holding 3 bushels.

That city markets always afford better prices than local or home markets.

That home-grown seeds are always better and more reliable than those bought directly from the seedsman.

That potatoes should be planted to one eye.

That liquid manuring is beneficial to tomatoes.

That it is cheaper to buy vegetables than to raise them.

That improved stock will do well with indifferent management.

That it is good economy to sell unleached wood ashes for twelve or fifteen cents, or even for twice that amount, per bushel.

That farmers should confine themselves altogether to specialties.

That a good cow should be sold, because she brings the most money, and a poor one kept.

That "rich, thick dish-water" alone is good hog feed.

That a young orchard will do well in weeds, sod, or grain.

That the moon influences vegetation.

Don't you think, really, that we have done our duty by you? If so, send us the names of four new subscribers, with just one dollar. We think you owe us this work of appreciation. With 100,000 subscribers we can do better than with half that number, and still better with 150,000. Do your part and enable us to do ours to our fullest capacity.

The *Home and Farm* recommends chloride of lime as an infallible cure for the hog cholera. Dissolve one pound of it in water, and soak therein one bushel of corn. Let the hogs eat a full meal of this occasionally.

A snow shovel is easily made, and may come handy. A piece of thin board, 20x30 inches, or larger, a cross piece and a handle is all the material needed.

Take care of the kitchen and chamber slops, etc. Empty them upon the manure heaps, but do not let them be emptied out near the house. They improve the manure pile, but are dangerous when accumulated around the dwelling.

The best and quickest way to kill fowls is by cutting off their heads with a sharp axe. It seems to us that the advice of poultry journals and commission dealers circulars, to kill poultry by bleeding in the mouth and to "*pick before they stop bleeding*," is extremely cruel, and results in much unnecessary suffering to the poor creatures. Let us be decent about it. If this method of slaughtering is preferred, the knife should enter the fowl's brains before you can think of picking.

The low price of wheat admits of at least one consolation. There is hope for a reaction. Cheap wheat must increase consumption, and people having once learned to use more of this cereal, will find it a necessity hereafter.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of THE FARM AND GARDEN, *even though he takes no other paper, can feel in a measure acquainted with all the leading publications.*

From "Rural New Yorker," New York.

THE MARLBORO RASPBERRY.

Articles have appeared in the *Rural* lately, rating the character of the Marlboro Raspberry below that given by its originator. A short time since a writer, over the signature of "A. B. C." in a half column describing a visit among the fruits, declared the Marlboro to be worthless. When a new fruit is offered to the country, purchasers have an undoubted right to investigate its character, and charge it with any weakness or inferiority in it; but no one has an honorable right to strike in the dark, and then hide himself from his opponent. This anonymous writer we would not have noticed, had we not lately seen, in the editorial column of the *Rural*, an extract from a letter written by Charles Downing, rating the quality of the Marlboro lower than any one else has rated it.

But other well-known horticulturists do not agree with Mr. Downing. The Hon. M. P. Wilder, in underscored lines, says it is "*very good*." Nathaniel Halleck, an old raspberry grower, to whom is attributed the commencement of the raspberry business on the Hudson River, says it is "excellent in flavor." Judge Parry, of N. J., a life-long berry grower, says it is "excellent in quality." P. C. Reynolds, of the *American Rural Home*, a horticulturist of long experience, in speaking of some of the finest fruits in existence, included the Marlboro. Mr. E. S. Carman, editor of the *Rural New-Yorker*, the exponent of new fruits, whose fearless statements of facts are proverbial, and who has declared that he would publish the truth if it "bursted the *Rural*," has expressed his opinion at different times to the effect that it was a delicious raspberry, and later, "for a raspberry excellent in every way, plant the new Marlboro." Mr. Nathan Williams, an old raspberry grower of Highland, said before a meeting of fruit growers, "that it was the finest variety he knew of."

We might add a thousand more testimonials from horticulturists and editors. In one more year this new fruit will be in the hands of the people, when the making of its character will be beyond the reach of private interest and private opinions.

A. J. CAYWOOD & SON

[We have no desire to modify anything we have said regarding the Marlboro from our present experience with it.—EDS. RURAL NEW YORKER.]

A nut for you to crack.—Who was the first practical horticulturist, and by what means did he seek to accomplish his purpose? Send your answer with a club of four subscribers, and we will give you a premium.

The essence of milk is cream, and our clippings are the cream of our exchanges.

Make a scrap-book of all the good things you read and you will soon have a valuable library.

From "National Stockman," Pittsburg, Pa.

The orchard should now receive the farmer's attention, and the young trees be put in proper condition to withstand the ncroachments of mice, rabbits, and other vermin during the winter season. Many are the ways practiced to protect the young trees, but none of them seem to be more successful than the use of tarred paper or straw wrapped closely around the trunk of the tree. Another method is to save the old tin cans, throw them on the fire until the solder melts, then pull them open and bend them around the young fruit trees, pressing the ends down into the ground. This is very discouraging to mice and rabbits. There are other things to look to besides protecting from vermin. The fall season is, perhaps, the best time to trim fruit trees and put them in good shape, the manuring of the orchard is very important, as there is but little land strong enough.

From "The Green Mountain News."

A CLIMATIC MARVEL.

Although the vast territory of Alaska measures 1,400 miles one way and 2,200 the other, and its furthest island is as far west of San Francisco as that city is west of Bath, in Maine, few people have any clear idea of the country and its people. Within the 1,400 miles between its northern and southern boundaries, there is chance for a great range of climate, and while the northern part of the mainland lies within the Arctic circle, and is wrapped in the snow and ice of polar regions, southern Alaska rejoices in winter that is not as severe as that of Maryland or Kentucky. The isothermal lines make strange curves on the Pacific coast, and, influenced by the warm Japan stream or Kuro-Sino, a mild temperate climate is given to the shores and archipelago of southwestern Alaska. As in California, temperature and climate depend more upon the distance from the sea coast than upon distance from the equator, and Sitka thus summers are quite as windy and foggy, but hardly cooler than those of San Francisco. Sitka itself lies in the same latitude as Aberdeen, Scotland, and in all the islands south of it there is much the same climate, accompanied by the corresponding ocean currens as prevails on the west coast of Ireland. By the records of the Russian observatory, maintained at Sitka for fifty years, the thermometer fell to zero only three times during that period. The reports of the commanders of the United States ships during the past four years confirm this climatic marvel, and show many other strange things in meteorology.

From "Omaha Commercial Age"

A BILLION.

What is a billion? In the French system of notation, which is also used in the United States, it is a thousand million. But the English system gives the name billion to a million million. The word is used in the latter sense in this article. Sir Henry Bessemer, the famous inventor who is in the habit of occupying his leisure with curious calculations for the amusement of his grandchildren, tried to convey some idea of the immensity expressed in this little word. He took it successively as a measure of time, of length, and of height. Selecting the *second* as the unit to be in the first calculation, he began with the startling assertion that a billion seconds have not yet elapsed since the commencement of the Christian era—nor, indeed, even the sixteenth part of that number. A billion seconds make 31,687 years, 17 days, 22 hours, 45 minutes and 5 seconds. In regard to length, he chose for his unit the English sovereign, a coin the size of a half-eagle. A chain of a billion sovereigns would be long enough to pass seven hundred and sixty-three times around the globe; or supposing these coins laid side by side, each in contact with its neighbor, would form about the earth a golden zone fifty-six feet, six inches wide. This same chain, were it stretched out straight, would make a line a fraction over 15,625,465 miles in extent. For measure of height, Sir Henry chose for unit a single sheet of such paper as that upon which the London *Times* is printed—a measure of about one three hundred thirty-third of an inch in thickness. A billion of these thin sheets, pressed out flat and piled vertically upon each other, would attain the altitude of 57,348 miles.

From "Canadian Breeder."

HOW TO MILK.

It is not every dairyman who knows how to Milk—some cannot, and others will not learn. Vast numbers of good cows are ruined every year by carelessness, by neglect and by brutality of milkers. The manner of milking, and the circumstances connected therewith, are often not understood, not fully appreciated by dairymen. I heard two farmers recently comparing the yield of milk from their respective herds for the past season. The receipts of one were about a third more than those the other, and the latter said:—"I cannot understand this; my feed, my water supply, and my cows are as good as yours." The reply was:—"Yes, but when my milkers go to milk, they understand that it means business. I will not have a poor milker around at any price, and I talk this over when I hire him, and he understands what I will have." It was evident the subject had a value which carried conviction. The quantity of milk that a cow gives, depends much upon the mode, time and regularity of milking. Cows do best that have one regular milker, and the time of milking should be carefully attended to, and not be subject to variation from day to day. The udder should be brushed, and in case of any dirt on it should be cleansed by washing with a cloth and water; for if the cow has been driven through any muddy place and thus become bemeared, any dirt accidently falling into the pail will communicate its taint to the milk. Wetting the hands and teats with milk before milking is a very bad practice. This should always be avoided, both for the comfort of the animal and the cleanliness of the milk. The milker should have short finger nails, for long nails will be sure to hurt the teats and cause irritation to the cow. There are two methods of milking—The one may be called stripping or catching the teat between the finger and thumb and stripping down the whole length of the teat. This plan is not to be recommended. The better way is to grasp the teat, one in each hand, diagonally across the bag, and press on the milk, the second, third, and fourth fingers doing the main work, while the upper portion of the hand and first finger prevent the milk from returning to the udder; the milk should be drawn rapidly, and the oddec, completely emptied of its contents. In the flush of the season, or when cows are yielding the most milk, from eleven to twelve cows per hour will be about the rate for a competent hand.

We spend a great deal of time to clip this page for you, the very cream of the agricultural articles in our exchanges. We ask you in return to fill up the clipping we enclose (our subscription blank) with your name and one dollar and we will give you every month the coming year.

CORRESPONDENCE.

To be a good letter writer is said to be one of the accomplishments. The shorter a business letter, and the more pointed it is, the greater the accomplishment.

Write to an editor without an apology. Never say you hate to trouble him; that troubles him more than all you write. He loves business, not apologies.

John Williams, Wabash County, Illinois, asks: What is the legal size of the apple barrel? Ans.: Unfortunately for our apple interests there is no legal standard of size for all the states, and the size of apple barrels is about as definite as the saying is, "as large as a piece of chalk." The New York standard is 100 quarts dry measure, but the law is not enforced, and the size of barrels is of the same unknown size as ever. There should be a standard size, which would be better for both buyer and seller.

✢

J. T. Dixon, Hutchinson County, Dakotah, asks about the postage on seeds, plants, cuttings, roots, &c. Answer: The Post Office department rates seeds, cuttings, &c., as fourth-class matter, subject to postage at the rate of one cent per ounce or fraction of an ounce. The fourth-class also includes samples of merchandise, samples of ores, metals, and many other articles which can be easily and cheaply sent by mail. No package can exceed four pounds. Articles can safely be sent by mail.

✢

J. G. M., Montpelier, Vermont, asks can we grow amber cane in Vermont. Answer: Certainly you can; but what good would it do you only for soiling or fodder. Your season is too short for it to ripen to make cheap sugar, and sugar making machinery is too expensive for a farmer to buy, unless thousands of acres are planted. Molasses can be made by cheap mills and a little expense.

✢

John M. Gill, Yazoo, Mississippi, asks what are the merits of the Le Conte pear for profit in Mississippi. Answer: The Le Conte will grow and produce well with you. The question about the profit depends upon whether there is a market for it. That, you can tell better than we can. The pear would find a ready sale at the North, if it could be shipped safely in good condition, and cheaply.

✢

D. B. Johnson, Kennebec, Maine, asks why is it always the coldest just before day. Answer: The sun is at its greatest power about 3 P. M., *i. e.*, the day at 3 P. M. will average the highest average temperature, and from that point it slowly cools, and as it cools slower than it heats, it takes more than half a day (twelve hours), to cool, which would take it past midnight at least three or four hours to cool, or near daylight when the approaching sun begins to warm the morning twilight.

✢

Charles A. Behm, Juniper, Yavapel County, Arizona, asks for a list of apples and grapes for a small experimental orchard in Arizona. Answer: The climate of Arizona is peculiarly liable to late frosts and sudden changes of heat and cold. While trees might not winter-kill, yet, the sudden cold of summer would dwart tender varieties. The dry air of Arizona is also very injurious to fruit. The American Pomological Society does not venture on a list for Arizona, and we would only advise you for an *experimental* trial, as without trial, no one can speak with confidence. As you have late frosts, you will of course select no valley for an orchard, but a place where it is warm and sheltered, and safe from late frosts as possible, and plant for a trial, Shockley Rawle's Genet, Wealthy, Alexander, and any of the Russians that Professor Budd, of Ames Iowa, recommends. The Shockley will bear a freeze after the fruit is set, with little injury. The Rawle's Genet, blooms very late, as does also the Ben Davis, which you might also try. Grapes:—Concord, Worden, Moore's early, and perhaps Delaware. If any of our readers can advise us a list of tested varieties suitable for our correspondent, where the climate is dry and changeable, and the elevation 6,500 feet, we shall be pleased to hear from them, and it would oblige many readers.

✢

William French, Muskegon, Michigan, and others. We have not space to answer your inquiries, how to make a cistern. We will give it attention in our February Number, and give an illustrated article on cisterns and how to make them

✢

J. B. Mathews, Santa Barbara County, California, asks for true statement about the Kieffer pear, and if it is worth growing. Answer: The Kieffer pear, we think. In your section might for its ability to stand dry weather, and late ripening qualities be valuable. The quality depends much upon where it is grown, and how full the tree is allowed to bear. In wet clay soils, or in colder sections, the Kieffer being a late pear does not ripen, and the quality is not very good, while in lighter soils and warm exposures, if not allowed to overbear, the quality is good. The pear is for its hardiness and superior canning qualities, valuable everywhere. A trial of a few trees, as they bear very early, frequently at two years old, will decide their value anywhere.

It never troubles an editor to write him and tell him you want to take his paper. Nothing pleases him so much as a long subscription list. Correspondents should bear this in mind.

EXPERIENCES WITH FRAUDS.

THE FARM AND GARDEN has no friendship for frauds or fraudulent advertisers, and does not choose to deal with them. It will expose all frauds as soon as known, and protect its readers from swindlers. This course saves its readers hundreds of dollars annually. It is the right policy, and we shall stick to it.

Some of our best journals let the Phœnix Fruit Tree Invigorator fraud into their columns last year. We did not insert it and would not, but exposed the fraud promptly. Many paid $1.50 for a small box of sulphur and ashes. We are determined our readers shall not be swindled.

✢

Fraudulent advertisers and their ways cannot be too severely condemned or too freely exposed. A publisher cannot do his readers any greater favor than to guard them against frauds and swindlers who would take their money and give them nothing in return. We have, we are glad to say, refused all advertisements of this class.

✢

We regret that the religious press will insert advertisements of a tendency to corrupt the minds of the young. We cannot believe their editors would do it or allow it to be done; but as the financial part is in the publisher's hands and such advertisers pay liberally we fear the publisher undoes all the good the editor can do. When will this demoralizing work cease?

✢

We call attention to the fact that the religious as well as the various farm journals have given a wide circulation to the newspaper four per cent. loan frauds, whereby hundreds have been swindled out of their earnings. Avoid all four per cent. advertisements which promise to loan you money. If you agree to take the loan, you are asked to send one year's interest in advance. You send the money and of course you get nothing. Beware of all loan schemes.

✢

It is astonishing how long lived some quack medicine frauds are. Nearly thirty years ago, the Rev. Joseph T. Inman's sands of life were nearly run out, and he is still cheating the public with his pretended recipe. He has cheated the suffering poor for years, yet he still drives his trade, and papers of many denominations will insert his advertisements. Brethren of the religious press, why will you tolerate such robbery of your readers?

✢

His plan of operations is this:—He offers free a recipe to cure certain diseases. The recipe contains the names of drugs not kept at any drug store which he furnishes the dupe at a good price. The prescription is worthless and the fraud most wicked.

✢

Now bring on your libel suit.

GREENBRIAR, N. Y., December 18th, 1884.

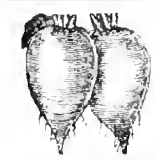
We all have our hobbies, some one way, some the other. Some take a pleasure in beer and whisky, and wind it up with a dreadful headache. Some in making gluttons of themselves, and have a terrible bad feeling in the stomach. Some again, dress finely, and ruin themselves with extravagance. Some in scandal, and blacken the character of their associates, and fill the town with discord. I too, have my hobby, I belong to the W. T. B. H. class, and am never happy unless I am successful. Yes, sir; I do belong to the Want To Be Humbugged class, and I enjoy it as well as any of those who love their hobbies. But, Mr. Editor of FARM AND GARDEN, you do not give me a show to indulge my hobby. You will not allow a humbug advertiser, if you know it, to get in your columns, and if I should write to them all, I fear I should not find a single humbug. But, Mr. Editor, I do find them, if you do not indulge my fancy. Now, last year you would not insert the Phœnix Fruit Tree Invigorator humbug, and the pretty picture too of that pretty apple tree full of apples; but I found them, and sent $1.50 for six cents worth of brimstone and ashes, and got it too, no thanks to you Mr. Editor, either. I was never so humbugged before in the world; but it was so well done, the experience was so delightful. Then too, all those fellows who wanted, yes, were anxious to loan any one money at four per cent. You did not advertise them, however. Now, as I indulge freely in my hobby, I am always a little short, and here was a chance to get a little money and be humbugged at the same time. We wanted at least $500, so we sent the one years interest in advance, as required to do, or just $20. They have the $20, and I guess the loan too, for I never saw anything of it. But, I tell you it was just the neatest thing out.

Now, there was a man last year, and a real nice gentleman too, who wanted to give away a lot of nice things for nothing, and a lot of big prizes too. You would not take his advertisement and let me get humbugged, so I was obliged to go elsewhere to get tally for my favorite hobby. I sent, why of course I sent, and got a letter that I had drawn a big prize, but must send some postage stamps on to get my prize. I sent ten cents in stamps, and got a two cent prize with one cent postage on it. I was mad. When I am humbugged, I want it to be a big humbug, not those little ones where you must send two dollars to get two cents. The same fellow is at work again this year, and I shall send to him too. Now you need not say don't, for I shall send. Your idea to keep humbugs out of your columns, is a good one, it gives honest business a fair show; yet, it is bad for my class, those who belong to the class of W. T. B. H. Yours, truly, W. T. B. H.

Don't do it. Don't send your money to frauds who would humbug you; but send it with a club of subscribers to THE FARM AND GARDEN, and it will repay a thousand fold.

DORR'S IOWA SEEDS FOR ALL COUNTRIES.

Perfect Gem Squash.



White German Turnip.

Sweet Alyssum.

Mignonette.

Double Balsam.

Candytuft.

Convolvulus.

Cobea Scandens.

Dianthus.

Double Dahlia.

RHUBARB or PIE PLANT.

No family garden should be without a bed of this. Succeeds best in deep, rich soil. Sow in Spring in drills, cover one inch. Thin plants to six inches apart. Transplant in Autumn or Spring to permanent beds, three feet apart each way. It is a strong feeder and will bear manuring heavily.

Victoria or Mammoth.—Very large and fine. Packet 5 cts., ounce 20 cts., ¼ lb. 60 cts.

SALSIFY or VEGETABLE OYSTER.

Has a long, white, tapering root resembling a small parsnip, and is **a delicious substitute for oysters in soups,** much liked by all who have tried it. It should be sown generally cultivated. It succeeds best in a light, well-enriched soil which should be plowed very deep. Cultivate same as parsnips, sow early. Like parsnips it is perfectly hardy and may be left out all Winter. Packet 5 cts., ounce 20 cts., ¼ lb. 60 cts., lb. $2.

SPINACH.

Long Standing.—A new variety of Spinach which has the valuable peculiarity of remaining a long time before running to seed. The leaves are very thick and of an **excellent flavor. The best of all.** Packet 5 cts., ounce 10 cts., ¼ lb. 25 cts., lb. 75 cts.

SQUASH.

Perfect Gem Squash.—This variety, unlike anything before offered, is **excellent both as a Summer and Winter Squash.** It has all the properties of the **best of both classes. It is a vigorous grower and wonderfully productive.** Its habits are somewhat peculiar. After setting the Squashes near the root, like bush varieties, it commences to run, and the vines often attain the length of twenty feet, and are very thick and strong, branching in a similar manner to the Ornamental Gourd, and often bearing quite as abundantly. The Squashes are from four to six inches in diameter, flattened, of a **creamy white color, slightly ribbed,** and have a thin smooth skin. The flesh is **fine grained,** and when cooked is dry, **very sweet,** and has **a delicious flavor, entirely free** from that **strong taste common to Winter squashes. It is remarkable for its keeping qualities.** In a dry, cool room, free from frost, they may be kept until Spring. In short, it is **justly entitled to the name given it,** being equal to the best bush or marrow squash for Summer use, and better than any other for Winter. **A good keeper, very productive, a free grower, and worthy a place in every kitchen garden.** Packet 5cts., ounce 15 cts., ¼ lb. 50 cts.

Marblehead.—A splendid Winter variety, only equalled by the Hubbard. **Shell very hard, of a light blue color.** Flesh fully equal to the Hubbard in quality. Packet 5cts., ounce 10 cts., ¼ lb. 30 cts., lb. $1.

Hubbard.—This **old variety has for years stood the test of all rivals and is undoubtedly the best Winter squash known; hard green shell; flesh bright orange-yellow, fine grained, very dry, sweet and rich flavored;** keeps in perfect condition throughout the Winter. Ounce 10 cts., ¼ lb. 30 cts., lb. $1

TOBACCO.

Connecticut Seed Leaf.—Best adapted to the climate of the Middle and Northern states, as it is more hardy and endures the cold better than the tender varieties grown south. In many of the Northern States, and in Canada, this variety is a staple crop. Packet 5 cts., ounce 25 cts.

TOMATO.

Livingston's Favorite.—This variety was originated by Mr. Livingston, the originator of the Acme, Paragon and Perfection, three of the best tomatoes ever introduced. He claims that his favorite is the head of any of his other splendid varieties. He describes it as follows: **"It is the largest perfect shaped Tomato in cultivation. It has no green core, is as smooth as an apple, never cracks after ripening.** It is a **brilliant, dark, glossy red color,** ripening all over and **through evenly.** It has not as much **early ripe** fruit as some varieties, but it **bears continuously** till frost. It has but **few seeds,** and **weighs heavier than any Tomato** of its size. For canning or shipping it has no equal. **The flavor is delicious."** Packet 5 cts., ounce 25 cts., ¼ lb. 75 cts., lb. $2.50.

TURNIP.

White German.—The **best keeping** Turnip we have found. It was a surprise to us to see solid, fine grained turnips taken out of the cellar in July in a perfect state of preservation, having been stored since October. Our trouble has been that turnips become pithy during the Winter, but this is entirely overcome in the White German. The **flesh is pure, white, sweet and mild. Uncommonly solid, large size, oval form.** Packet 5 cts.

Purple Top, Strap Leaved.—The standard for this **part of the country. Superior** for early or late planting. **Round, flat, good-sized,** of solid top with but few leaves, **fine very fine grained, rich, delicate flavor.** Packet 5 cts., ounce 10 cts., ¼ lb. 25 cts., lb. 75 cts.

AROMATIC, MEDICINAL AND POT HERBS.

(ALL 5 CENTS PER PACKET.)

Anise, Balm, Borage, Caraway, Catnip, Coriander, Dandellon, Dill, Horehound, Hyssop, Lavender, Rosemary, Rue, Saffron, Thyme, Sage, Sweet Basil, Sweet Fennel, Sweet Marjoram, Summer Savory, Tansy, Wormwood,

PRICE-LIST CHOICEST IMPORTED FLOWER SEEDS.

Please order by numbers. All sent postpaid.

We have arranged the following collections of flower seeds which contain the most popular and desirable sorts. Being our own selection they will invariably be found satisfactory in quality and exceedingly liberal in quantity. They are put up ready for mailing and cannot be divided or changed, but will be sent to any address, postpaid, on receipt of price. We unreservedly recommend these collections to all, and especially to those not thoroughly acquainted with the various kinds and classes of flowers.

Collection A contains 25 varieties of splendid annuals. **$1.00.**

Collection B contains 12 varieties of splendid annuals. **50 cents.**

Collection C contains 12 varieties extra choice annuals. **$1.00.**

Collection D contains 20 varieties biennials and perennials. **$1.00.**

Collection E contains 10 varieties extra choice biennials and perennials. **$1.00.**

Collection F contains 5 varieties very choicest annuals, biennials, and perennials, including the finest German prize Pansy. **$1.00.**

Collection G contains 25 varieties assorted from the most popular annuals, biennials, perennials, ornamental climbers, ornamental grasses, and everlastings. **$1.00.**

Collection H contains 50 varieties assorted from the most popular annuals, biennials, perennials, ornamental grasses, ornamental climbers, and everlastings. **$1.75.**

Collection I contains 100 varieties assorted from the most popular annuals, biennials, perennials, ornamental climbers, ornamental grasses, and everlastings. **$3.00.**

Collection J contains 10 varieties of choice and valuable greenhouse seeds. **$2.00.**

ABRONIA.

Beautiful trailing sweet scented flowers, continuing in bloom a long time. Half hardy annual.

21—**Umbellata** 10c.

ABUTILON.

Attractive half hardy shrubs. Free Bloomers. Trumpet-shaped flowers.

27—**Choicest mixed** 25c.

ACROCLINIUM.

Useful and **pretty** everlastings. Pretty for borders; but especially adapted for winter bouquets, &c. Half hardy annual.

40—**Mixed colors.** One foot 5c.

ADLUMIA.

Allegheny Vine, a **pretty biennial climber.** Sow in a damp, cool place. Transplant in autumn. Flowers **pink** and **white.**

45—**Cirrhosa,** or Allegheny Vine, and sometimes called Wood Fringe **10c.**

AGERATUM.

Very desirable for bouquet making. **A very constant bloomer.**

57—**Mexicanum,** blue 5c.

ALYSSUM.

Best border plant; constant bloomer from early summer until frost. **Pretty, white flowers.** Delicate perfume.

90—**Sweet,** fragrant 5c.

AMARANTHUS.

Ornamental foliage. Very interesting and attractive, either for the conservatory or out-of-doors.

96—**Bicolor ruber,** green foliage shaded with red, and frequently pointed yellow. 3 feet 5c.

ANAGALLIS.

Very beautiful flowers. Valuable for edgings or rock work.

121—**Mixed colors 10c.**

ANTIRRHINUM.

Snap Dragon. **Very showy and attractive;** fine for beds of massed colors or borders.

127—**Majus,** best colors, mixed. 2 feet 5c.

ASTER.

Popular Aster stands **unrivalled** for **variety of habit and richly-colored flowers.**

171—**New Rose,** flowers large; **very double, brilliant, robust habit, two feet, mixed colors, 10c.**

BOSTON SMILAX.

The most **popular plant** now known **for decorative purposes;** fine climber.

265—**Myrsiphyllum asparagoides 25c.**

WE WILL BE RESPONSIBLE—That all money sent by Registered Letter, Postal Note, Post Money Order, or Bank Draft will reach us. Small amounts may be sent in stamps when more convenient. Do not moisten them in the least, but place them safely in a sealed letter. Do not send private checks, as they have to be returned for collection. Do not send silver, except in registered package.

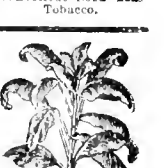
OUR TERMS—Are cash with all orders. No goods sent C. O. D. Address all orders plainly to C. W. DORR & Co., 282 Fourth Street, Des Moines, Iowa.

Yellow Crown Parsnip.

Livingston's Favorite Tomato.

Purple Top, Strap Leaf Turnip.

Connecticut Seed Leaf Tobacco.



Sage.

Rose Aster.

Balloon Vine.

Candytuft.

Cypress Vine.

Double Daisy.

This advertisement of C. W. Dorr & Co., Des Moines, Iowa, contains the most complete list of good seeds at low prices ever advertised. It is completed on page 16.

TRAVELS.

Wide and comprehensive views should be those of the farmer. The wider his acres, the wider his views should be. A comfortable home should be his, and all should be comfortable around him.

SKETCHES OF CHINA AND JAPAN.

By M. K. Boyer, Jr.

CHAPTER VI.

Dr. Boyer's diary, under date of December 20th, 1868, at Faiwanfoo, contains the following:—

To-day I took a run on shore, and visited the ruins of an old Dutch fort, built in 1624, and surrendered by the Dutch in 1668, when they returned to Java. The walls of this fort are ten feet wide, constructed of brick, with large guns sixteen feet long. The fort bears the name of "New Zealand." It is quite a curiosity to visit. We also paid an official visit to the Mandarin of the place. We found him very polite, although the only English he could muster was "Number one," and "Very Good." The Mandarin was a new official, being only twenty days in command, his predecessor having committed suicide by poisoning himself. Upon our arrival the Mandarin saluted us with drums, gongs, and the firing of three guns, and the subordinates saluted upon both our entrance and departure.

Faiwanfoo is noted for its hogs and dogs; both these and the fowls are jet black in color. The western portion of the island is in possession of Chinese, while the eastern portion is inhabited by the natives—Malays.

December 25th, 1868, of the diary, was written at Manila, and contains the following:—

This morning we fired a national salute of twenty-one guns, with the Spanish ensign at the fore. This salute was returned by the Spanish fort. Several of us took a run on shore. Paymaster Bache and myself hired a carriage for the day, which cost us four dollars. We visited a cock fight, which was in full blast. We were accorded a seat within the ring. Each cock was armed with a steel spur, three inches in length, in shape of a sword, and very sharp. About five hundred Chinamen, Malays, Spaniards, and native Indians formed the spectators. The betting ran high. We then took a drive out into the country, and visited old Manila, and saw the effects of the earthquake of 1863. The ruins of the cathedral and palace made up quite a picture. The natives were all dressed in their best; men wore white pena shirts outside of all their clothing, while the woman donned white bodices with fancy colored skirts, and pieces of black silk.

December 26th there was a grand review and parade of the Spanish army of Manila, in honor of Vice-Admiral Kepple of the English Navy; it was a beautiful sight. The soldiers were all dressed in white, and marched well. All the beauties of Manila were out in their carriages, which numbered not less than three thousand.

During this day I also visited the Cathedral of St. Dominco, which indeed is a magnificent structure. It is said to have cost every cent of $4,000,000 to erect. The income of the parish is over $40,000 a year. The ringing of the bells alone netting $10,000 annually.

January 4th, 1869, we took a drive to Malavan, five miles from Manila, and also enjoyed a very pleasant boat ride. We were introduced to a rich native and his family. The old lady was a noble looking person, "very majestic." Two daughters, aged respectively fourteen and sixteen years, both very beautiful, were presented to us, and two younger (about four and six years of age), came and bowed to us, greeting us with a kiss, and singing a song of welcome. Refreshments were served, and we spent a very pleasant hour and a half.

January 5th witnessed a great excitement on board the ship, officers all in a stew, every one as busy as a bee preparing the spar deck for a ball to be given in the evening. The decks were decorated with colors. At 8.30 P. M. the ladies and gentlemen arrived. Such a display of silks and diamonds! All the women spoke Spanish, while the men used a mixture of Spanish, English, French, German, and American.

A FEW BUSINESS REMARKS.

Entered at Philadelphia Post Office as Second Class Matter

PLEASE OBSERVE CAREFULLY

To prevent mistakes. Give plainly, always, the full name of the writer, with County and State where the paper is to be sent, and not the one from whence the letter was written. It is well to write the address in full on the outside of the envelope, with the Post Office, County, and State, for if the Post Office mark is not plain, or the name is indistinct, another chance is given to find the name correctly, and get the correct address. We often get letters with money, with no address of County or even State; at times with no name at all, much less County and State. Sometimes we get letters with the names of two post offices in it. Always sign full name, as John Smith, not J. Smith, for there may be a dozen by the same initial J., and they might get your paper. If you have a box, give your box number with your address. Give the exact name of Post Office. Thus, a paper addressed Conkling Centre would not go to Conkling, as the Post Office department would call it unmailable, because there was no Conkling Centre in the State. The Post Office address must be correct. Be particular in all these points. A letter will often carry when a paper may not, for a Post Office employe dare not cast aside a letter with a defective, address as he could do with a paper.

THE FARM AND GARDEN *is practical, and has practical men and women to write for it in their various departments, and give the result of practical experience in every day life. Especial attention will always be given the various farming industries, and gardening. Much attention is given to the results of experiments in new seeds and plants in cultivation. Fertilizers will be carefully considered, and their material value considered, this department will be a valuable one. We believe the garden and fruit growing interests of our country have not received proper attention, and we propose to fully illustrate new and valuable fruits as they are introduced in the market, as well as the most valuable of the old varieties. We are free to say we have no interest in the sale of any fruit or vegetable we notice in our columns, nor do we propose to have any. We believe it to be our duty if we notice any article that our judgment should be free and unbiased from any pecuniary motives. We believe our duty to our readers requires this.*

We believe an agricultural journal should treat of agriculture, not gossip and politics.

We believe it should be practical and treat of topics in due season; not tell how to cut wheat in winter and fill the ice-house in summer.

We believe a good paper at a low price, like "THE FARM AND GARDEN," is better than a poor paper at a big price.

We believe a paper should not swindle its readers or allow them to be swindled by humbug advertisers.

We believe the reader, when he sees a good thing, knows it and, when he sees a good paper, he will take it.

We believe the reader will appreciate our labor and efforts to please him and his subscriptions will prove his appreciation to the poor printer.

We believe you will write and tell us so.

We believe a "wise person knows what to do next." We also believe a wise person will take a twenty-page paper, already bound and stitched, before one of sixteen pages, which a "wise man" must cut and stitch for himself.

THE POULTRY YARD.

CONTINUED FROM PAGE 8.

Plenty of sun, plenty of good, rich food, plenty of lukewarm water to drink, plenty of scraps for the poultry, and plenty of eggs all winter.

Eggs cannot be produced without lime for the shells. Rich food will furnish the meat, lime the shell. Give your hens broken oyster shells and lime for egg shells.

YOUNG CHICKS.—Early hatched chicks must not be suffered to become chilled this month, or bowel disease will be the result. Cold on the bowels is often mistaken for diarrhoea. Plenty of warmth, and a little castor oil in the soft food is the best remedy should any difficulty of the kind arise.

VERMIN IN WINTER.—As food is usually scarce now, and depredators hungry, too much precaution cannot be exercised in guarding against hawks, rats, minks, and the family cats, the latter often doing much damage before incurring suspicion. Lice must be guarded against in winter, also, as well as in summer.

FANCY EGGS.—In procuring such, first be sure your sitting hen means business. Place a few common eggs under her, and order immediately. When the chicks are hatched they should be given to the care of some particular person, in order not to lose any of them, as the cost of the chicks, estimating the value of the eggs and expressage, will be too large to run any risks. Get them hatched early, but make full preparations before the eggs arrive from the breeder's yards.

THE ROOM REQUIRED. Each hen should have at least three square feet of room in which to roost and exercise. On this basis it is easy to estimate the space necessary for a flock of any size. Thus, for fifteen fowls, forty-five feet should be allowed, which is a house 6 feet deep and 7½ feet front. For ten fowls we require thirty feet, or a house 5 feet deep and 6 feet front. By this rule anyone is enabled to calculate the size of house required for any number of fowls.

GREEN FOOD.—This will be scarce now. It does not imply that because fowls need green food that they must have grass or growing vegetables. What is really required is a change of some kind from the usual dry matter upon which they are fed. Boiled potatoes, turnips, carrots, and parsnips, mashed, and mixed with the soft food are excellent. Chopped cabbage if not fed in a frozen condition, answers well. The best green food is onions, finely chopped, and mixed with the soft food. Fowls will also pick dry clover if given to them, or it may be cut and steeped.

HATCH THE EARLY PULLETS NOW.—The early pullets, if the next winter's flock are to lay early, must be hatched between this time and the middle of March, but the earlier the better. We allude, however, to pullets of the large breeds, such as Brahmas, Cochins, and Plymouth Rocks. The reason of this is that pullets require *age* before they will begin to lay, and the ovaries are not sufficiently developed in the large breeds of pullets at the end of the year, unless the pullets are hatched early. This is the reason why we often witness the rapid growth of pullets without any results in eggs. They must *fully mature*. Besides, we will state that eggs from early-hatched pullets are the best for placing under the sitting hens, or in incubators.

THE FARM AND GARDEN *one year free! How! Feed your poultry well and give them a warm shed to run themselves in cold days. Warm feed of mashed potatoes and mush and a little pepper, and they will shell out eggs and pay for the paper.*

FUNNY THINGS.

Variety is what makes life a pleasure. A variety of reading is pleasant reading. This is our aim to make a variety for the pleasure, and also the profit, of the reader

"Won by a bare scratch!" as the hen observed when she turned up the worm.

"Do take some more of the vegetables, Mr. Blood, for they go to the pigs anyway."

John Gough says that after he has delivered a lecture he has to read himself to sleep. Bings says his case is different; his wife usually lectures him to sleep.

"Sally," said a fellow to a girl who had red hair, "keep away from me or you'll set me on fire." "No danger of that," replied the girl, "you are too green to burn."

At a college examination, a professor asked: "Does my question embarrass you?" "Not at all, sir," replied the student, "not at all. It is quite clear. It is the answer to it that bothers me."

A Parisian mother-in-law said to her son-in-law, "So you were at the ball last evening, and it is not a month since you lost your wife." "That's true," answered the culprit," with a contrite air, "but I beg to remind you that I danced very sadly."

A devotee of Bacchus was overheard the other night thus addressing his hat which had fallen from his head,"If I pick you up, I fall; if I fall you will not pick me up. Then I leave you," and he staggered proudly away.

"Well, my daughter, your mother and I have been consulting recently about the windows for our new house. What kind would you like in the parlor. "Oh, thank you, papa, for seeking my advice. I should prefer beau windows, by all means."

The New York *Tribune* says that a country clergyman who has been visiting in that city complains that bunko steerers are so much like clergymen, that it is difficult to tell them apart. He should be able to tell "t' other" from "which" by their manner of preying.

A remarkably weak-minded dude says that when he leaves this world he wants to die of dropsy, because the latter is such a swell disease.

We should be cheerful, if possible, at all times; that is what the FARM AND GARDEN *tries to be on this page. Cheerfulness makes life pleasanter, so does a good agricultural paper like the* FARM AND GARDEN. *Will you not agree to it, and take it.*

A COLLECTION.

BROUGHT BY UNCLE SAM'S MAIL AND IN OTHER WAYS.

EXPLANATION OF CLUBBING LIST IN NEXT COLUMN.

Are you intending to subscribe for any American paper? If so, look at these prices.

The prices given are for yearly subscriptions to the papers named—and include a yearly subscription to the FARM AND GARDEN. Should you desire to take any publication without the FARM AND GARDEN, deduct 25 cents from price, and we will send it. In some cases two prices are given. The lowest price is for new subscribers the other for renewals. (There is no use in attempting to deceive publishers on this point.) We are only the agents of the publishers of the papers in this list. We pay them your money and they are then responsible to to you, and to them all complaints should be directed. Samples of these papers will be sent on receipt of one-twelfth of price for monthly, one-thirtieth for semi-monthlies and weeklies. Subscriptions received for any American paper. Address

FARM AND GARDEN, Lock Box, Philadelphia, Pa.

P. S. CABBAGE SEEDS.—The new brand of Cabbage Seeds advertised in this issue of Puget Sound Growth, although but a few years in the market, are becoming very popular with the most critical market gardeners all over the Union. Mr. E. J. Hollister, a well-known market Gardener of Tecumseh, Michigan, sold seeds and plants enough of them last spring in his vicinity, to cover eighty acres in cabbages. He writes to Mr. Tillinghast:—

"I have just been out to see forty-five acres of cabbages growing from your P. S. seeds. In walking through the fields the person who owned them remarked that he was so highly pleased with your seeds that he *would not have any others as a gift*, and the crop justifies his remark; they are so true and even that it seems to me that they will all make heads."

Hundreds of similar expressions can be shown from all parts of the country, and Mr Tillinghast may be called a benefactor of mankind.

A GOOD OFFER.—The *Farmer's Magazine*, Parkesburg, Pa., a 16-page monthly at 35 cents a year, is good and cheap; see advertisement in this paper. "Poultry for Pleasure and Profit" is a very useful book, and cheap at 25 cents, but we will send FARM AND GARDEN and the *Farmer's Magazine* both one year, and a copy of this Poultry Book, (combined price $1.10) all for only 70 cents. Order at once.

S. L. Allen & Co., of 127 Catharine street, Philadelphia, are a well-known and reliable firm. They have in preparation an excellently illustrated catalogue describing their Garden Seed-drills and Hoes. This contains much interesting matter. By the time you can write for it it will be ready, and as they are a liberal firm, they send the expensive book free.

C. A. Wood & Co. offer a sewing machine in this paper on remarkably liberal terms. We know the firm well; they are good, honest people, and will do as they promise. We use one of their machines in our family, and there is no better. Now all ye young housekeepers try one!

ARE YOU GOING WEST?—Hon. H. W. Dana, Lincoln, Ill., is making up a colony for Swift County, Minnesota, in corn-growing and dairying region of central Minnesota. Farmers, mechanics, and business men who value society, schools, and churches, wanted. Particulars on application.

Received from T. Walters & Sons, West Chester Pa., catalogue of thorough bred stock. The stock of this firm is so favorably known, we need only say, get the best and they have it.

J. Frank Mancha, of Claremont, Va., has an interesting advertisement of his colony in the South on our last cover page. He is a reliable man.

The World Manufacturing Company is a liberal and reliable firm.

"Practical Poultry Keeping, as I Understand It," by G. M. T. Johnson, Binghamton, N. Y., 1884. This is a concise treatise on all that is valuable in poultry breeding. We know of no work that contains so much practical information, in so small a space, on breeds, with their full history, habits and diseases, with their remedies, and full practical details for the care and management of all kinds of domestic poultry. Any one by following the advice contained in this work can successfully breed, for the fancier or market, any breed, without previous experience. The work is profusely illustrated with cuts of all the different kinds of poultry usually grown, and two beautifully colored plates of poultry. We can fully recommend this work to our readers. Price 50 cents.

THE ACME PULVERIZING HARROW of Nash & Bro., Millington, N. J., whose advertisement we insert this number, is one of the best harrows; and will pulverize a soil that is hard or lumpy, in a rapid and thorough manner. It does not clog with grass, and leaves the ground level after it, in a fine condition for the drill. We can fully recommend it to our readers.

The *Rural New Yorker* is the leading agricultural paper in experimental farming, testing seed and fruits, and is always reliable. Its illustrations are numerous; five hundred per annum, and its editorial plan is original, and extends over all branches of agricultural knowledge, and cannot fail to be appreciated by all its readers. We send it with the *Rural* free seed distribution with the FARM AND GARDEN. Both papers one year for $2.25. Postage free.

POPULAR HISTORY OF THE CIVIL WAR, Illustrated. A well-written and accurate history of the civil war. It is a work that gives in a condensed form all the important battles fought during the war, and numerous cuts of the generals and battle fields. It will well repay perusal. Price $1.00. Franklin News Co., Philadelphia, Pa.

THE PRACTICAL POULTRY BOOK for farmer and fancier. Finely illustrated; has cuts and descriptions of all prominent breeds of poultry, ducks, geese, &c., with a fine colored plate. A handy and useful little volume. Philadelphia Poultry Farm, 237 south Eighth Street, Philadelphia.

LIFE OF ALEX. H. STEVENS, by Frank H. Norton. "Mr. Norton tells the romantic story of the great Southerner's life. It is an interesting story and Mr. Norton tells it well."—*Daily Times*, Brooklyn, N. Y. Elozevin edition sent from this office on receipt of 25 cents.

* *This edition of the Farm and Garden has cost over $7000. Therefore please accept one of the offers. Send the order to us, and hand this copy to some suitable person. Another copy of this number will be mailed you on receipt of your subscription, if you ask for it.

OUR COMPLETE CLUBBING LIST. *Explanation of Clubbing List on first column.*

AGRICULTURAL.	
Agricul. Epitomist,	$0 60
Agricul. World and Mich. Homestead,	1 10
Amer. Bee Journal, W., " " Month,	20 / 75
Amer. Agriculturist,	1 25
Amer. Apiculturist,	$1 15 1 35
Amer. Cultivator,	2 65
Amer. Dairyman,	1 35 1 60
American Farmer,	60
Amer. Farm Journal,	65
American Field,	4 35
American Garden,	1 05
Amer. Grange Bulletin,	1 50
Amer. Poultry Journal,	1 05
Amer. Poultry Yard,	1 35
Amer. Rural Home,	1 10
Bee Keepers' Guide,	75
Bowditch's Amer. Florist and Farmer,	90
Breeder's Gazette,	2 35
Cincin. Live Stock Review,	1 45
City and Country,	60
Colman's Rural World,	1 60
Connecticut Farmer,	1 85
Cotton Plant,	80
Cultivator and Country Gentleman,	2 35
Dirigo Rural,	1 35
Drain and Farm Jour	1 10
Duncan's Mo. Mag.,	1 75
Dunton's Spirit of the Turf,	3 35 4 65
Empire State Agricul.,	60
Fanciers Gazette,	1 10 1 35
Farm and Fireside (O.),	75
Farm, Field and Stable	85
Farm and Home (Mo.)	85
Farmer and Dairyman,	85
Farmer and Fr't Grow'r,	1 25
Farmer and Manufac.	60
Farming World,	2 10
Farmer's Companion,	60
Farmer, Fruit,	70
Farmers Home Journal,	1 35 1 60
Farmer's Review,	1 35
Farm Journal,	60
Floral World,	60
Florida Agricul. Farmer	1 85
Forest, Fields and Farm,	70
Fruit Recorder,	80
Game Fancier's Jour.,	70
German-town Tel.,	1 70 1 85
Good Cheer,	60
Grange Visitor,	80
Green Mountain News	1 00
Green's Fruit Grower,	85
Homes and Farms (Ky.)	1 00
Home Farm,	1 85
Husbandman,	$1 10 1 25
Indiana Farmer,	1
Iowa Farmer,	1 10
Iowa Homestead,	$ 35 1
Journal of Agriculture,	1 25
Kansas Farmer,	1 35
Ky. Stock Farm,	$1 00 1 10
Live Stk Indic'r	1 35 1
Live Stock Monthly,	80
Maryland Farmer,	1 05
Michigan Farmer,	1 60
Midland Farmer,	65
Minnesota Farmer,	1 35
Mirror and Farmer,	1 20
Nat. Farm and Fireside	1 00
Nat. Live Stock Jour.,	2 60
Nat. Poultry Monitor,	85
Nebraska Farmer,	1 35
New Eng. Far., $2 00	2 50
New Eng. Homestead,	2 35
N. Carolina Farmer,	1 00
Ohio Farmer,	1 35
Ohio Poultry Journal,	80
Orange Co. Farmer,	1 35
Park's Floral Mag.,	70
Pennsylvania Farmer,	1 05
People and Patriot,	1 35 1 60
Planters' Journal,	1 60 1 85
Poultry Bulletin,	1 05
Poultry Keeper,	70
Poultry Messenger,	60
Poultry Monthly,	1 10
Poultry Nation,	85
Poultry World,	1 10
Roanoke Patron,	1 10
Rural New Yorker,	2 25
Rural Home,	60
Rural Record,	80
Seed Time & Harvest,	55
South and West,	55
Southern Planter,	1 35
Southland,	1 60
Southw'n Poultry J'l	85
Spirit of the Farm,	1 85 2 10
Spirit of the Times,	4 85
Tex. Farm and Ranch,	95
Tex. Live Stock J'l	1 35 1 85
Tex. Planter & Farmer	1 10
Texas Stockman,	1 85 2 25
Tribune and Farmer,	1 05
Vick's Monthly Mag.,	1 15
Western Cultivator,	85
Western Farmer, Wis	1 45
Western Plowman,	70
Western Rural,	1 75
Western Sportsman,	1 85
ARMY AND NAVY.	
Army & Navy Jour.,	($5 40)
Army and Navy Reg.,	2 60 3 35
JUVENILE.	
American Young Folks,	$ 75
Babyland,	70
Chatterbox,	1 60
Children's Friend,	1 35
Golden Argosy,	1 60
Our Little Men & Women	1 00
Our Little Ones and the Nursery,	1 85
Parley,	1 00
Pleasant Gallery,	80
St. Nicholas,	3 00
Wide Awake,	2 75
Youths' Companion,	2 60 2 10
LADIES SOCIETY FASHIONS.	
American Bazaar	$1 10
American Queen,	3 35
Arthur's Home Mag.,	1 75
Chicago World,	3 35
Christian Woman	1 05
Delineator,	1 35
Demorest's Illus. fo.,	1 85
Domestic Journal,	65 75
Domestic Mo. Mag.,	1 10
Ehrich's Fash. Quar.,	75
Home Jour., Boston,	2 10
Home Journal, N.Y.,	1 85
Household,	1 10
Millinery Guide,	2 85
Mothers' Magazine,	1 35
Peterson's Magazine,	1 75
Womans Journal,	$1 85 2 85
LITERARY.	
Arkansaw Traveler,	$1 80
Ballou's Magazine,	1 60
Bay State Mo.,	$2 35 1 35
Beadle's Weekly,	2 60
Century,	3 85
Cottage Hearth,	1 25
Chautauquan,	1 70
Cricket on the Hearth,	1 05
Chicago Ledger,	1 15
Critic,	2 75
Donahue's Mag.,	$1 35 1 85
Drake's Travel's Mag.,	1 10
Eclectic Magazine,	4 35
English Illus. Mag.,	1 70
Fireside at Home,	1 05
Fireside Companion,	2 85
Granite Monthly	$1 35 1 85
Lippincott's Mag.,	2 60
Literary Worl	$1 85 2 15
Macmillan's Magazine,	2 85
N. York Dram. News,	3 35
N. York Weekly,	3 05
News Letter,	3 35
N. American Review,	4 35
Peck's Sun,	2 00
Pennsylvanian,	1 35
People's Fireside J'l,	85
Puck,	4 10
Saturday Evening Post,	1 35
Scottish American J'l,	2 85
Spectator,	3 35
St. Louis Magazine,	1 10
Texas Siftings,	4 10
True Flag,	2 35
Waverly Magazine,	3 85
Wilford's Microcosm,	1 10
Yankee Blade,	2 05
MECHANICAL, MERCANTILE & FINANCIAL.	
American Artisan,	$ 85
Am. Cabinet Maker,	2 35
American Miller,	1 10
American Tanner,	1 35
Carpenter & Builder,	1 60
Carriage Monthly,	2 10
Milling World,	1 25
N. York Com. Advr.,	1 35
Northwestern Miller,	1 85
Scientific American,	2 85
Scientific Amer. Sup.,	4 35
The Lumber World,	1 25
NATURAL SCIENCE, HISTORY AND PHILOSOPHY.	
American Antiquarian,	$3 95 4 15
Amer. Chemical J'l,	2 60
Amer. Naturalist,	3 70 3 85
Canad'n Entomologist,	1 10
J'l of Franklin Institute,	3 70
Journal of Progress,	1 60
Mag. of Amer. History,	4 35
Microscope,	1 10
New England Historical and Genealogical Register,	3 05
Phrenological Journal,	1 85
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Albany Argus,	1 25
Albany Express,	1 25
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Atlanta Constitution,	1 35
Arkansas Gazette,	1 35
Baltimore Sun,	1 85
Baltimore Telegram,	1 85
Bloomington Leader,	1 70
Boston Post,	1 20 1 35
Buffalo Courier,	1 20
Buffalo Express,	1 10
Burlington Hawkeye,	1 35
Rochester Post Express,	1 10
Sacramento Bee,	$1 35 1 85
San Fran. Argonaut,	3 85
San Fran. Bulletin,	2 35
San Francisco Call,	1 35
San Fran. Chronicle,	1 85
San Francisco Post,	1 60
Santa Fe, New Mexico, Review,	3 85
South Bend Tribune,	1 60
The Truth, St. Louis,	1 00
Toledo Blade,	1 25
Toronto Globe	1 85
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Utica Observer,	$1 60 1 70
Wash. Nat. Tribune,	1 25
Weekly Wisconsin,	1 25
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Jacksonville Times,	1 15
Kansas City Journal,	1 20
Kansas City Times,	1 20
Kansas State Journal,	1 35
Lansing Republican,	1 25
Leavenworth Times,	1 10
Lon. Can. Free Press,	1 10
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Louisville Courier J'l,	1 35
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Missouri Republican,	1 25
Nashville American,	1 25
Nashville Banner,	1 10
N. Orleans Picayune,	1 35
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New York News,	1 15
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New York Tribune,	1 25
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Philadelp'a Progress,	2 35
Philadelphia Times,	1 00
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Rochester Post Express,	1 10
Sacramento Bee,	$1 35 1 85
San Fran. Argonaut,	3 85
San Fran. Bulletin,	2 35
San Francisco Call,	1 35
San Fran. Chronicle,	1 85
San Francisco Post,	1 60
Santa Fe, New Mexico, Review,	3 85
South Bend Tribune,	1 60
The Truth, St. Louis,	1 00
Toledo Blade,	1 25
Toronto Globe	1 85
Toronto Mail,	1 10
Utica Observer,	$1 60 1 70
Wash. Nat. Tribune,	1 25
Weekly Wisconsin,	1 25
Wisconsin State Jour.,	1 35
SPORTING, DRAMATIC AND COMIC.	
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The Farm and Garden.

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The restless sense of wasted power,
The tiresome round of little things
Are hard to bear, as hour by hour
Its tedious iteration brings;
Who shall evade or who delay
The small demands of every day?

ALLEN.

HOW TO KEEP BOYS ON THE FARM.

By a Contented Farmer.

A poet is said to be born, not made, and the same can be said of the farmer, whose life should combine all the talents of the poet and philosopher. A life that in its pursuit gives daily expression to the beauteous changes that nature unfolds to him. The change of sombre winter to gala spring, the darkest night to the brightest day, are no less striking than the changes that occur in growth of flowers and fruits, wrought by nature with the farmer's care and toil. No occupation calls for a wider information or a class of more intelligent men than that of the farm. In the wide field of the farm, science, literature, and art have a place, and all the branches of science in turn are required to furnish the needed information to pursue the intelligent calling of a farmer. The time has gone by; the date has passed, when the thought that the lout can be a farmer, and that the intelligent must seek other occupations for their powers and talents; leaving behind them the broad field of agriculture. The true merit of the farmer's life is being recognized; his true position is now taken in the front ranks of society, and at the head of the most noble of all callings, and not at the foot as he was placed a few centuries ago. The widespread intelligence, the innate nobleness of the calling, the depth and breadth of his investigations give him a foremost place in the scientific world and render his life a pleasure, not a burden. Yet, the question is asked so often, "how shall we keep our boys on the farm?" that we may fear from its frequency, that the farmer was in danger of losing his sons, and the old homestead must pass into a stranger's hands or fall into decay and ruin, of which evils, the former is as great as the latter.

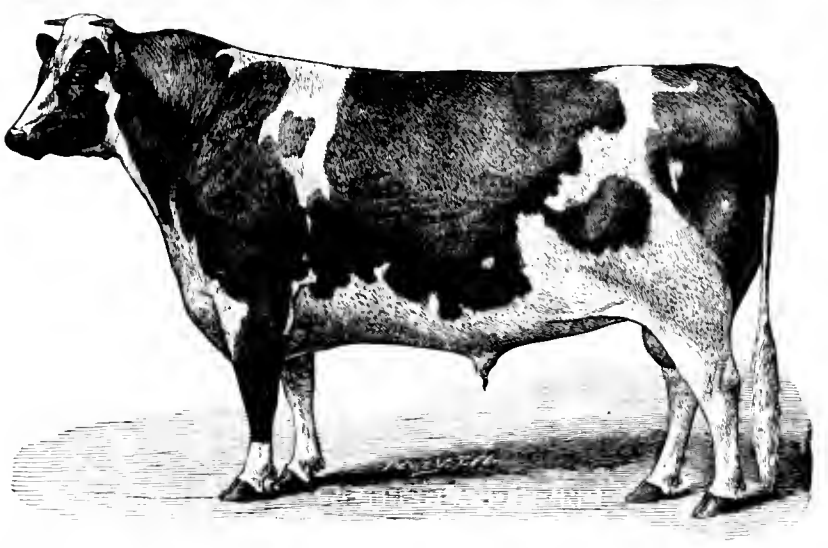
With proper care there is no danger; the same farm that gave a birth-place to the grandfather, should give a place of birth to the grandson, whose zeal in his calling should be increased by a long inheritance and family possession, not the annual change of occupants. It is useless to fetter nature or coerce her against her will, and when nature plants into the early being of a child an irresistible desire for a particular kind of life, we are powerless to prevent those desires from growing in the mind of the child, whether the parent be king or peasant. The soul will not be bound by fetters. The longings of a heart will be appeased only by fulfillment of its desires. The child that early in life shows its longings for the saw and plane, and dislike for the field, a love to build and repair; to make that boy a farmer is to spoil a good carpenter to make a poor farmer. Any change that does violence to implanted nature, will always recoil back upon the perpetrator. We cannot reverse nature.

While it is useless to fasten the boys to the farm and blast the prospects of a more successful pursuit, elsewhere; yet, while a few may come under this rule, most will, if encouraged, take to the calling of their father's and the old home-farm.

To keep boys at home, make home-life pleasant, and adorn the home with every comfort that can be found elsewhere, and leave little to be gained by a change. While the boy is young, show him a life that is to be envied, surrounded by peace and plenty. Make the home evenings pleasant, the home-life a blessing, and the labor in the field will be a pleasure, when the thought gains a foothold, that the toils of the day are to be smoothed and solaced by a pleasant evening at home, whose shade each year will grow more sacred, and whose influence more lasting. We cannot keep our boys on the farm where wrangling is supreme, where every hope with its longings is crushed with cruel strife and bitter surroundings.

The farm occupied by the writer has been in but two families, in each case descending from father, son, and grandson, covering a period of 150 years. All farms should grow old as the families who own them should grow old in their cultivation. How shall we do this?

Make our homes more attractive, our farming more profitable, our tables at home filled with good reading matter on farm and household subjects, and keep all cheap, trashy story papers, that sow more seeds of folly and discord than a lifetime can eradicate. Make the flower-garden beautiful, your garden a treasure, and your farm a paradise. Your children will rise up and call you blessed, and will cluster, like a vine to an arbor, to the dear old home, and when age and infirmity are yours, you will be surrounded by your children. Proud monuments of your calling, who, like you, will rejoice to till mother earth until called by a higher power to rest in His bosom.



HOLSTEIN BULL.—"NETHERLAND PRINCE."

OUR ILLUSTRATION.

We give a cut of a premium Holstein bull, "Netherland Prince," 716, bred by Smiths & Powell, of Syracuse, N. Y. This animal at four years of age, weighed 2050 pounds, and took the first prize at the New York State Fair in 1881, and again in 1882. Was at the head of the herd that won the gold medal in 1883, and won first prize in 1884. Was also at head of the herd that won the gold medal also. This certainly is a continued success of honors, of which Messrs. Smiths & Powell may justly be proud. The Holsteins are a famous milk breed, and are especially valuable for both cheese and butter, are large in size, and make when wanted for it, large weights of excellent beef. The demand for Holsteins is increasing, and are gaining many friends among farmers and dairymen. The milk of the Holstein makes a rich, fine-colored butter, and is very valuable for cheese-making. The yield of milk from the best cows has reached the large yield of over 90 pounds daily, or 40 quarts of milk per day. The yield of butter has reached over 20 pounds per week. We believe it will largely pay farmers to club together and get a bull of this breed to cross on common stock of cattle. The improvement will be so great that the money spent will be one of the best-paying investments that farmers can find for their capital. They should embrace every opportunity to improve their stock. The best stock always pays best.

The farmer can hardly realize how the introduction of a single blooded animal will improve the value of the stock of cattle in a few years, if properly bred upon common stock. The editor of the FARM AND GARDEN knows of a case where a valuable blooded bull was introduced fifty years ago, bred upon common stock of cattle, and the marks that were then introduced plainly show to-day.

LONG AND ROTTEN MANURE.

By Thos. D. Bland, Greenville Ky.

This is the season of the year when the farmer and gardener should be laying out their plans and accumulating and preparing their manures for next years crop; and in preparing their manure they should study the nature and wants of each crop. From my experience in farming and gardening I find some crops are coarse feeders, and thrive on fresh manure, and some require the manure to be well rotted and reduced to its mineral elements in a great part.

Most garden crops require well-rotted manure. Peas, potatoes, beets, and most especially beans require it. This crop does best with manure from around old buildings, manure that is rich in nitre. For all these crops the gardener should have his manure thoroughly decomposed, turning it often to fine it.

Corn, oats, and cabbage thrive best with long or fresh manure. The best crop of cabbage I ever raised, the ground was broken about the middle of the evening, and the manure hauled from the stables and spread on the ground, then plowed until the manure was well mixed with the soil, the ground marked off three feet between the rows, and hills made one and one-half feet apart in the rows. By the time this was done, it was nearly sun-down; and the cabbage plants drawn and set. The soil being freshly worked and above its natural moistures, the plants grew off better than if the soil had been wet by rains. From this experience I have always used long manures, when convenient, for my cabbage. I have raised good crops with rotted manure and commercial manures; but have the best success with long manure. It takes most all the season for cabbage to grow and mature, and when long manure is used, it seems, while decomposing, to furnish the required food, and keep up the supply during the entire growing season.

The most effective application of manure that I ever tried on the corn crop, was taken fresh from the stables. From my experience with manures, I would advise all to use well-rotted manures on wheat, peas, potatoes, beans, and beets, and corn does very well; but I would use it on cabbage only when I could not obtain fresh manure.

In some townships we have over 100 subscribers. At some post offices we have only one. We want every one we have multiplied by 12, and hope you will do your part. A club of 12 subscribers at our low rate of 25 cents a year, will entitle the sender to 3 years' subscription free.

HOW TO MAKE A CHEAP CISTERN.

There are many ways to make a cistern that require a larger expense than the farmer can afford, and for all useful purposes are no better than the cheaper ones we here recommend. All the various filters recommended are costly and soon get out of repair; and we find that when a cistern is cleaned by a thorough washing out with clean water once a year, in the early spring the water will usually be pure and sweet the entire summer. Water will purify itself in a cistern, for the foul sediment will fall to the bottom, and if the water is taken from the top, or at least not from the very bottom, the water will be sweet, while the bottom may be dirty. The reader will see at once that a pump, if used, should not reach the bottom of a cistern by two feet at least, and if the cistern is properly made, only a little of the water will be below the pump. We give the proper form of a cistern for both brick or stone walls, or a simpler one where the dirt sides of the cistern are coated with cement.

Where the ground is solid clay or gravel, the best form of a cistern, and much the cheapest, is made by digging for it a small perpendicular opening, about the size of an ordinary well, or less, if the cistern is small. When at the depth of two feet begin to enlarge, and when the proper size is reached, continue until the required depth is obtained, in the form shown in the cut. The dirt, if solid, will not cave. The part below the lines shaded at the bottom, is made to catch the mud and dirt below the pump. Take clean sand and make a strong mortar of lime and sand, say, one bushel of lime to five of clean sand, and add to each bushel of mortar sufficient cement, well mixed, to make the mortar set quickly, or, as some prefer, use no lime in the mortar, but one part cement to four or five of sand, which is better, but more costly. Plaster the sides on the dirt, beginning at the bottom, and coat the sides of the cistern with a full inch of mortar as high as the brick work, and as soon as the mortar is set, make a mortar of at least equal parts of sand and cement, or pure cement if a great hardness of wall is required, and finish with a thin coat of the cement. Then dig a shoulder for the brick arch to rest on, and arch over the cistern with brick, as shown in the cut, and plaster the brick work with cement to keep the frost from scabbing the brick work. Small lugs of stone and cement are set at the bottom of the cistern, as shown by the shaded lines, to rest a plank on which to set the pump. Where the soil is sandy or loose, stone or brick must be used. The stone and brick can be laid in good lime mortars, and the plastering done in cement. The cost for lime, stone, and cement vary so much in different sections, that we cannot give the cost to make; but the expense is small, compared with the value of pure cistern water.

Ninety out of every hundred who engage in mercantile pursuits fail. Stick to the farm neighbor, and it will pay you too. You may work a little harder, but you are sure of a good home. Boys stick to the old farm and make it pay.

GOLDEN OPPORTUNITIES IN THE SOUTH.

Continued. By Joseph.

CHICKENS AND EGGS.

They are wise, and know the things that are good, those people of the Sunny South, both old and young, black and white. Tender chickens, eggs, and fish are no rarety on their tables. And why should it be otherwise? There are no great difficulties in the way of production. Poultry can go to the bare ground not many less than 365 days in the year. They can pick up half of their living, if not more. They need little protection from cold winds and snow. Land is cheap, so is grain, and grasshoppers, bugs, and worms are plenty. No wonder the production of poultry is comparatively large, yet it is not as much in excess of the home consumption as those favorable conditions would lead us to expect.

The weighty aristocrat of the poultry-yard the proud turkey—receives more attention, perhaps, than any of its smaller occupants. Here, in the home of its ancestors, where his wild cousin is yet hunting through the woods and over the mountains in search of bugs and nuts, we frequently meet the cultivated specimen on their foraging expeditions over meadows and pastures, sometimes in flocks of a hundred heads or more. When Thanksgiving or Christmas comes they bring a nice little sum into the farmer's wife's pocket for spending money.

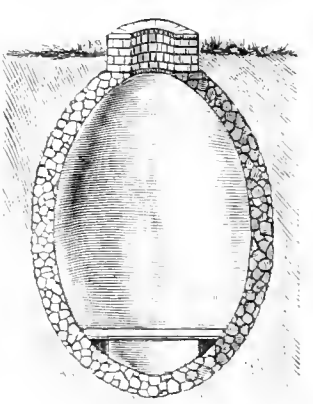
The chicken and egg business, however, in the estimation of the large farmer, is too small an industry to claim his attention. "We raise what eggs and chickens we want to eat, but have none to sell," says a prominent farmer; yet he complains of "hard times," little thinking that a reasonably large number of laying hens on his 500 acre farm would increase his annual revenue by a hundred or two hundred dollars from the sale of eggs alone. The production of spring chickens for market lays mostly in the hands of the small farmer, and particularly in that of the poor darkey, and if they have a dozen or so to sell or exchange for goods in the store they think they are doing well.

Now let us bear in mind that in the Southern half of the Union it is just or nearly as easy to raise chickens during December or January as in the Northern half during March or April. Why is it, then, that the most successful chicken and egg farmers live in the Northern, not the Southern, states?

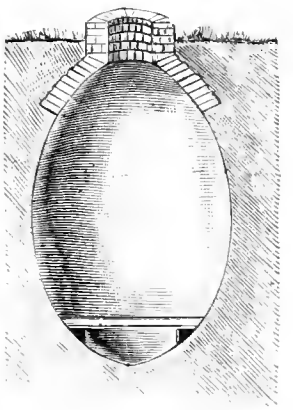
Small fortunes can be made by skilful managers of poultry, with either chickens or eggs, much easier in the more favored location than where great difficulties have to be overcome. Why not select the warmer climate, cheap lands, and cheap grain?

Are there no drawbacks? Yes, many, I admit. Cholera is one, but you have to fight, or rather try to prevent, it anywhere. "Varmint," of all sorts, skunks, coons, possums, rats, weasels, chicken-hawks, and other birds of prey are ready to claim their share of the profits, but hardly more than anywhere else, I believe. Shelter has to be provided against long continuous rains. Common care will overcome all those difficulties. But there is one drawback peculiar to the South, and a serious one. It is a kind of black "varmint" species, *Niger Africanus*, of the genus *Homo*. This black biped is exceedingly fond of chickens, whether old or young, and his depredations are mostly to be feared in or near villages and cities, less out in the country. The black thief combines the faculty to see in the night like an owl, with the cunning and slyness of the fox, the boldness of the kite, and the destructiveness of the weasel. I will not compare him with the skunk at all. Did we not leave the hen-house carefully and securely locked every time we had to leave home? Yet once, on returning, happening to look in the direction of the small door for the egress and ingress of the fowls, we thought we could see a black face, which quickly disappeared. We caught the little chunk of ebony inside, though we had to pull half of him back through the small opening, which had admitted him, and where he tried to escape, while we unlocked the door. He lost the eggs which he had taken pains to gather for us, but he got a sound thrashing instead, the little rascal.

Yet I will not make the poor darkey responsible for all these depredations. Often the "poor white trash" on the outskirts of towns are worse than the negroes. The poultry raiser must stay away from villages, etc., or use the shot gun freely, or other means. But the South is the place to grow early spring chickens and eggs in abundance.



BRICK OR STONE-LINED CISTERN.



CEMENT-LINED CISTERN.

We want 300,000 subscribers and shall get them. We shall make our paper worth ten times the price we ask for it, and our friends will send us the 300,000. Roll in the names!

THE STEAM ENGINE FOR THE FARM

By F. Vick, Rochester, N. Y.

Many have asked me, lately, my opinion of a small engine, for farm use, which has been extensively advertised in the last few months.

Being a great advocate of the steam engine for the farm; to test it and give a correct, sound statement concerning these engines, I purchased one, and now I wish to give your readers the result of my observation, and to make a few remarks on "The Steam Engine for the Farm."

The last inquiry I received, was from the president of a farmers club in Michigan, who wished to know if these engines, called the Shipman Steam Engine, using Kerosene oil as fuel, could be managed by "hired help," and stated that his *theoretical* objection to them, was that the lampblack would accumulate so fast on the flues as to greatly impair the heating power of the oil. *Theoretically*, perhaps, there may be something in this, but *practically*, it amounts to nothing. The fire is formed by the pressure of air or steam flowing through an atomizer which throws the Kerosene in a very fine spray into the fire-box. The combustion of the fuel is so perfect that there is little or no smoke, and, consequently, it is some time before lampblack or soot, in any quantity, is noticed on the flues, and the boiler is so constructed that the flues can be cleaned almost instantly.

I would not recommend the smaller sizes of these engines, however, for use on the farm, as they are very light and have too many toy inventions about them to make them as near automatic as possible, and I do not believe that these light parts will wear. The largest size is heavier and would answer for some purposes, but these cost as much as a modern upright engine and boiler, which I would prefer, and recommend in every case.

There are several houses that make good reliable engines that have stood the tests for years, and it will be some time, if ever, before there will be anything made to surpass them for farm work.

Every farm should have an engine. It is with these as it was with the windmill. A short time

since, five years ago, I could travel many miles over our country road and not see a windmill, now I go over the same road, and the sight is quite different; on nearly every farm is a windmill, and Mr. Farmer assures us that it would be quite impossible for him to do without it, and so it is with the engine. Farmers are just discovering that with these they can save a great amount of labor, and that they pay for themselves in a short time. They cut feed, pump, run fanning mills and grindstones, put in hay, and can be made to do many other things. All who use them, I am sure, will say as I do; and as is said about the windwill, "impossible to get along without it." We are just waking up to this important fact.

As for being managed by "hired help," this all depends on what kind of help is hired. All engines require watching, there is the water-gauge, the steam-gauge, the pump, the oil-cups, and the fire that require it; we learn in a short time to do this, taking up but very little of our time. If an engine and boiler are left alone, to take care of themselves, *something* is going to happen, and it is best to leave them entirely by themselves when this *does* happen.

We have used an engine for many years, and I believe we would as much think of giving up our horses as our engine.

I think the engine will become as popular on the farm as the windmill is now, or even more so. I want all to think of this, and see if an engine could be profitably used on their farms."

We often spend time in looking up valuable suggestions and testing them for our readers. We want no untried theories, but facts. Plain facts always speak for themselves.

SEEDLINGS AND NEW VARIETIES.

By W. C. Steele, Switzerland, Florida.

If there are any readers of THE FARM AND GARDEN who are experimenting in the raising of new varieties of fruits from seed, I wish to call their attention to some facts which may be of interest to them.

I have been comparing the list of strawberries offered by a prominent nurseryman in 1881, with the list he offers this year. I find that in 1881 his list contained fifty-three varieties, in 1884 he offers fifty-seven. But in the fifty-three offered in 1881 only thirty-two find a place in his catalogue this year. Two *old* varieties were restored to the list this year, but of the fifty-seven catalogued twenty-three were entirely unknown three years ago. Of the twenty-one dropped by him in three years, only ten are now offered by other nurserymen.

Another catalogue for 1881 contains a list of sixty-five varieties, thirty-two of which are not found in the list first mentioned. Of these thirty-two, fifteen are still found in the catalogues of other nurserymen, but seventeen are not found in any list that I have at hand. Here, then, is a total of twenty-eight varieties that were listed three years ago which are not offered now. More than that, over twenty varieties, included above, that are still offered, are very seldom called for, and it usually costs nurserymen more to keep up their stocks of such kinds, than the total amount of their receipts from all sales of these varieties. More than one-fourth of these fifty varieties were sent out only a few years ago with wonderful descriptions and most extravagant claims. Many of them proved utterly worthless for general cultivation, though often valuable in the locality where they originated. At least two proved to be old varieties sent out a second time under new names.

In the catalogues for this year there are over twenty varieties marked "*new*," though some of them have been *out* two or three years. It is safe to say that not five of these "*new*" kinds will be known ten years hence.

In raspberries a similar state of affairs exists, though the lists are not so long. In fact not more than a dozen *new* raspberries have been offered to the public in the last three years. And among these are two which, if not identical, are so nearly alike that it puzzles an expert to detect the difference. Several others are *worthless* for general cultivation, and will never be successful beyond the narrow limits of their original home.

I do not wish to discourage the growing of seedlings by these statements, for there is still plenty of room for improvement. We have, as yet, no strawberry of *good quality* that is so universally successful and profitable as the Wilson. I think, however, that many experimenters are striving for the impossible. They are aiming to get a first-class table berry, and a solid, tough, shipping berry in the same variety. I do not believe that this will ever be done. A strawberry may be firm and solid as the Wilson or Glendale, and still be very much sweeter and better flavored, but it must be comparatively dry. A sufficient quantity of juice to make a berry first-class for table use, renders it too soft for shipping.

There is, however, a wide field open to experimenters, where there are, at present, very few at work, and where the reward of success is sure to be large. There has been but one new variety of currant offered for sale for many years that was of American origin, and that undoubtedly proved a bonanza to the disseminator. There is still great room for improvement in currants. What we *need* is a variety as productive as the Red Dutch, superior to, or even equalling, the White Dutch in flavor, and as large as the Cherry.

Gooseberries have been improved in England until their size has become enormous, their quality excellent, and their productions wonderful. Every one there who grows fruit at all has gooseberries. In this country they are very scarce, and we have no varieties that will compare favorably with those of England. Foreign varieties of gooseberries do not succeed in our hot, dry climate, yet in view of the fact that wild gooseberries are common throughout the United States, and that we have two or three cultivated varieties that can be grown successfully there is no excuse for the present state of affairs. It is simply neglected opportunities that has produced it.

While the raising of seedlings from our best native varieties will undoubtedly lead to great improvement, yet crossing them with some of the better English kinds seems to promise better results. Some have claimed that foreign gooseberries can be successfully grown in this country by training them to single stems, not allowing them to send out any branches until they reach a height of from twenty to thirty inches from the ground. Probably if grown in partial shade, and trained in this way, they would at least afford an opportunity for crossing with our native varieties. Before closing this article I wish to say a word about sending out new fruits.

The reason that so many highly puffed varieties of fruit drop from sight almost as suddenly as they appeared, is because they had only been tested in one locality. While they might possess great merit at home, yet on different soil and under different climate and cultivation they may prove to be utterly worthless. The only remedy for this is to send out plants to parties in other states to be tested. Yet this course is open objection. It is a sad fact that originators of new fruits have had their trusts betrayed, and found, when ready to offer their seedlings for sale, that others had larger stocks of plants for sale than *they* possessed. I see no way, as our laws now stand, to prevent this except by exercising great care in selecting the parties to test the new seedling. Still, if I had a new fruit to offer, I think that I should run the risk and have it thoroughly tested before sending it out to the public.

THE LAWSON PEAR.

By William Parry, Parry, New Jersey.

The original Lawson pear tree is now over one hundred years old, and still healthy, and grows in a cleft of rock in Ulster County, New York. The fruit of the Lawson was such a beautiful and early pear, that it soon had a great local popularity, and was highly esteemed in market, and the trees are now offered to the public by nurserymen, and will be widely distributed, and the public will find it one of the most beautiful and saleable pears ever introduced. The Lawson ripens with the little Doyenne d'Ete, but equaling in size and earlier than the Beurre Giffard and Chamber's pears. The tree is a vigorous, upright grower, with clean, healthy foliage, much resembling the Early Harvest and Jefferson pears in appearance and habit of growth. The trees are very healthy, and the original tree has never suffered from disease or blight, but is still vigorous in growth, and grafts cut in 1882 from the original tree are now making a rapid growth at the Pomona Nurseries, Burlington County, New Jersey. The young trees are very productive and early bearers. Fruit is large for an early pear, many measuring nine inches in circumference, firm, and a good shipper, most beautiful yellow, nearly covered with a rich crimson color; flesh crisp, juicy and pleasant, good, though not best in quality, and should be used before it gets over ripe, which is in central New York from the middle of July to the first of August. When grown farther south, where the climate is two or three weeks earlier, the pear will be valuable to plant for early shipment to New York markets, where it has already sold at from two to four dollars for a half-bushel basket, or at the rate of from ten to twenty dollars per barrel. The Lawson will always sell well on account of its exquisite beauty. It will prove one of the most valuable and salable early pears grown.

Now, unsolicited letters received within one month, showing public opinion among practical farmers to-day. Many others have been received, and all are appreciated by the hard-working editors.

"Send me the encyclopaedia, also your bright little monthly, the FARM AND GARDEN, with which I am well pleased." SAMUEL T. OPIE,
233 North Eighth Street, Philadelphia.

"I think the FARM AND GARDEN is the best in the country. I send you a club of thirty." NICHOLAS WEBER,
Evansville, Indiana.

"The parties like the sample copy very much, in consequence of their satisfaction shall be able to further increase your list of subscribers." B. G. PULLIAN,
Austin, Texas.

"I don't like to lose a number." MRS. MARY E. GROVER,
La Paz, Marshall County, Indiana.

"I was so well pleased the past year with the FARM AND GARDEN that I will not be without it." R. HUBBIOT,
Princeton, Indiana.

"I like your little paper very much, and consider its subscription price very low." WILLIAM M. NORRIS.

"I get my paper very regularly, for which I give many thanks." JOHN P. BROWN,
Lavender Hill, Baltimore County, Md.

"I like your paper." JOHN STEPHEN,
Lancaster, Erie Co., N. Y.

"I have been very much pleased with the FARM AND GARDEN." WM. H. TURNER,
No. 46 North First Street, Meriden, Conn.

"I have taken the FARM AND GARDEN one year, and like it very much. Please send it to me another year." G. W. NUSBAUM,
Tiffin, Seneca Co., N. Y.

"Send me a premium list. I have a club already to send for your *boss paper*." L. M. SHEPARD,
Temple, Maine.

"I received more benefit from my Adv. in FARM AND GARDEN than any other paper." G. A. BONNELL,
Waterloo, N. Y.

"Premium List (Jan. No.) just received is itself worth the subscription price of the paper for a year." C. A. PARKER,
Little Rock, Ark.

"We think we can't keep on the farm without the FARM AND GARDEN." G. H. GOODRICE,
McBride, Montcalm Co., Mich.

"January number of FARM AND GARDEN received last evening. I will give it to one of our best farmers, as I prize it. Will you please send me another copy?" GEORGE LASHER,
Mariaville, Schenectady, Co.

"I want always to be a subscriber to the FARM AND GARDEN." WILLIAM L. ESTLEE,
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"The best farmer's guide that was ever put through the press." J. R. HOW,
Macon City, Macon County, Mo.

"FARM AND GARDEN has given us much valuable information during the past year." MRS. M. D. E. HOLLINE,
Ogden City, Utah.

"The paper is worth double the money without any premium." E. T. OSBORN,
East Moseches, N. Y.

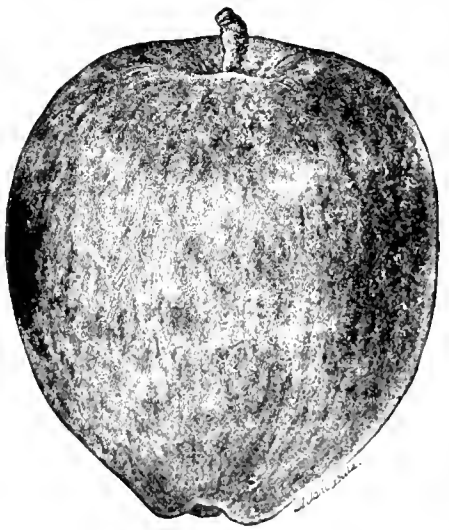
"I want to pay the full value of it, as I think it one of the best papers of the many I take." CHARLES W. PARKER,
142 Charles Street, Boston, Mass.

"It looks rather mean to send so little money for so good a paper. If you can stand it I guess we can," J. W. RIST,
Chicopee Falls, Mass.

ORCHARD AND SMALL FRUITS

COOPER'S MARKET *Also called Cooper's Redling, Ridgely, Redlings.*

A valuable New York apple which is also grown in Illinois and Michigan. It succeeds in loams and light soils and makes a valuable fruit. We give a cut of the shape and appearance of the



COOPER'S MARKET.

apple taken from nature. The apple is large, oblate conic to oblong conic in form, and usually grows to a sharp point at the blossom end, as shown in the cut. Color a rich yellow ground-work with beautiful dark and light red stripes. Flesh yellowish white, with a brisk, subacid flavor. The great peculiarity of this apple is that it grows better by keeping and will improve in flavor until May. Tree an upright grower with drooping branches, making a fine, roundish, conical-headed tree. A fair bearer, and very apt to bear on uneven years or when other apples fail. Size of apples, three inches in diameter or one half larger in size each way than given in the cut. Does not thrive in a wet soil.

PEACH YELLOWS

By L. H. Bailey, Jr., Cumberdge, Mass.

There are few things which are known in regard to peach yellows, although it must be admitted that most of the literature upon the subject is a compilation of ingenious guesses. The most important knowledge we have concerning the disease is this: Prompt eradication of the trees is the only known remedy.

Every year brings a new lot of remedies for the insidious disease, but upon trial all have so far failed I believe, unless it be those too recent to be yet thoroughly tested.

The revival of the soil-exhaustion hypothesis is one of the most recent developments of the yellows literature. Careful observers have pronounced dearth of potash to be a leading cause of the disease, and they have made the critical test of curing diseased trees by applications of potash fertilizers. Other good observers, especially in the older Eastern states, have made similar observations and experiments. Many other observers, equally critical, have stoutly denied the soil exhaustion supposition, and have found the potash remedies of no avail. Such denials come largely from the fruit regions of western Michigan, where soil exhaustion is preposterous.

It was my good fortune to be raised in that western fruit land, and a long acquaintance with the yellows there has led me to renounce at once all belief in soil exhaustion as the cause. Rich and virgin lands, rich in potash, grow diseased trees as often as do the older lands. In western New York, some parts of New Jersey, and in other sections, growers can never be brought to believe in this hypothesis. Still we cannot doubt the statements of the careful men who endorse it.

The solution of our perplexity is not so difficult as it at first appears. It is my impression that the yellows which has been so largely experimented upon in some parts of the east is not yellows at all, but a simple weakening or exhaustion of the tree. The descriptions of these yellows often apply very inaptly to the virulent disease which should bear the name yellows. There are numerous evidences in support of my statements. If each of the persons who have written upon the subject had owned the orchard that I once did, they would never fall into discussions as to whether or not the disease is contagious. They would have had a painful experience to prove its contagious character. Neither would they doubt as to whether the malady exists as a distinct and well-marked disease. That the true yellows is a well-defined disease, and that it is contagious, are other things which are known in regard to it.

The peach growers of Michigan have demonstrated the efficacy of prompt eradication of the trees as a remedy for yellows. In Berrien county the disease appeared years ago. The peach growers were ignorant concerning it. Instead of mistrusting a disease to be the cause of the appearance of the early speckled fruit, they supposed that they had a new variety of peach, and they began to propagate it. When finally they discovered that they had a wolf in sheep's clothing, they had no knowledge of how to prevent its ravages. They doctored and experimented, and finally were obliged to give up peach growing.

Twenty-five miles north, on the lake shore, the disease appeared a few years later. The people knew that it was coming, but it was in their midst before they were aware, and it was doing great damage. The fruit growers soon rallied, and began a most persistent warfare upon the disease. A Yellows Commission was appointed to examine every orchard at stated times, and mark all yellows trees. These trees were speedily destroyed. All the leading growers combined to demand the destruction of diseased trees, and through their efforts, combined with those of Secretary Garfield, of the State Horticultural Society, an effective law was passed which made the destruction of the trees compulsory, under penalty of fine and imprisonment. Thousands of trees were sacrificed. For a time it appeared as though all efforts were futile. In a couple of years, however, the disease was checked, and each year it is now decreasing. There was no playing with the disease, no experimenting, no dallying. The work was quick, thorough, and imperative.

APPLES: CHANGE OF VARIETIES BY SOIL AND CLIMATE. NO. 2.

By Ellwanger, Shiloh, N. J.

Continuing from last month I will further consider the effect of root grafting for soils unsuited to the variety. The facility with which such varieties as the Ben Davis strike root from the graft, when set as root grafts, in the nursery, is so great, that the original root will soon be discarded by the graft, which will make all the roots of its own. From this cause also the suckers that spring from the tree will produce the true Ben Davis, not because the graft has changed the original root, but because the new roots are Ben Davis, and will produce a Ben Davis tree, which will thrive in any soil a Ben Davis will.

Now take a tree of poor rooting disposition, like the Winesap, and graft that on a root the same as a Ben Davis, and you will find a poor rooted tree from the inability of the Winesap to make strong roots of its own. Top-graft the Winesap on a vigorous four-year-old seedling at a point near where the top is to be formed, you will have a tree with all the vigorous roots of the seedling, and one at home in your soil, and a good bearing, long-lived tree. While this may be true of the Winesap, yet were a Ben Davis root grafted, it might make a better tree than grafted upon a four-year-old seedling, for its own roots might be more vigorous and suitable to the soil than the seedling stock it might be grafted upon. The ideas I wish to convey of soil and stock I think must now be clear to the reader.

To make the matter, however, still clearer, I will take an apple like the Fameuse, which loves a limestone soil. Now in any limestone soil the Fameuse will thrive, but not on a cold clay soil as well, and would be better were it top-grafted on a variety well suited to cold clay soil. We know this statement will be disputed, but we are satisfied it agrees with the practical results of experiments, and is not a fancy of theorists.

Exposures should also have a leading control in selecting an orchard site. Where there are late spring frosts, plant on the North side of a hill to retard blooming, also plant the same side to protect from hot suns in the South. In the North-west look for shelter, and for a wind blowing from water will carry enough moisture with it to keep a tree from killing by the cold, dry winter winds, for dryness has as much to do with winter killing as the cold. Hence a situation on the South-west side of a lake will protect from a North-west wind, although the exposure may be North-west, while if planted at the North-west side of the lake, the same exposure would not be desirable, so the reader will see that the same must occur with other locations, and judgment is required to fix a locality. Some locations as a valley may be subject to late frosts—as the Hudson River Valley—and yet be valuable orchard sites, for the fogs of the Hudson will protect the blooms by keeping off the sun, the blossoms will not be injured. In another location where there are no fogs a valley would be ruinous.

Situations exempt from late frosts are usually found on a side hill, raised from twenty to fifty feet above a valley, for the air, as it chills, will settle in the valley below, and make a frost, while the side hill would escape. The reader has now before him the facts of the case upon which which all must form an individual opinion on a site that would meet the requirements, and the exposure that would be best for his special location. The question has long agitated the Mississippi Valley, "which is the better, high or low ground for orchards"? Leaving out the question of varieties, I will say that the high locations are much more liable to be dried by winds, and also the dews are lighter, and the volume of rain is perceptibly lighter on a hill, than one in a valley. Were it a question on dryness alone, we should at once say a valley, as being less subject to dry weather and the sweeping influence of dry winter winds; but on the other hand a warm, wet, and unusually late fall may ripen the wood on high land, which would fill the tree with water in the low land, and at the first sudden freeze would freeze the water between the bark and rupture it, and it would, in the following spring, fall from the tree and ruin the orchard. While such an accident as this might no occur for years, the low ground would be, until then, preferable. The principles which underlie the subject are universal, while the applications are special.

Please read fruit articles in every farm paper you receive. If you find any to equal this in pith and hard practical sense, please let us know. If you like our's best you can easily bring your neighbors to same opinion, and get us a club of 12. For this you will receive the Farm and Garden for three years free.

FRUIT NOTES.

Mr. Luper, of the Warsaw, Illinois, Horticultural Society, kinds, as we do, that it is better to trim apple trees later than February; also, has found, as we have also said, that wounds made by pruning in June heal soonest.

At a recent meeting of the Pennsylvania State Horticultural Society, Mr. Hillar, of Lancaster County, said cherries in that county grow best on a north-western slope, while those planted on an eastern slope, although only fifty yards distant, were a failure.

E. DeBell, of Sioux Falls, Iowa, writing to the *Dakota Farmer* says: "Were he to confine himself to two varieties of strawberries, he would select the Crescent seedling and the Charles Downing for hardiness and profit. The Wilson winter-kills with him.

Frozen apples can be restored easily by putting them in ice water—not well water for that is too warm, and allow them to thaw out slowly. If so treated they will be as fine as they were before being frozen. When apples are frozen in bulk, cover up well with blankets and allow no air to circulate in the room, and the apples usually thaw out with but a little injury. Rapid thawing ruins them.

The Chazie apple of Canada sometimes brings as much as $40 a barrel in London. In 1870 this famous variety was found growing wild on the farm of a man named Chazie, near Niagara Falls. The fruit has one muskmelon flavor.

The stock of fruit trees this year appears not to be very large, especially of peach trees. We would advise early orders, for fruit trees, as you will get the pick of the best trees if you order early, also the kind you want. The trees will be sent when you wish them. But order early.

Stones Hardy Blackberry is a very hardy berry for cold Wisconsin winters. The berries are small, but it is a prolific bearer and of great value where a hardy berry is required. Between the Snyder and Stone's Hardy, there is but little difference. Some deem the Stone a little less tart than the Snyder. Either of them are safe at forty degrees below zero, and are good varieties to plant.

B. H. M., of Edgefield, S. C., in the *Rural New Yorker*, says, that after fruiting the Kieffer pear two years, he finds the pear very beautiful, but in quality it is *utterly worthless*. He is very successful with the Le Conte. Wood ashes, from a half peck for a three year old, to one bushel for a twenty year old tree, is his specific for the blight, and has now been exempt five years. He also cultivates the orchard very little, only plowing it in spring.

Grape vines can now be pruned and the wounds will dry and prevent the bleeding sure to follow if the vines are pruned later. Grape vines will bear very severe pruning, and the grapes will be finer. For arbor pruning we would advise, where shade is wanted, to prune to long arms, and trim the arms close and train them where the shade is wanted. The growth will be vigorous and will soon cover the trellis and make an abundance of shade and a supply of fine fruit.

We want subscribers in every intelligent community as thick and close together as the pears in our illustration. If you will send us a club of 12 it will be a big start. This will entitle you to the Farm and Garden for three years free.

The Red June is apt to scab when planted far north. To some extent this is true of Michigan, but more so of Iowa. It is a good early fruit for the middle section of the country. The Red Astrachan, in extremely cold situations, does not fruit well; but it is one of the very best for any section, and very productive. The Pennock is very hardy, a good bearer, and a good winter apple, large, of fine red color; but is apt to have black spots, which are very bitter and sometimes ruin the fruit.

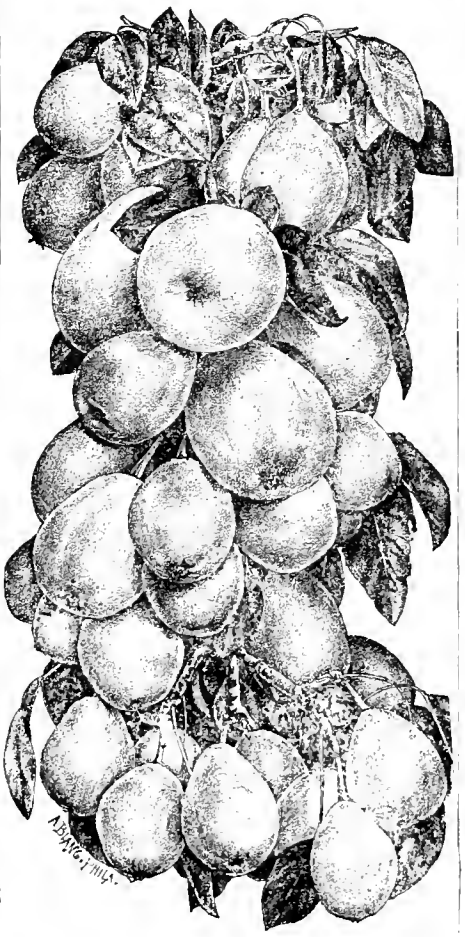
In the orchard but little can be done in the snow in the North, but in more favorable sections in the South, a great deal of pruning can be done. It does not pay to trim all varieties promiscuously and weaken the tree. In young orchards only a little of the wood need be taken out to let in light and air. Heavy bearing trees, if thinned too much are apt to break under the loads of fruit, which must be supported on a few limbs and are almost sure to break. We find many orchards are injured by severe pruning. But let no dead remain in any tree. Cut all branches closely.

You want to grow peaches, and you can do it too. You can set the yellows at defiance, and have luscious fruit. Remember, at the proper time THE FARM AND GARDEN *will tell you how to do it. That is what we print a paper for. We shall tell you, at the right time, how it can be done, and we know it.* THE FARM AND GARDEN *never takes the back seat.*

Peach orchards on gravelly or sandy soils, need for a fertilizer, lime, potash, soda and phosphates. These mineral manures are far better than stable manures. Put your stable manures broadcast, when the ground is frozen over your wheat, on top of snow if need be, and put your mineral fertilizer on your peach orchard and it will pay you to do so. Stable manure makes too luxuriant a growth in the tree and too long limbs, and they are apt to break easily. Mineral fertilizers make stubbed, short, strong limbs and a healthy tree and do not break easily. A liberal fertilizer for an orchard would be 300 pounds of any standard phosphate, or the same of bone dust or plain South Carolina dissolved rock, and 500 pounds of kainit, and 50 bushels of lime. This will cost, at the usual prices, not far from twelve dollars per acre, and will be superior to twelve loads of manure to the peach orchard. Spread broadcast, evenly, over the whole surface at any time. You may spread it now if you wish.

THE LE CONTE PEAR.

We give on next column cut of a bearing branch of the Le Conte pear very much reduced. The tree is such an enormous bearer that the pears cling to the branches much like plums, as will be seen by the cut we give. Of course no tree will bear so profusely as a single branch will, or in fact no tree could bear such an enormous weight, but the pear is wonderfully productive and hardy. The original tree stands in Liberty County, Georgia, and was sent there by Major Le Conte, from whom it takes its name, and is now over forty years old. It has borne large crops annually, with no off years. It belongs to the sand pear class of pears, and is like them a very vigorous grower. The pears are as large as the Bartlett, bell shape, and in quality not good, but sells well in market. This is the great pear for the South, where most pears are not successful. It will not be valuable north of the Carolinas, as the quality of the pear suffers from the want of a hot and a warm climate to fully ripen and improve it. The Le Conte is largely planted in Georgia and Mississippi for Northern markets, and with very profitable results.



THE LE CONTE PEAR.

THE PEAR BLIGHT.

T. V. Munson's answer to Chas. Ryley, of Tauranaka, New Zealand.

Owing to the miscarriage or delay of November number, I did not see Mr. Ryley's letter until now.

It does not matter much what the nature of the soil, the grassing of land planted to pear orchard would produce the same effect, cause early maturity of wood, and consequently passing the winter without freezing the young sappy shoots, as there would be none to freeze, while if cultivated late there would be, and thus weakening the vitality and making a hot-bed for bacteria blight when the warm weather comes again. As the pear naturally grows upon thin clay soils, and sends its roots very deeply into the earth, no fear need be entertained as to starvation by the grass.

The grass dies in winter and makes a nice thin mulch, keeps the soil porous, and in the early summer the pear takes advantage of this and makes a strong, rapid growth, which thoroughly matures long before autumn frosts come. With cultivation, a fall growth is almost certain to take place, which not only sets a bait for blight, but injures the fruit buds which have already formed.

I have produced just as heavy crops of as fine pears the second and third year trees had stood undisturbed in grass, as did the same trees when well cultivated, demonstrating that the pear was feeding from far below the surface. The cultivation causes a set of small surface roots to grow and give unusual stimulus for a short time, and at the expense of the deep roots.

For the best results in grass, I would, of course, choose deep, well-drained soil. The subsoil, particularly, should be of clay rich in lime and iron. The addition of ashes and salt occasionally, would doubtless be beneficial, as these elements readily dissolve and penetrate the earth and there act as chemical fluxions or solvents of other elements necessary to be freed from their stony embraces, for roots to lay hold on them more readily.

Pear trees, on own roots, bear in six to ten years, in cultivated lands, in grass, considerably sooner. On quince they bear in half the time.

Tying a strong cord about the body of the tree in spring, so as to cause the part above to swell out like a welt, will cause fruit buds to be developed sooner. The cord should be allowed to remain on only until fall, and a new one tied above the old place the next spring if the tree is still too vigorous, and has made no fruit buds. This has a similar effect to root pruning, and several other operations, such as girdling, cutting back in summer, &c., all of which injure the vitality of the tree, and should not long be continued. Grassing has a somewhat similar effect, but less injurious than any other, and a more natural way. Winter pruning, on the contrary, stimulates further wood growth and retards fruiting, but gives finer fruit of what you do get, so, if an orchard has become old and scraggy, plowing, manuring and winter pruning will cause it to renew itself with young wood. But I did not intend to write a book on orchard management.

As to the true "Fire Blight" in New Zealand, I hardly think it will flourish there, as the climatic conditions are adverse to the growth and development of such bacteria, just as is California under the influence of ocean breezes, only still more so. I would take it to be a great pear climate, if the soil will suit.

Mr. Ryley's "Root Fungus" seems to act very much as a "Root Rot" we have here. This has been traced to insufficient drainage, land which remains water-logged for some time after very rainy weather, the young fibers *drown* and then the result, *rot* gets the blame. The "Rot" is only the vulture eating a dead carcass. Drain the land and keep the roots alive.

If you have only one fruit tree, read our Orchard Department. Its editor has grown fruit for thirty years, and very successfully, too. He writes about fruit because he knows about it. Nothing wrong in this, is there?

ROSE—WILLIAM FRANCIS BENNETT.

of this rose. Its color is a beautiful glowing crimson, probably a shade lighter than our favorite Gen. Jacqueminot, although many specimens have shown themselves fully as dark as this rose. In fragrance it disputes the prominent place so long held by La France; but this quality speaks for itself. I have never seen a plant so quick to respond to judicious pruning, nor indeed, have I seen one better entitled to the term "ever-blooming," than this. To quote from an English paper, "The William Francis Bennett is the most persistent of winter bloomers. As with Wellington's soldiers at Waterloo; when one bud is cut off, another quickly takes its place." I have seen no tendency whatever to mildew. In two houses filled with these plants, I have seen no sign of it. Its growth is remarkably vigorous, and its foliage resembles greatly that of roses of the Hybrid Remontant class. In Europe, this rose has taken premiums and first class certificates wherever exhibited. Since its arrival in this country, it has been awarded a premium and a certificate at two flower shows in New York."

An English paper says: "Mr. Bennett's Pedigree Roses, if not appreciated at their full worth in this country, appear to be elsewhere. It is stated that an enterprising Philadelphia plant merchant, Mr. Evans, has bought half the stock of the Crimson Tea Rose,—William Francis Bennett—for $3500, and has legally bound himself not to sell, or otherwise dispose of any bud, cutting, or scion, but only the flowers for a term of four years. The rose has made its mark in Covent Garden and other markets, many thousands of its bloom buds having been sold at highly remunerative prices, it being one of the most persistent winter bloomers."

It will interest our readers to know that this famous rose will be on the market ready to be delivered May the 1st, of this year, instead of 1887. Mr. Evans having made arrangements to that effect, by buying, we are told, the whole of the originator's stock. The immense amount of money invested in it will necessarily make the price high at first, and we sincerely hope Mr. Evans will be well repaid for his enterprise.

To illustrate the high value placed on this rose by florists, we would say that $500 was offered for one dozen cuttings, and only a short while ago we heard a prominent rose grower say that he would gladly give $100 for a single cutting. Such a rose must be worth having, and we are glad to hear that several of our advertisers are cataloguing it.

No floral paper in this country gives better cuts or more interesting description of new plants. If you value this, please send us a club of 12 subscribers, and you will get the Farm and Garden 3 years free.

OUR FLOWER GARDEN.

Many readers say we give too much for the money. Well, that's good. Better too much than too little. Send us as large clubs as you please: we will say very good, but never say too many.

THE WILLIAM FRANCIS BENNETT ROSE.

This celebrated rose was produced by Mr. Henry Bennett, the successful "Pedigree Rose Grower," at his nurseries at Shipperton, Walton-on-the-Thames, London, England.

Mr. Bennett hybridizes roses on strictly scientific principles, and has given us a number of fine results. He has, however, produced no rose which has given him the same satisfaction as this William Francis Bennett. It is really a marvel among roses. Mr. C. E. Evans, writes to the *Gardeners' Monthly*: "During a long correspondence with Mr. Bennett, prior to the purchase of this rose, I felt that probably his praises might be overdrawn; that, being a plant of his own creation, he might possibly regard it as a foolishly indulgent father would a favorite child. During my visit to Mr. Bennett's greenhouses last summer, however, I quickly saw that in no way had the description surpassed the true merits of the rose.

"It is the custom of Mr. Bennett to remove his plants from the greenhouse in the spring and place them in frames in the open air. It was my privilege and delight to see them at six o'clock in the morning, previous to any cuttings having been made, and truly, a more beautiful sight had never met my eyes. Hundreds of glowing crimson buds, backed by the beautiful green foliage for which the plant is so noted, glistening with dew and illuminated by the rays of the early morning sun, made a picture to gladden the eyes, and one long to be remembered. Do you wonder that I longed to transport this beautiful rose to our own land?

"Where can you find a country more appreciative of the beautiful than our own? Rose lovers are so plentiful with us, and so ardent in their devotion to this queen of flowers, that I foresaw the treat I should have in disseminating a new to them, so worthy of their admiration, and rose my expectations have been fully realized."

"I would like to tell you of the peculiar merits of this rose. Its color is a beautiful glowing crimson, probably a shade lighter than our favorite Gen. Jacqueminot, although many specimens have shown themselves fully as dark as this rose. In fragrance it disputes the prominent place so long held by La France; but this quality speaks for itself. I have never seen a plant so quick to respond to judicious pruning, nor indeed, have I seen one better entitled to the term "ever-blooming," than this. To quote from an English paper, "The William Francis Bennett is the most persistent of winter bloomers. As with Wellington's soldiers at Waterloo; when one bud is cut off, another quickly takes its place." I have seen no tendency whatever to mildew. In two houses filled with these plants, I have seen no sign of it. Its growth is remarkably vigorous, and its foliage resembles greatly that of roses of the Hybrid Remontant class. In Europe, this rose has taken premiums and first class certificates wherever exhibited. Since its arrival in this country, it has been awarded a premium and a certificate at two flower shows in New York."

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To illustrate the high value placed on this rose by florists, we would say that $500 was offered for one dozen cuttings, and only a short while ago we heard a prominent rose grower say that he would gladly give $100 for a single cutting. Such a rose must be worth having, and we are glad to hear that several of our advertisers are cataloguing it.

NEW POINSETTIAS.

Since the introduction of the double Poinsettia (*Pl. poissoni*) there has been, until lately, no new addition to the varieties, except the white bracted form. Some new varieties, showing a variation in color in the bracts, from the original kind, have now been raised and acquired by Mr. B. S. Williams, in whose nurseries they may now be seen flowering side by side. These differ in no respect from the type, except in color, which in Igniscens is brilliant carmine rose; in Brilliantissima, a vivid scarlet of a shade different from the common, while that named Mirabilis, has the upper bracts scarlet and the lower half scarlet and mottled with green. Tastefully arranged with ferns and other elegant foliage plants, these Poinsettias, together with the white bracted variety are capable of producing beautiful effects. They have also the advantage of remaining a very long time in bloom. We believe it a wrong plan to start them early in the season. The writer had several plants that last season had been set in a dark cellar and were

overlooked until towards the end of August; they were then brought up, a few straggling roots removed, and placed in the greenhouse, where they at once began to grow, and without any stimulants whatever they flowered in November and are still in bloom.

The fact that the Royal Botanical Society of England has considered the subject of suitable boxes for transmitting flowers by post of sufficient importance for the deliberation of a special committee, is an indication that some means have been taken to remedy what has long been a standing complaint among those who send and receive flowers through the mails. That a suitable vehicle for transmitting flowers and fruit by post has been a desideratum is an established fact, as the rough usage to which fragile boxes are subjected by post office stampers, will testify. The society alluded to have come to the conclusion that a tin box is best; they have awarded a prize to a firm who manufacture tin boxes for the purpose, measuring 15 x 9 x 6 inches, and sell them at the rate of $1.87 per dozen. The boxes are said to be provided with elastic straps for keeping in position damp moss, in which the stalks of the flowers are inserted. By this plan, flowers may be kept as fresh as gathered for a couple of days or longer. Although these boxes are made to hold about two pounds of cut flowers, we think they could be made for less money in this country.

Please send us a club of 12 subscribers, and for it receive the Farm and Garden free for 3 years.

General Work in the Garden.

Though at this season of the year there is little or no work of a pressing character to be done, it should be remembered that a busy time is coming; prospectively, therefore, every operation that can now be performed, should be done, by way of relieving the pressure of duties in spring. Trenching, digging and draining, can, of course, be done whenever the weather is open, and so can the planting of shrubs and trees, in all but the most unsuitable of soils, and when such work as this, through stress of weather has to be postponed, there is in the flower garden, the mending of fences and walks, the digging of gravel, manures, soils. Not to mention the clearing out of shrubberies, lopping off irregular and dead branches from trees, clipping hedges and trimming into form all shrubs that are required to develop evenness in outline. Only by thus seeking out, as it were, all such jobs, and doing them at this comparatively leisure period of the year, can we hope to keep pace with the work at the busy season. The preservation of neatness by rolling and sweeping both turf and walks, is about the only routine duty at the present time; but on the due performance of which, it need hardly be added, depends so much the real enjoyment of a garden. Get, as soon as possible, some manure prepared, ready to be applied to the flower beds and borders, as soon as spring flowering plants and bulbs are removed. There will be plenty to do in preparing stands, boxes and hanging-baskets, which can readily be made at home, if economy is an object. They may be repainted and varnished, stowing them away when dry, where they can be kept free from dust. Labels may be made and painted if required in large numbers, otherwise, they may as well be bought, as they cost but about thirty cents per hundred. Sticks may also be prepared of various thicknesses; paint them green, and then dry them, and tie them up in bundles ready for use. If you intend to have some climbers, you can readily make some wire trellises for them to grow on. There are various ways in which they can be made. About one of the easiest is to bore holes, six inches apart, through a one inch square stick, of the desired length, and pass galvanized wire through these holes in snake form. Another good way is to take three or four flower stakes of the same height, and bore holes through them with a gimlet the same size as your wire, at, say, eight inches apart, beginning about two inches from the upper end of each stake. Then take a piece of wire forty inches long, and pass it through each upper hole of the four stakes and arrange them in a circle, fastening the ends of the wire together by a twist. The wire to be inserted in the second series of holes, should be about thirty-four or thirty-six inches long, and for the third and fourth, still less, so that the circles or hoops of wire will be smaller below than above.

This will make a good, substantial, portable trellis for Clematis, Honeysuckle and Cypress vines, and other climbers. This same arrangement, made of stouter wire and of larger diameter, makes a capital support for Paeonies, Dahlias, etc., if set right over the plants and the branches fastened to it.

By the way, all fastening of plants to stakes, etc., should be done with thin galvanized or copper wire.

THREE GEMS FROM MEXICO.

By John Thorpe, Queens, N. Y.

Bessera Elegans, Milla Biflora, and Cyclobothra Flava.

It seems so strange to know how many beautiful plants are to be found in Mexico, and yet so few adorn our gardens. There are scores of handsome flowering plants that would succeed as well in our summers as do the scarlet and blue Salvias, the Dahlias—double and single, and Ageratums, that are all Mexican plants. We trust now that such direct communication is established between the United States and Mexico, we shall have the pleasure of seeing many of its floral treasures.

The gems we now describe are comparatively new to cultivators, but have been known to a few for a number of years, and are all Mexicans. Bessera Elegans is mentioned by Paxton as early as 1839, and what astonishes us is that it has not been grown by the thousand. The plant is bulbous, the leaves are from 18 inches to 2 feet long, slender and graceful; the flower spikes are from 20 to 30 inches long, according to the size of bulb and vigor of plant. The flowers hang pendant, like so many scarlet bells, each of which is lined and striped with creamy white inside; the stamens are of a purple blue. The combination is at once striking and effective beyond description. We have counted 50 flowers and buds on one stem, and have had strong bulbs produce 5 and 7 spikes.

Milla Biflora is another elegant plant with graceful, slender, grass-like leaves growing very much as does the Bessera. The flowers are borne mostly in pairs, but sometimes only singly. Then again, we have frequently seen 3 flowers, on one occasion, a stem with 4 flowers. They are star-shaped, about two inches in diameter, of the purest alabaster white. The petals are thick and leathery in texture, sweet scented, lasting for days in water after being cut. Flowering twice or three times from strong bulbs each season.

Cyclobothra Flava, is of the richest golden yellow. The flowers are drooping and cup-shaped. The inside of each flower is furnished with numerous dark-brown hairs, giving a very peculiar and marked expression difficult to describe, and resembling some of the Calochorti, of California. It grows very freely, and is one of the most unique little plants we know.

The cultivation of each and all is of the most simple description. Given a *sunny* position, a rich soil, and planted about the 1st of May not more than three inches deep and not less than two inches, they are certain to flower. They require to be taken up after flowering as soon as the foliage decays and stored in a *dry* cellar or closet where the temperature is kept at about fifty degrees, or they may be planted in pots about the middle of June, plunged out of doors, and brought into the greenhouse or window before frost to flower during November and December.

The very truthful illustration so beautifully executed by Mr. Blanc, gives a very correct idea of each, and of which we are very proud.

You will need the Farm and Garden *in the spring, when you begin to garden, and all the year, and cannot afford to be without it. It costs but little, and is worth ten times its cost to every reader. Don't fail to send for it. The sooner the better.*

Live Stock.

While grain is cheap and meat dear, feed the grain and sell meat. When grain is dear sell grain. Talk as little of hard times as possible. Business will be dull, and grain low, as long as people stop work, and lament hard times. Come, let us cheer up, and push ahead.

LEAKS IN THE STABLE.

By W. D. Boynton, Appleton, Wis.

No man who calls himself a farmer, or who makes any pretensions to thrift and good management, would long endure a leaky roof over his stables. He could not rest easy at nights thinking that his stock was exposed, and that he was suffering a loss in consequence. His economical mind would be burdened with self-reproaches until those leaks were stopped, and his stock again put into thriving condition. For his humane and economical action in this respect all honor is due.

Now how many so called thrifty, economical farmers who would not, on any account, suffer a leaky roof to abide on their premises, take steps toward stopping those other leaks about the stable that are no less important than those of the roof? As far as my observation goes, not one farmer in a thousand worries about the leaks, without number, that are in his stable *floor*. Certainly not one farmer in a thousand attempts to stop such leaks. Tons and tons of valuable liquid fertilizers are annually allowed to go to waste through these leaks alone. Not only is the urine, which contains a large proportion of that valuable ingredient of plant-food—ammonia—suffered to flow off unhindered, but in its course it washes along much of the solid excrement. Probably there is no one element that is so generally lacking in our soils as nitrogen. And why? Simply because we allow it to go to waste. It cannot be held as other ingredients, such as potash, and the acids are held in the solid portions of the manure. These solid excrements will hold a certain portion of this valuable element, but they cannot hold their own, to say nothing of that coming from the liquid excrements.

Absorbents! Absorbents! That is what we must have in this emergency. Nothing will take the place of the absorbent. We may run the liquid manure through gutters into tanks, but even then we lose a large portion of the ammonia, unless absorbents are immediately supplied, which is not often done.

It has been estimated, and I think truly, that a ton of liquid manure, with its washings from the solid, is worth more than a ton of the solid excrements. It will certainly pay the farmer to go to considerable trouble to catch and hold this, and thus double the value of his manure product, and upon which all other products depend.

To do this thoroughly, the absorbents must be applied daily in the stable, and daily removed to be replaced by fresh. This will take some extra work, but what does not? The labor of gathering or preparing the material for such absorbents will be considerable, and it will take quite a few minutes every day to scatter it over the floor, and to remove the same. Dry muck or earth is no doubt the best material for the purpose, as it absorbs freely, and retains tenaciously. But if a supply of this has not been provided in the fall, chopped straw, chaff, or any such material will go far toward stopping the leaks. A lean-to shed should open off every stable; and this should be well filled with material for absorbents each fall.

One of our subscribers says in his letter "he does not see how we can publish so good a paper for so little money." He says "he can stand it if we can." We can stand it, let them come.

QUALITY DEPENDS UPON THE FEED.

The quality of the carcass depends upon the kind of feed given to animals which are fatted for the market; which fact has been determined by repeated experiments for that purpose. Some substances used for feeding will fatten more readily than others, while certain foods will give a *quality* of fat and lean that cannot be derived through any other method. The custom of feeding pea meal and oil cake is a growing one, and gives excellent results in enabling the animals to take on fat, but the carcasses of those fed in that manner have not compared favorably with steers and hogs fed upon corn and corn meal as an additional ration. We lately inspected thirty carcasses of the best steers in the country, they hanging side by side, and it required no expert to easily select the corn-fed animals from the others, as the hard, solid fat was in striking contrast with the soft blubber of those of the animals which had been deprived of corn. If, however, stockmen are to rely solely upon corn, it deprives them of the valuable assistance of other foods, but we think such difficulty may be avoided by first feeding them up to the proper condition desired, using corn alone during the latter portion of the time of fattening. This rule is well known to those who feed hogs, the corn being reserved for the final process.

THE HORSE IN WINTER.

That a horse which is idle should not be supplied with a full allowance of grain is an impression that has prevailed for a long time, but on cold, stormy days the necessity for keeping up the animal heat is very great. A blanket does not create warmth, but retains it. The heat must come from the food, and unless it be rich and concentrated the horse will shiver with cold, even under a heavy blanket. While it is, perhaps, not necessary to feed grain three times a day while hay is given plentifully, yet a mess of corn meal and ground oats morning and night will prevent many disorders and diseases peculiar to winter, as the strength and vigor being retained the system can warm off the attacks of colds and lung affections. Grain is cheaper than medicine and tonics, and the horse that passes through the winter in good condition will be better prepared for work when spring opens. Every opportunity that opens for working them with sleighs, or in drawing wood, or other necessary work, should be used to advantage, and such labor should be shared among them all. A good box stall, warm, and well littered, will enable the horses to exercise somewhat while in the stables, and mares with colts at their sides should never be confined in close stalls, if box stalls can be provided.

FEED FROSTED CORN TO THE PIGS.

The frost has done but little damage the past season to corn, but there were some fields overtaken by it that had been delayed in growth by drought, and, although such corn possesses but little commercial value, yet, it can be rendered serviceable for hogs. Much frosted corn is wasted by turning the hogs into the field. In the winter season it will be more economical to separate the ears from the stalks and throw it where the hogs can have free access to it, leaving the fields of stalks to be picked over by the cows. Frosted corn is not very good feeding for anything, but, like other damaged food, can be put to service, provided something better is fed with it. Corn fodder that has been frosted, may be placed in the barnyard, if preferred, to be trampled into manure, but sheep and cattle will always find a little to collect from it, while the corn, if placed where the pigs can work at it without difficulty, will assist partially in saving more valuable material. It pays to gather the crops from fields that have been damaged, if for no other purpose than throwing it in the barnyard, and as the work can be done during the cold season, it saves the labor of cleaning the field in the spring.

YOUNG LAMBS.

Young lambs will come in this month, but if they are dropped in the field, the chances are that one out of three will be lost. Every ewe should be confined, it expected to come in, with a few others, so as not to crowd them, and the food should be ground oats and hay. No corn is necessary, as milk fever may occur, but warm quarters and plenty of fine bedding are absolute indispensibles. The first hour of a lamb's existence is the time to give it the most attention. If kept warm and not allowed to chill it will soon be able to take good care of itself without assistance from its owners.

LINSEED MEAL FOR STOCK.

Nothing is so good for a rough coat as the use of linseed meal, or oil-cake, at this season. It cannot be supplied by cottonseed meal, as the effects on the bowels of the two substances are entirely different. When dry hay and other provender is used, linseed meal assists in regulating the bowels as a partial cathartic, and should therefore be used sparingly at first, beginning with one gill a day the first week, and gradually increasing to a pint, which is sufficient if grain is allowed; cottonseed meal is nourishing also, but gives better effect when fed in connection with linseed meal. If either operates too freely as a medicine, reduce the quantity used. It should not be fed to young stock of any kind.

STOCK NOTES.

CHURNING.—About 62 degrees is the proper temperature, but as the milk may cool somewhat during the operation, commence at a temperature of 64. If this is not done the churning will require several hours, whereas, by the use of a thermometer, and keeping the milk at the proper temperature, the work may be done in a quarter of an hour. C

THE BLOCK TEST.—At the Chicago fat stock show, the carcass that produced the largest proportion of tallow was awarded the prize, but those who witnessed the display of beef are not favorable to such methods of making awards. The *quality* should be considered, while the steer that dressed the largest percentage of marketable beef should have been the victor, as it is in that direction the production of beef is tending.

Twelve new subscribers are wanted from you. Write their names on blank enclosed and send them to us.

PIGS IN COLD STORMS.—The supposition that a pig can endure as much cold as a horse or cow is an error. It may be noticed that on very cold days the pigs will remain huddled together very close, and will often refuse food rather than leave their beds. When such is the case, it is an indication that their quarters are not as comfortable as they should be, and too much soft bedding cannot be allowed them. In the morning they should have a warm mess, and a liberal sprinkling of ashes or dirt over the floors will be found of assistance in absorbing moisture.

ENSILAGE.—Whatever objections may be urged against ensilage by some, a visit to those farms upon which it is fed during the cold weather, when nothing but the dry provender can be had, will convince any one that even if the ensilage was not all that is claimed for it, the change from dry to succulent matter is gratefully accepted by the stock. It is admitted that ensilage is a valuable acquisition, but, like everything else, its quality depends upon its preparation, and the manner in which it has been preserved. Interior ensilage, like inferior hay, will not give satisfaction.

WEIGHT OF SHEEP.—At several western fairs, Oxforddown rams were exhibited weighing 300 pounds for yearlings and 420 pounds for two year olds. Admitting that they attain only one-half those weights with farmers, it requires but a short calculation to demonstrate that if our farmers will give as much attention to the production of mutton as they do to the growing of wool, using the proper breeds for that purpose, sheep will pay a handsome profit. We know of a flock of Oxfords that have never received an ounce of grain, and yet, are fat enough for market, the weights ranging from 150 to 250 pounds, and they also produce a fair proportion of medium wool, which more than pays for their keep.

USING IMPROVED BULLS.—Can steers be produced from native cows, by the use of improved bulls, that will equal the weights of pure bred steers, from the first cross? This question was an open one, but at the late fat stock show the heaviest and largest animal on exhibition was a cross of a Shorthorn bull with a native cow. In every case the grades from Hereford bulls and native cows possessed the characteristics of the sires, not excepting the white face. The grades competed successfully in every case with the thoroughbreds, receiving many of the most valuable premiums. If our stockmen here in the East, who fatten stock for market, would use improved bulls, and keep their calves instead of selling them at an early age, the raising of all calves dropped would pay well.

We would thank our readers to name to us in Our section some one who would act as agent or canvass for the FARM AND GARDEN. *We intend to get the largest circulation of any farm paper published. Will you help us? We shall make a special effort to increase our already large circulation, and our friends are doing nobly for us. Continue the good work you are doing, and send us all the new names you can.*

The Poultry Yard.

EGG FOOD AND CONDITION POWDERS.

Those who manufacture egg foods and condition powders simply take advantage of their knowledge of the fact that farmers and others do not feed their hens on a variety of food, or, rather, that even when the fowls are liberally fed a deficiency exists of some element, which, though apparently insignificant, may be the turning point between profit and loss. Hence, knowing that lime is required for the shell, they use ground bone (phosphate of lime), and ground oyster shells, or chalk (carbonate of lime), the latter being added for its lime alone, and the former for both lime and phosphoric acid. As but few persons allow salt to poultry, that substance is also added, and also iron in the shape of copperas (sulphate of iron), or chloride or carbonate of iron. The albumen (white) of the egg is provided for in the shape of ground meat, dried blood, linseed meal, and shipstuff, which is rich in gluten. The yolk the farmer himself supplies with corn, and it is usually left out by the manufacturers. Then a few ingredients are added as tonics, such as ginger, linseed, and fenugreek, the latter substance being cheap and excellent. There is no condition powder or egg food to *make* hens lay. The effect is to supply some particular want which the farmer omits, and they are compounded so as to be effectual, for the reason that all the wants are anticipated, and therefore, if several are useless, the others will be just what is desired. When purchased great virtues are ascribed to them, while really some article used as an ingredient (ground bone, for instance), which may be bought for from three to five cents per pound, may be the active agent which gives such good results. As we have repeatedly given formulas for condition powders and egg foods, our readers may make their own at a low cost.

[*This article on egg food will easily save you the price of the paper for three years. Please go to work and get us a club of 12, and we will give you the paper for three years free. Do this quick, and oblige* —Eds.]

MARKETING EGGS AND FOWLS IN WINTER.

Should eggs be sent to market without being surrounded by some substance as a packing they will freeze and burst the shells should they be overtaken by a sudden change in the weather from warm to severe cold. Oats are excellent for this purpose, as they serve to retain an even temperature during fluctuations from moderate cold to extremes. For certain markets, such as Philadelphia, the fowls are dry picked, undrawn, and retain the head and legs. After picking them they are plunged in cold water, there to remain for an hour or two, which gives them a plump, smooth appearance. For some cities, however, the fowls are picked by scalding, and drawn, which is much the cleaner method, but large numbers are shipped alive and in coops. Should they be shipped alive be careful not to cover them, as much loss occurs to them from such source, they not being allowed to eat or drink, owing to the competition of numbers, while the coop becomes very filthy, which freezes the feet, and the fowls are in poor condition when sold. A coop of excellent birds may be sent to market but owing to being crowded, and proper precautions not being observed for their comfort, they may not realize the best prices to be obtained. During this season, instead of shipping to the large cities, good markets will be found in the small towns, which, being nearer the source of supply, enables the shipper to save in freight whatever difference there may be in prices

OPEN SHEDS FOR POULTRY.

Although a good warm poultry-house is one-half the management, yet hens prefer a shed, open to the South on one side, to closed quarters during the day, though preferring the closed quarters at night. As yards covered with snow are almost useless during the winter season, it will be found of great advantage to have an open shed, which serves the purpose of a covered yard, thereby protecting the hens from dampness and exposure to winds. It also serves as shade in summer. A building 10 feet wide and 16 feet long may be so arranged as to have a coop at one end 6 x 10, leaving the remaining space 10 x 10 for the fowls to dust and scratch in. The feed, water, and dust-bath may be under the shed, and if some kind of litter, such as cut straw, chaff, saw-dust, or even dry dirt, be placed over the floor, and the hens compelled to scratch in the litter for their grain food, they will keep in good health and lay well. At night, when in the closed portion, they will be but the warmer, as the shed will partially protect from winds, and the enjoyment of the open air without exposure will be found much more favorable to them than being enclosed entirely.

HEATING A POULTRY HOUSE.

A cheap method of heating a poultry house is to use an ordinary stove,—a small cheap one will answer,—and place an iron coil inside of it, one end of the coil to be riveted near the bottom, opening outside, while the upper end of the coil should be riveted in the same manner near the top. Gas pipe may be attached to the upper end of the coil, and the pipe made long enough to reach to any portion of the poultry house. The cold air will enter the coil at the bottom opening, become heated inside the coil and emerge from the pipe attached to the upper end of the coil. If intended to heat more than one apartment, the pipe leading through the poultry house may be punctured at different places for the hot air to escape at points desired. It is not claimed that such an arrangement will thoroughly heat the quarters, but as a temperature above the freezing point is all that is required, it will be found a cheap and easy method of warming the houses.

LEGHORNS AS WINTER LAYERS.

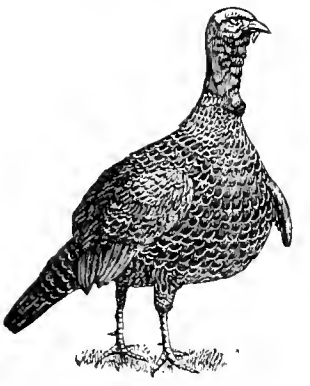
It is admitted by all that the Leghorns are the best layers of any of the breeds of fowls, but the main objections to them are small size, large combs, and susceptibility to injury from extreme cold. So accustomed are some to the supposition that "Leghorns lay well when eggs are cheap, but are useless as winter layers," that few have taken the trouble upon themselves to be satisfied on that point.

In order to give the Leghorns a fair opportunity of redeeming themselves from such unjust charges, we have tried several experiments, beginning last winter and continued this season, the tests for the previous year, however, being made at our suggestion by an experienced poultry man. The objection to the size of the Leghorns is out of place, so far as egg production is concerned, it being of no consequence whether a good laying hen be large or small, but the advantage, however, of cost of keep is in favor of the small hen. Up to the age of six weeks no perceptible difference was noticed in the weight of Leghorn broilers as compared with those of larger breeds, while the difference in weight, at the age of eight weeks, between a Leghorn broiler and a Brahma broiler was only one ounce, both being treated alike and fed on the same food.

A flock of twenty white Leghorn hens were selected for trial as winter layers. They were provided with warm quarters, fed on food of the best quality, and all the conditions for favorable results complied with. A dust bath, scratching heap, pure water, gravel, ground bone, oyster shells, and protection from cold were furnished them, while the houses were kept in the cleanest and best possible order. During January the average number of eggs from each hen was 22; during February, 21; during March, 19; and during April, 23. As the Leghorns are non-sitters, there was no disposition on their part to sit, and they continued to lay until May, when the production ceased for a few weeks for recuperation. The weather opening fine, they were given perfect liberty, and continued to lay until they moulted in the fall.

The present season different conditions have been observed, one flock of ten being allowed the privilege of a yard facing the *north*, (which is very unfavorable), and another flock confined in a house 10 x 10 feet, which is slightly warmed with a single steam pipe. The frequent visits of the first flock to the yards have resulted in their combs becoming frozen, and they show no disposition to lay, while those confined are laying, but up to this period sufficient time has not elapsed to give them a record. At one portion of the season the temperature recorded twenty degrees below zero, outside, though the temperature inside was forty degrees above, owing to the artificial heat.

The experiments will be further conducted hereafter by dubbing a flock. The comb of the Leghorn is the greatest obstacle to winter laying, and yet, strange to say, the breeders who make the standard for Leghorns devote 28 points out of a possible 100 to the comb and wattles, while in fact, the comb should be sacrificed for utility. The experiments have demonstrated that under favorable conditions the Leghorns make good winter layers, and considering that they lay a large number of eggs while so engaged, it will pay at winter prices to furnish those conditions.



Bronze Turkey.
Bred by T. Walter & Son, West Chester, Pa.

POULTRY SCRATCHINGS.

One dozen eggs now bring 38 cents in Philadelphia market. One dozen subscribers (at 25 cents each) will bring you the Farm and Garden three years. Is it worth the labor?

Hatching This Month.—Do not attempt the hatching of such chicks as Polish, Dorking, Black Spanish, Hamburgs or Houdans this month. The best breeds *now* are Cochins, Brahmas, Plymouth Rocks, Langhans and Wyandottes.

Leave out discussions about feather markings and rulings at poultry shows, and the Farm and Garden contains more actual poultry matter than any poultry paper costing $1.25 a year. Measure the type and see.

Indications of Roup.—Should roup occur the fowls will breathe hoarsely, a discharge flows from the nostrils, and an intolerable odor will be noticed in the poultry house. Inject the nostrils with a few drops of a solution made by mixing a teaspoonful of carbolic acid to one quart of water, and allow a few drops to be swallowed. Feed on nutritious soft food, giving each fowl a spoonful of castor oil in the food, at night, but only once. Every morning, until the fowl are better, repeat the injection, and give a pill made of three drops coal oil, two drops tincture of iron, and five drops paregoric, mixed with bread.

Poultrymen and every one interested in the subject will be glad to know that this month we have extended the limits of this department to page 16.

Every one who thinks the poultry page as it done, please send a club of 12 and get the paper without the trouble of renewing it for 3 years.

THE HOUSEHOLD.

SPRING IS COMING.

Mrs J. E. McC.

It used to be an old saying among farmer's folks,

"On Candlemas' day
Half your fuel and half you hay."

But the 2d of February hardly seems mid-winter with us. We hope it will not require as much fuel and hay until spring, as it has since cold weather set in. Blustery March is always welcomed, though so rough itself, for it gives promise of brighter days just at hand.

Now is a good time for every house mother who can, "to take an account of stock" for the opening season. I know that most of those with little children about their feet, will say "I have hardly finished getting ready for winter." But never mind that, if the children still are all in the homenest, in fair health and comfort, you have reason to rejoice above many thousands of mothers in our land.

Perhaps a larger number of last year's suits than usual will do duty again this spring; but it is hardly worth sighing over. One excellent rule to make things come out even when the income is cut short, is to cut short the wants. We must learn to pass through the public markets with the feelings of the old philosopher who looked about him from side to side and said: "How many things there are here that I do not want."

If a dress is to be made over, we can study up the possibilities of it better now than in the hurrying spring time. If you must wear it, make the very best you can of it. No doubt you will be surprised at the results. A good material will bear much severe treatment in the way of taking apart, sponging and turning, and a skillful needle-woman and a good sewing machine can make "a thing of beauty" out of a much frayed article. There is a satisfaction about a success of this sort that does not pertain to a fine new garment; just as there is a hidden wealth in well-earned possessions, that never comes down with inherited fortunes.

A friend with a large family said to me, "We often make up a great many garments in the winter evenings, to be worn in the spring and summer." She had grown daughters to help her, and by her good management the children were always seasonably and comfortably clad, though their garments were plain and substantial. It is a great comfort to have even one good suit throughout, for each child, all in readiness against a change of weather, and good management can often accomplish this with but little outlay.

Stockings are always a serious question where there are many little feet to cover. In the old days of home knitting it was comparatively easy, for few came into the darning basket the first season. Instead of much darning, I prefer to knit new heels and toes to even fine stockings, where they are worth the trouble. The greatest difficulty used to be to take up the stitches. Now I make a row of button-hole stitches with darning cotton where I wish to cut off the heels, and then take up the loops and knit them with the same cotton. If you choose to use woolen yarn it will be still warmer.

Made-over stockings answer very well for the little ones when neatly fitting, and this is easy to accomplish if you will cut up an old one for a pattern. It is a very cheering sight to any mother to see a good row of these needfuls laid away in a drawer, in good order, waiting for warm weather. So is a pile of good gingham aprons, and a row of print dresses on the closet wall. Not in your day or mine, shall we ever see prints and cambries at so low a price; and it is worth much pinching and calculating to lay by a goodly stock of both these and of muslin, bleached and unbleached. Spare the table a while and let the money go into the wardrobe. Doubtless, you will have less spring "malaria" in consequence, and a very cheering supply of dry goods.

It is surprising how far a little money will go now-a-days in supplying many of the common wants of a household. The main problem with most, seems to be to get "the little money."

If you wish to know about anything, ask the "Farm and Garden." It is your paper and we want you to profit by it. We want to make it useful to all

FOOD HOBBIES.

By Olive.

If we believed all the food reports that are put afloat in the papers, I fear we should be obliged to starve, for fear of eating something hurtful. Tomatoes were found out to be deadly, a few years ago; an English nobleman will not rent a foot of ground to be planted in the pestiferous potato; cucumbers have always been rated a little less than strichnine in poisonous properties, and so on through the list of edibles on which people have lived and thrived since Noah's day.

Volumes have been written against "pie," in all its phases. But here comes one who tells us that Mr. Emerson ate it all his life, even at breakfast, and never had dyspepsia. Yet, there is Mr. Carlyle subsisting on good oat meal, coarse flour, and all such healthful kinds of diet, tortured with dyspepsia, and torturing everybody else who came near him, unless their feelings were ironclad. Maybe if had tried Mr. Emerson's way of living, he might have caught some of his gentle, lovable traits, instead of living the bear he was, ready, as Lowell says, "to call down fire from heaven whenever he cannot readily lay his hands on the match-box."

I have always felt skeptical about oats, except for horses, and since I learn that Carlyle used it, I feel more than ever opposed to it. I have a friend who is always made dyspeptic by corn bread or mush, while others find it very healthful.

It would be better for the health of the world if we could abolish the food hobby so universal. If each would sensibly settle on what is good for him, without reference to other people, it would be a great advantage. What cannot be eaten without bad effects in earlier life, is often just the food that does the most good in later years.

Every housekeeper and her daughter can have the Farm and Garden for 3 years free by sending a club of 12 subscribers at 25 cents each. Get the sewing circle to join.

THE HIVE OF WISDOM.

By Lou.

A few more weeks for the boys and girls to store up knowledge in the long winter evenings. Even one of these quiet hours each evening, if well improved, will make a good showing when summer comes. It will be pleasant too, to remember; for you may lay up much "goodly and pleasant riches" in this world, but you will never treasure up any thing more precious than pleasant memories.

It seems a small matter, this reading a few pages every day in some solid, profitable book; but that is the way the wisest minds have been built up.

"The little bee roved for an hour or more,
From blossom to blossoms to gather his store,
'I was a wee bit here and a wee bit there,
Till his load was weary as he could bear.
The blossoms they withered and passed away,
But the hive grew fuller of sweet each day.

So it is with our diligent reading boys and girls,

"'Tis a wee bit there and a wee bit here
But the hive of wisdom grows fuller each year."

BROOMS AND BROOM CORN

By Aaron Garrison.

While sojourning in France I had frequent occasion to notice the brooms in use there for floors and carpets. The broom corn of which these were made was exceedingly coarse, being unlike any I had seen at home. The broom was nearly as long as the handle, and was of the clumsiest construction. It was really a labor to wield one. The broom of the United States, compared with these, shows a long series of intellectual development on the idea of a broom existing in the normal state, as yet in the French brain. Our coarsest brooms made for pavement use are very dainty, fragile things, apparently, to the broom we used for carpet sweeping in Nice, and no other kind could be had.

On conversing with a maker of brooms, since my return, I am informed that most of the broom corn is brought from the West, that the coarsest is made into what are called tavern brooms, and the rest into carpet or house brooms. Another maker had been told to take a cargo of his brooms to France, and he could make a fortune.

There is not the general use of carpet in France that there is in the United States, yet there many places that must be nicely swept, where a broom would be more efficient than a brush, and it would be well to try the effect of our nicely made brooms. The French broom corn might be introduced here, and be used for street sweeping, for which it would answer much better than the switch brooms, or splint brushes used in Philadelphia and Baltimore.

A small broom or whisk is made in France which, for some purposes, is more convenient than the wisk used here. The handle is about a foot long, and the wisk part about four inches in length, and set around the handle like the bris. tles in a paint brush. These are used for washing sinks and other purposes, for which the long handle is convenient.

Brooms are improving in quality and variety. It is possible to get a light, fine broom for carpet sweeping, though there is still room for a finer quality of broom corn, and finer brooms for fine carpets which are now swept with stiff brushes. There might be all grades of quality, as well as of size, the very coarse being used for scrubbing pavements alone.

We get very many letters from subscribers to send the "Farm and Garden" "till forbid," which we believe will be a long time; hence we are sorry we cannot comply. We only send the paper for the time we agree to, so do not fail to renew.

In the month of December of last year, one night while milking our pet Jersey two-year-old heifer, a neighbor who had just moved into the place came in. While discussing the merits of different breeds, we remarked that we could take a quart of milk and show an inch of cream. He did not tell us we lied but his countenance spoke it plainly. In a day or two his Guernseys were driven in, not having convenience to set his milk, he brought it to our house. I asked my wife to set some of the milk in a common tumbler. She did so, filling the tumblers just two inches from the bottom. To our great surprise, when the cream had risen, just one quarter of the contents was nice, solid cream. We showed the glass and contents to Mr. Lee and his face showed as much surprise as it did unbelief before. He seemed to think it impossible. Now the object of this communication is to make the inquiry—how much or what part of a first-class cow's milk should be cream, suppose the milk to be set in a common quart measure or quart glass jar?

J. J. REED,

January, 1885. *Hannibal Centre, Oswego Co., N. Y.*

ODDS AND ENDS.

Three years include 36 months. We send this paper for 36 months to every one who will send us a club of 12 yearly subscribers at 25 cents each.

A HELPFUL BOY.

A twelve-year old boy, of Farmington, Maine, did all the work of a house for his sick mother for five weeks, taking care of three little children, all mere babies. He made butter, pies, biscuit, and cooked meals for a party of threshers at work in the barn. His name was Willie Radcliffe, and he has made it a name to be proud of.

RAPID MANUFACTURE.

Many years ago the late Sir John Throckmorton sat down to dinner dressed in a coat which had belonged to a sheep in the morning. The animal, or rather animals, one black and one white, had been sheared, the wool washed, carded, spun, and woven; the cloth was scoured, fulled, sheared, and dressed, and then by the tailor's art made into a coat between sunrise and the hour of seven, when a party sat down to dinner with Sir John as their chairman, wearing the product of the active day.

THE MISSING "G."

The child that begins to talk by using such words as goin', seein', eatin'; that goes through the primary and grammar schools cypherin' and parsin', and is occupied in the high school composin' and translatin', will wake up some day to find himself a slave to a habit of speech which will subject him to a sensation of inferiority whenever he is among cultivated people. If he tries to pick up a "g" and put it in the right place once, he forgets it in the next, and the whole language seems full of these participal endings. At two years old it is as easy to say going as goin', but when the latter has been used for twenty years it is hard to break the habit. Parents are responsible for this slipshod pronunciation, and they alone can prevent it.

Josh Billings says he will never purchase lottery tickets so long as he can hire a man to rob him at reasonable wages.

When Benjamin Franklin was first Postmaster-General of these colonies, he set out in an old gig to make an official inspection of all the principal routes. A small folio, containing about three quires of paper served as his account book for two years.

Mr. Beecher was once asked at a pic-nic "why he did not dance?" "There is but one reason," he replied, "I don't know how. All the dancing I ever did was when my father furnished the music, and used me for the fiddle. I took all the steps then."

Your State has not its share of subscribers to this paper. Please do not let it be behind. Notice our offer on page 1.

A lady of New York, with more leisure and money than good common sense, sailed for Paris to consult a celebrated dog-doctor about her poodle's health. He is sixteen years old, and has a bad cough. She is very anxious that he shall live until he is twenty-five. He is as ugly as a dingy door-mat.

Governor Morgan was a farmer's boy, and this is what he says to other working boys: "There is not an individual in the country who began earlier, worked harder, and had fewer advantages, prior to the age of seventeen, and if I have obtained any measure of success in life, it is owing to the habits inculcated, discipline practiced, and lessons learned on my father's farm.

"What plant we in this apple tree?
Fruits that shall redden in sunny June
And redden in the August noon,
And drop when gentle airs come by
That fans the blue September sky,
While children come with cries of glee,
And seek them where the fragrant grass
Betrays their bed to all that pass,
At the foot of the apple tree."

—BRYANT.

A Pennsylvania farmer once observed a large bird fly up from a lonely place in the rocks, and going to the spot he discovered a nest with two large eggs, resembling turkeys eggs. He took them home and placed them under a setting hen. In process of time they were hatched, and what was his surprise to find that he owned two young eagles. The hen mother was also surprised, and fluttered about so wildly that she trampled one to death. The other grew and thrived, but whether it has yet carried off its foster mother we are not informed.

Good Isaac Hopper, when he met a boy with soiled hands and face, was wont to ask him "if he ever studied chemistry.

Of course he was answered "no," with a wondering stare.

"Well then I'll teach thee how to perform a chemical experiment. Go home, take a piece of soap and put it in water, and rub it briskly on thy hands and face. Thou hast no idea what a beautiful froth it will make, and how much whiter thy skin will be. That is a chemical experiment. I advise thee to try it."

It is an excellent one for all boys and girls to try daily, once or twice at least.

A LITERARY CURIOSITY.

The following rather curious piece of composition was recently placed upon the blackboard at a teachers' institute, and a prize of a Webster's Dictionary offered to any person who could read it and pronounce every word correctly. The book was not carried off, however, as twelve was the lowest number of mistakes in pronunciation made:

"A sacrilegious son of Belial, who suffered from bronchitis, having exhausted his finances, in order to make good the deficit, resolved to ally himself to a comedy, lenient, and docile young lady of the Malay or Caucasian race. He accordingly purchased a calliope and a coral necklace of a chameleon hue, and securing a suite of rooms at a principal hotel, he engaged the head waiter as his coadjutor. He then dispatched a letter of the most unexceptional caligraphy extant, inviting the young lady to a matinee. She revolted at the idea, refused to consider herself sacrifizable to his desires, and sent a polite note of refusal, on receiving which he procured a carbine and bowie knife, said that he would not now forge fetters hymeneal with the queen, went to an isolated spot, severed his jugular vein, and discharged the contents of his carbine into his abdomen. The debris was removed by the coroner."

Mistakes were made in the following words, of which we give the pronunciation as near as possible to be given according to Webster. Syllables in italic are the accented ones. This list will be valuable for reference.—F. & G.

Sacrilegious (Sacri*leg*ious); Belial (*Be*lial); Bronchitis (Bron*kī*tis); Exhausted (Egz*haus*ted); Finances (Fi*nan*ses); Deficit (*De*ficit); Comely (*Kum*ly); Lenient (*Le*nient); Docile (*Dos*ile); Malay (Mah*lay*); Calliope (Cal*lī*copee); Chameleon (Ka*mee*leon); Suite (*Sweet*); Coajutor (Co*ea-jootor*); Caligraphy (Ca*lig*rafy); Matinee (Match*eeny*); Sacrafizable (Sac*refizeable*); Carbine (*Car*bein); Hymeneal (*Hy*meneeal); Isolated (*Isso*lated); Jugular (*Jeu*guler); Debris (Day*bree*).

A gentleman once observed a horse in New York, standing just behind a cart loaded with branches of lilac sprays, put down his head again and again, as if smelling them. He did not attempt to eat them, but seemed to enjoy their fragrance. Perhaps it brought up the memory of brighter days.

TRUE BENEVOLENCE.—A gentleman gave a large sum to a solicitor for some benevolent enterprise, and when the gratified agent thanked him warmly, he remarked, "perhaps you would like to have it published in the papers." "To be sure I would," he replied. "What do you suppose I gave it for?

They are not all that way. Henry F. Durant, who founded Wellesly College, would not allow a tablet with his name on it, or a picture of himself, placed on the wall. He would not even have one of the college buildings named after him.

AN ODD WITNESS.—Dogs have sometimes been brought into court to "testify," which they did in a very convincing way. There is no bribing a dog to perjure himself. But a hen is a rather uncommon witness. A man proposed to prove that his neighbor had stolen his hen by the bird herself. She was brought into the court room to the no small amusement of those present, which was not diminished when her owner said: "Annie, sing for corn." Whereupon, Annie struck up a song, as well as she knew how, and was soon handed over to her owner, amidst peals of laughter. The kind hearted judge thought she might perhaps have "strayed over" to the premises of the other man, so he was acquitted.

We earnestly hope that you will think enough of this paper to send us a club. If you have already done so we thank you, and trust you can find still a few more.

VOL. IV., NO. VI.

CONTENTS OF THIS NUMBER.

EDITORIAL COMMENT.

We shall issue a large edition of our April number, which will be specially devoted to strawberries and strawberry culture. We believe all our old subscribers will like the April number, and we also know our new subscribers will. We shall tell all about how to grow berries, how to pick, ship, and sell. The kinds to plant, varieties, sort of soil suitable for berries. How to prolong the berry season for six weeks, with large and fine berries. Best fertilizers, and how to apply them. How to mulch, and how it affects berries. Strawberry rust and diseases. Strawberry insects and how to fight them. Whether to set berries in hills or matted rows. Facts about strawberries. We believe the April number will be as we intend to make it, very popular and valuable. We shall make the berry number practical, and as usual, to the point; not filled with chaff, as is now too common to see in some farm journals. In a word, we shall make the berry number worth to any one more than a full year's subscription. Order early. Send us clubs as fast as possible, so you will not miss a single number. We are increasing our circulation so fast that we cannot supply back numbers.

February. The days have grown in length, and the farmer's cares in number and importance. The long evenings of December and January have not been spent in vain. The careful husbandman has harvested his *annual crop of knowledge* and stored it safely in his memory for future use. His plans are well matured and ready for speedy execution when the time comes. He knows now exactly *what to plant and where to plant it.*

He looks up his seed corn, sorts and tests it.

He carefully cleans his seed grain, as spring wheat, oats, barley, etc., and puts it safely away.

If his neighbor has better seed grain than he himself, he buys what he needs and draws it at once, while the work is less crowding.

He makes out a list of the trees, grape vines, strawberry and raspberry and other small fruit plants which he intends to set out, and orders them without delay, and directly from the nearest reliable nurseryman.

He makes up his mind to have a better garden than ever before. [The readers of THE FARM AND GARDEN do not compel their hard working wives to get along without vegetables, unless they raise them themselves].

He examines his stock of garden seeds, keeps what is good and reliable and throws away what is poor; and what he has to buy, he orders at once.

He makes and saves all the manure he can.

He inspects his tools and implements, wagons, harnesses, &c., and repairs and mends where needed.

He takes good care of his stock, and sees to it, that horses and cows are well sheltered, fed well, curried well and in proper condition, the former for a good spring's work, and the latter for a good flow of milk.

He engages his hired help in good season. There is choice now, later he would have to take what is left.

He has ready (or will have soon), a full year's supply of stove wood, split and corded up under shelter.

He tries to interest his children in his plans for the coming season.

Also, to lighten his wife's burden by helping her in the house, particularly on churning and washing days.

The *Farm Journal* this month says of the farmer: They try to make 'goin' to meeting atone for selling fifty-nine pounds of wheat on a Saturday, for a bushel; or stuffing the centre of the barrel with wormy apples, in the middle of the week." THE FARM AND GARDEN does not believe anything of the kind of the farmer. We believe no class of men are more honest than the farmers, or will give more honest weight; and we also believe that they are not the hypocrites to make the church atone for the imputed dishonesty the *Farm Journal* alleges. We know of no class who are as square dealers as the farmers, and we say it, and can prove it, too, that the farmer does not pack wormy apples in the middle of the barrel; but the agent who buys the apples from the farmer and packs them himself usually does it, and the farmer gets the credit of it. The farmers may be careless, but they are honest. That is what THE FARM AND GARDEN says, and we believe it, too.

We have entered upon an era of exceedingly low prices. But if the farmer has to sell cheaply, he can buy cheaply. Thousands of workingmen are out of employment, and some times they and their families do not know where the next meal is to come from, while the farmer has plenty of wheat, corn, potatoes, pork, and lots of other things. He can live without pinching himself, live comfortably and in hopes of better times. Less fortunately situated is the farmer who is deeply in debt. The capitalist takes his six or more per cent whether produce is high or low. The luckless brother will find it necessary to calculate closer than ever before, curtail expenses and make every thing count.

We do not advise a farmer with unencumbered property to shut himself up like a ground hog on account of "hard times." The general tendency of farmers to avoid every expense not strictly necessary, so as to be able to hold their wheat and other produce for a rise, is one of the foremost causes of "hard times." When wheat—high or low—goes out of the farmer's hands, and money comes in, he begins to buy and thus sets the wheels of business in motion again. The impetus must come from or through the farmer.

We hardly expect to see wheat much higher right away. If you have a chance to sell at the present market price, you will not gain much by holding.

Perhaps you need a new wagon, a new harness, or your family a new supply of clothes, *buy now* while *everything is dog cheap.* Your land may need ditching, your buildings repairing; ditch and repair *now*, while labor is plenty.

Every dollar expended in that way, helps towards furnishing labor to the unemployed and bread to the suffering.

What this paper needs is more of its friends to act as agents. You think enough of it to take it, and you have influence enough to induce others to do so. We wish you to make the effort. it will be easy for you and of great service to us.

There are about eight millions of people engaged in agricultural pursuits in this great country; yet, all the agricultural weeklies and monthlies, issue less than two million copies in the aggregate. This shows that over six millions of farmers and "farm hands," either do not read agricultural matter at all, or depend for their information on the agricultural column of their political weekly.

Here we see one cause of the low average yield of all cereals; want of knowledge and information and lack of desire to obtain it.

The cheap monthlies must be the pioneers and missionaries. Here is a wide field and plenty of work for them. THE FARM AND GARDEN, for one, should enter many of those farm households now found without wholesome agricultural reading.

Will not our friends and present subscribers do a little missionary work among their neighbors? Introduce THE FARM AND GARDEN; make the old man subscribe. We will show him how to raise larger crops, do better in future, and live more comfortably hereafter.

It is our aim to be useful to you, but do not forget that we can give you a better paper with 150,000 subscribers than with half that number.

Here are some more popular errors and pet notions. The intelligent reader does not believe that wood ashes or lime mixed with hen manure (or other stable dung), adds to its value, unless plaster or muck is largely added also.

That something is apt to turn up, unless you turn it up yourself.

That the value of a farm depends entirely on the number of acres.

That orchard trees need no manuring.

That it is more profitable to buy and plant old large trees, than young, small, but thrifty ones.

That a strawberry which cost $2.00 per dozen for plants, is always better than one costing 50 cents per hundred.

That fancy, patented, high-priced bee-hives are essential to success, or in the least better than plain movable comb-hives.

That self-regulating incubators need no attention, or at least but little.

That hens will lay eggs in cold weather, when the roof leaks and wind and snow blow through the cracks of the building.

That poultry is the most profitable stock when left to shift for themselves.

That you save money by setting your hens late in the season, because eggs are cheap then.

That it is right to forbid your children playing checkers or other harmless games, *occasionally*, forgetting the old saying;

"All work and no play
Makes Jack a dull boy."

That the country is going to smash, because a Democrat will occupy the White House after 4th of March.

Enforcing the oleomargerine law of New York, proceeds very unsatisfactorily, says the *Farm and Home*, (Springfield, Mass.). We are not among those farmers who had justly hoped to be "benefitted by this law," nor do we wonder at the outcome, which we have predicted as early as July last.

But the law has done what our cunning legislators intended it should, it has appeased the anger of the butter producer, that is all. The oleomargarine men are not hurt. At the present time, farmers can hardly complain of the butter prices. They are scarcely as low, proportionately, as other things.

On the other hand, and in consideration of the general dullness, and with thousands of working men unable to buy butter at present prices, the propriety of even the attempt to deprive them of a cheaper substitute, may well be questioned.

The laws should be such as to enforce cleanliness in the manufacture and honesty in the sale of butter substitutes.

Have you harvested your ice crop? If not, do not fail to embrace the next opportunity. Get the ice when and where you can. The colder and therefore more solid, the better, of course; *but it's ice you want, anyway*, no matter if our friend of the *Farm Journal* does say, that it's temperature you want, not simply ice. A few degrees, more or less, in the own temperature of the ice, are insignificant in comparison with the quantity of heat swallowed up in the melting process. Not the temperature of the ice, but its change from the solid to the liquid form, drawing heat away from the surroundings, is what makes it so pleasantly cool, or freezes the ice cream in summer. Our intelligent readers know it, and they know, too, that "*it's ice they want.*"

It is hard to make an old, poor, worn-out seedling apple tree bear improved fruit; a single bud or scion inserted into a young thrifty one, will give us such a result in a few years.

Reforms are more easily brought about through the cultivation and education of the coming generation than by preaching to the present one.

Temperance Apostles and Sunday School organizations are well aware that the future of our country belongs to those who control the children and the schools. And they act accordingly, and properly so, too. Parents, also, should not lose sight of that truth..

As proof that plants, if well packed in moss, can be mailed safely over large distances, even during our warm and dry summers, friend Wm. E. Reed, of this State, told us that he mailed on July 11th, 1884, to some parties in California, a number of Hydrangeas, Roses, Begonias and Lantanas, which reached their destination on the 23d of the same month, were planted there and grew right along, not showing the least ill effects of the long voyage. The incident speaks well for Mr. Reed's method of packing, (moss and strawboard tubes), and likewise for Uncle Sam's mailing facilities.

To do away with the disadvantages of both the commission plan of distributing seed among country merchants and absolute sales, Messrs. D. Landreth & Sons, have this year announced a new method. Merchants who avail themselves of it, are allowed to burn, at the close of season, all papers of seed not sold, and Landreths will furnish them the same number of dated packets of new seed the following season. It would seem as though this is a good scheme for the buyer, the merchant and the seedsman.

You want a dozen or two of early pullets, so as to have them commence laying next fall. This month is the time to set one or more hens. Early pullets will pay you well for all the trouble of raising them.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of THE FARM AND GARDEN, *even though he takes no other paper can feel in a measure acquainted with all the leading publications.*

From "Cultivator and Country Gentleman," Albany, N. Y.

WINTER TREATMENT OF MILCH COWS.

The aim in the treatment of milch cows in winter, should be to continue the conditions of summer as nearly as possible. This requires comfortable quarters, not only against the inclemency of the weather, but in all else that relates to the well-being of the cow—such as warm stables, but not too warm; ventilation to control temperature and admit fresh air, but not directly on the animals; floor well littered with fine vegetable material, to absorb fluids and odors, aided by plaster, thus securing a clean, dry, soft bed to lie and stand on; cardling; plenty of good water, conveniently obtained; occasional out-door airing and exercise, without rash exposure to cold and wet, getting as much sunlight as possible, and avoiding great changes of temperature; kind treatment, making the cow feel at home.

Give food to meet her requirements. If in calf, let the nitrogenous element be well represented and let the feed be largely of a succulent character, to keep in line with the summer diet, such as roots or ensilage, with early-cut clover, well cured. Feed early and late, and a few times during the day, keeping the cow mostly employed with slight feeds between the two principal rations, the night serving for the rest. Begin the winter feed early, in order to avoid exposure to inclement weather, and to realize a late fall and early winter harvest of butter, for which a superior price is obtained.

Just here is a good place to recall the experiment of Professor Shelton, of Kansas Agricultural College, with his ten steers. During the ten days ending December 29th last, they gained an average of 31.1 pounds each, when well protected from the weather. During the next ten days they were kept in an open shed with an attached yard, and gained 6.6 pounds. The same quantity and kind of feed was consumed in each period. During the first ten days the weather was mild and sunny, the next ten days it was extremely cold.

We believe in square dealing, so do you. We work to make your farm pay you and help you all we can. Will you not help us? We want the paper you take, THE FARM AND GARDEN, *to have the largest circulation of any paper in the world. Help us by getting up a club of subscribers as large as you can, and we will remember you.*

CONDITION POWDER.

In answer to an inquiry for a condition powder costing about five cents a pound, the St. Louis *Druggist* replies as follows:—

A great many of the condition powders in the market are composed chiefly of oil cake, and, though not injurious to the stock, they are sold at too high a price for a food of the kind.

The following formula is of a powder that we have sold for several years. It always gave satisfaction, and can be made at about the price mentioned, if manufactured in large quantities:—

Powdered fenugreek,	10 oz.
Powdered pot. bitartrate,	10 "
Powdered black antimony,	10 "
Powdered sulphur,	10 "
Powdered pot. nitrate,	10 "
Powdered gentian,	10 "
Powdered ginger,	10 "
Powdered resin,	10 "
Powdered capsicum,	4 dr.

Mix and run through a drug mill. The dose is one tablespoonful twice a day. Keep in a tight can or box.

From "Canadian Horticulturist," St. Catherines, Ont

HARDY ROSES.

The following list of the best hardy roses as continuous bloomers, for out-door culture, and of the best hardy roses adapted to general cultivation, is recommended by the committee appointed by the Massachusetts Horticultural Society to prepare the same.

Continuous Bloomers—Alfred Colomb, Annie Wood, Boieldieu, Caroline de Sansal, Fisher Holmes, Francois Michelon, Gen. Jacqueminot, Marie Baumann, Mme. Victor Verdier, Mons. E. Y. Teas, Pierre Notting, Rev. J. B. M. Camm, Xavier Olibo, *Charles Darwin, *Countess of Oxford *Dr. Sewell, *Marguerite de St. Amande, *President Theirs.

The last five (marked with stars) are fine, constant bloomers, but liable to mildew.

Hardy Roses for general cultivation—Alfred Colomb, Anna de Diesbach, Annie Wood, Baron de Bonstetten, Baroness Rothschild, Charles Lefevre, Duke of Edinburgh, Etienne Levet, Fisher Holmes, Francois Michelon, Gen. Jacqueminot, John Hopper, Jules Margottin, La Rosiere, Marie Baumann, Marquise de Castellane, Maurice Bernardin, Mme. Gabriel Luizet, Mme. Hippolyte Jamain, Mme. Victor Verdier, Mons E. Y. Teas, Paul Neyron, Rev. J. P. M. Camm, Thomas Mills, *Louis Van Houtte, *Mlle. Marie Rady, *Pierre Notting.

The last three (marked with stars) are difficult and uncertain, but so remarkably fine that the committee could not refrain from mentioning them.

JOHN B. MOORE, *Chairman of Committe.*

From "Rural New Yorker," New York.

CROSS FERTILIZATION.

Judge Parry planted some Bartlett pear trees under taller standard Kieffers, so that the pollen from the latter might drop on the pistils of the Bartletts. The Judge took this rather uncertain method of raising hybrid seed. But this year he was startled to observe that some of the Bartlett pears in size and shape and time of ripening were Kieffers, while in flavor, quality and color they were Bartletts. Now wasn't it strange that these pears should have the good qualities of both parents? They were big, like Kieffers, with the delicate flavor and flesh quality of Bartletts. If they had kept down to Bartlett size with the vile taste of the Kieffers—that is, if they had only been a meaner Kieffer instead of an improved Bartlett, it would have shown what a dangerous thing this cross fertilization might be. In the same paper, *The Rural New Yorker*, another correspondent shows a picture of the shape Early Strawberry apples can assume when the branches of the apple tree grow toward the branches of a pear tree. The apple is fashioned like a Bartlett pear, and the writer thought it had a "trifle of the Bartlett flavor." Now that the belief in the immediate influence of pollen on strawberries has become fashionable, believers can see, and taste, and smell a great many resemblances that were never before dreamed of. Brethren, go slow.

From Cincinnati "Lancet and Critic."

ROUGH HANDLING OF CHILDREN

The causes of joint diseases in childhood are frequently obscure, but this much is certain, that the rough handling which children receive at the hands of ignorant parents or careless nurses has much to do with the matter. Stand on any street corner and notice how children are handled. Here comes a lady with a three-year-old girl; she is walking twice as fast as she should, and the child is over-exerting itself to keep pace; every time the child lags the mother gives it a sudden and unexpected lurch which is enough to throw its shoulder out, to say nothing of bruising the delicate structures of the joints; a gutter is reached; instead of giving the little toddler time to get over in its own way, or properly lifting it the mother raises it from the ground by one hand, its whole weight depending from one upper extremity, and with a swing which twists the child's body as far around as the joints will permit, it is landed, after a course of four or five feet through the air on the other side.

Here is a girl twelve years old with a baby of a year in her arms. The babe sits on the girl's arm without support to its back. This would be a hard enough position to maintain were the girl standing still, but she is walking rapidly, and the little one has to gather the entire strength of its muscular system to adapt itself to its changing bases of support, to say nothing of adjusting its little body to sudden leaps and darts on the part of its wayward nurse. Sometimes during a sudden advance you will see a part of the babe a foot in advance of its head and trunk, which have to be brought up by a powerful and sudden action of the muscles of the trunk and neck.

Probably not one child in one hundred is properly handled.

The names of new subscribers come rolling in. Let them come. Our old subscribers like to see our family of readers grow. We thank them for this. We are glad you feel so well toward us.

NEW AND STALE.

The famous Leipsic Physician, Professor Recalm, in a late number of the *Gesundheit*, has ventured to say a good word in behalf of newly-baked bread. The majority of the old people, dyspeptics and hypochondriacs, he observes, say that they can only eat stale bread; they find new bread too indigestible. The virtue, he tells them, is not in the staleness of the bread, but in the care and thoroughness with which they are compelled to masticate it, on account of its hardness. The tongue not only deceives the human race in speaking, says the learned physician, but is a great deceiver in eating. As soon as the tongue perceives that any morsel in our mouth is soft and yielding, we are persuaded that it may be safely swallowed. No time nor labor is spent in its mastication. Hence so many people declare that sauer kraut, soft cakes, *pate de fois gras*, eel, and other favorite delicacies of the Teuton, do not agree with them. The Professor declares that none of these are actually indigestible in themselves. As with new bread, it is the ease with which they are swallowed which makes them indigestible.

Stale bread and hard biscuit, on the other hand, are not of themselves inherently so very digestible; but they give the eater so much trouble to soften them, that they are not swallowed until they have been reduced into a fit condition for that process. Hence the stomach has not that trouble with them which it almost invariably has with the softer and more delicate food which has never received more than two or three turns with the teeth. Rapid eating and insufficient chewing are the two worst foes of the majority of dyspeptics and hypochondriacs, says our authority, and he advises such persons to transfer to their own carelessness and idleness nine-tenths of the blame which they are in the habit of laying upon their food or upon their cook.

The Ohio *Farmer* says:—"N. Ohmer, who cultivates more Gregg raspberries than any man we know of, pinches off the plant first year when eight to ten inches long; every year after that he pinches back the tips when the shoots are twenty-one inches to two feet high; then in the spring he cuts back the lateral branches with pruning shears, leaving them one or two feet long, according to the number and strength of cane. By this method he says he never has any trouble about breaking down, and his soil is as rich as any soil need be."

I. H. Bailey in the "American Cultivator."

Apples probably keep longer when picked before they are ripe, but such apples never possess the rich flavor and the crispness of fully-matured fruit. Sound apples do not decay until they are over-ripe. An acetous fermentation follows the period of ripeness—the period of the greatest development of saccharine matter. Immature fruit ripens slowly during winter, and does not soon reach the period of decay. It never ripens fully, however, and it is, therefore, always inferior. It withers and becomes tough. While mature fruit will decay sooner than immature fruit, it is nevertheless much more preferable. Long-keeping qualities are certainly inferior to good eating qualities. Any treatment which retards the over ripening of mature fruit in a cold place is the best ordinary preventive of decay. Fruits which are over-ripe when harvested have already entered upon the period of decomposition, and they cannot be expected to keep long. Therefore, avoid the extremes.

Mr. Ohmer, of the Montgomery County (Ohio) Horticultural Society, says it has been ascertained at the Columbus Experiment Station that the temperature three inches above the ground in a strawberry bed mulched with straw is four degrees lower than in one not mulched, thus rendering it possible for every bud in bloom in a mulched bed to be killed during a frosty night, while in an adjoining bed not mulched they might escape.

We intend to publish the BEST *and* CHEAPEST PAPER *in the United States, and one the farmers will have every time.*

From "Prairie Farmer."

STRAWBERRIES IN SOUTHERN ILLINOIS.

Last year the favorite strawberries at Anna, in Southern Illinois, were the Sucker State and Crescent planted together. The same is true at Cobden. From these two points larger shipments are made of strawberries than from any other in this State. Growers at Makanda, in this section, said the Phelps was the best berry they had, but they also planted largely of Wilson and Downing. The Sharpless, Monarch, Bidwell, Ironclad, Crystal City, and other varieties were grown to some extent. This year we learn that blight or rust has struck all save the Sucker State, Crescent and Bidwell. J. B. Miller, of Anna, writes to the *Fruit Grower*, at that place, that Wilson, Sharpless and Monarch are all gone, and the Phelps and James badly damaged. J. W. Fuller, says Manchester, Ironclad and Crystal City are ruined but the Bidwell looks well, the Sucker State is uninjured and the Crescent never looked better, the two last being full of berries.

From "Michigan Farmer," Detroit

THE DOLL INDUSTRY OF GERMANY.

It requires almost consummate skill to make these toys. Each workman has models at home, and buys materials for manufacture. The skeleton is constructed out of lime and plaster of Paris, and the eyes, nose, mouth and ears cut with a knife. The figure being ready is dipped in hot wax and dried. It then goes to the hair-dresser for a wig, and finally to the work girls to be dressed. The money value of the doll depends upon its coating of wax; the thinly coated ones usually crack in cold weather. The wax was formerly produced through the agency of the bee, but a substitute is beginning to be found in ozocerite, or wax made from the residue of petroleum.

China dolls are more exclusively the product of the factory. After being modeled by hand, they are baked in a great oven for a week. During this time the utmost care and watchfulness are required. The tenders are never permitted to sleep. A draught of air will produce disastrous results. A single oven contains 5,000 dolls, and thirty ovens are often full at once in one factory. At the end of the week the dolls come out in all conditions. About one in five is perfect. After baking, the dolls are painted and glazed. The imperfect ones are separated by themselves and sold to "fairs" and "cheap John" concerns, which dispose of them to people who infest such places. One German factory has been running about 130 years, and has produced 1,000,000,000 dolls. Some of the manufacturers are enormously rich. All attempts at manufacturing dolls in this country have failed, owing to the cheap labor abroad. Congress, however, levies 35 per cent. duty on these toys (which make women of our girls), in expectation of future manufacture here.

The dolls form a minature world of manimate women, since the young ladies who play with dolls prefer young lady dolls

CORRESPONDENCE.

Where did you get your specimen of the *Wealthy Apple*? I have over 400 trees in bearing, and my crop this year would average more than *four times* the size of your cut, which is about the size of a good specimen of Whitney's No. 20 crab. You are right in all you say about the Wealthy, which would be a *summer* apple south of New York City, a *fall* apple in southern New England, an *early winter* apple in middle New England, and a *good keeper* in northern New England and Canada. It keeps well until about April 1st (Lat. 45°). T. H. H.

In reply to Dr. Hoskins we would say we made our cut from an accurate description, and we are pleased to learn that our description was so correct that a well-known specialist in fruit like Dr. Hoskins writes us the above welcome letter. We should have stated our cut was one-third in size.

✣

George Nell, Philadelphia, Pa., asks: 1.–The proper name for the "Wash-rag" plant. 2. The time to plant seed, and the conditions necessary for growth. Answer: 1.–We presume our correspondent means the "Dish-rag" gourd, if so, it is also called the Egyptian Lloophar. 2.–Being a vine it should be planted like any gourd, but as it requires a long season to mature it should be started in a hot house, and when the season is warm enough plant in open ground. It is a curious plant.

✣

George W. Crawford, Larned, Kansas, asks how to grind bones for farm use. There is no quick and cheap way to grind bones; they may be dissolved by using oil of vitriol. Taking the bones and making a heap of them, and melting them with the vitriol, or by taking an old barrel and put the bones in it, and add the vitriol to them. But it is slow and a dangerous way, for the vitriol often burns the experimenter. See also answer to another correspondent in this column.

✣

We want 300,000 subscribers. Let every friend of ours send us a club of 12 and we will have them.

✣

Aaron Hart, Monticello, Illinois, asks, 1. The best land for watermelons. 2.–Is it safe to plant melons on land that had melons on the year before. 3.–How to make bone-dust on the farm. Answer: 1. The best soil is a sandy loam, or a fine sand. Land that has been in grass the previous year will make the healthiest vines. 2. Bugs are very apt to be in old land that has grown melons, and will often injure the melons that are planted after them. If there are no bugs, and the soil is kept loose, the melons will do well, but new soil is best. 3. You cannot make bone-dust on a farm. The bones are so hard that it requires expensive machinery to grind them. You can soften them by putting them in a bed of fresh horse manure, and as it heats it will rot them in a short time so they can be broken; or you may compost the bones in wood-ashes, and they will slowly rot. Either way will make the bones so soft as to be easily pulverized.

✣

J. J. Davidson, Beaver, Pa., asks, 1.–The best season to plant black walnut. 2.–Best variety to plant. 3.–Distance apart. 4.–The time they require to mature. Answer: 1.–The best season to plant is in the fall, planting a walnut, hull and all, two or three inches deep. In a sandy soil plant deeper. 2.–The common black walnut is the best for timber. The quality of the timber depends upon the quality of the soil where grown. On a sandy soil the walnut timber will be hard, on a rich prairie soil it will be soft. The soil makes the timber valuable, more than the variety. 3.–For roadside planting, from twenty to thirty feet apart; and when planted in groves, from eight to ten feet is best. When the trees are a few years old, cut out where too thick. The trees cut out will be valuable for posts and timber, and will constantly increase in value. 4.–The time required for maturity will vary with the soil. In a rich soil the trees will be two feet, or over, in diameter, in thirty years; in a poor soil, it will probably take fifty years. In transplanting, do it as early as possible in the fall or winter, and get as much root and as little top as possible, and you will be quite successful.

✣

You want hints on farming, not long-winded essays. You know how to farm. You want to know how to make it pay. That is what we will do,—show how the farm pays.

✣

John Day, Delaware, asks how to grind oyster shells for poultry. Answer: Purchase one of the many mills used for that purpose, or scatter the shells in the road where the poultry have access, and the wagon wheels will pulverize the shells for the poultry.

✣

J. P. Johnson, of Hamilton County, Ohio, asks: 1.–What makes the rough spots on apple leaves that look like rust? 2.–Can the spots be removed? 3.–Can silk-growing be made profitable? Answer: 1. The spots are caused by the growth of a small plant that grows like mould on the leaves. 2.–No; but can be in a measure prevented by the use of lime or ashes in the orchard. Keep a full supply of potash and lime in the soil and rust will disappear from the leaves. 3.–That depends upon the cost of labor. With dear labor, no; with cheap labor, yes. Silk growing is on the increase in this country, and very fine silk is grown.

Wm. Key, Toronto, Canada, asks a cure for egg bound hens. Answer: Give the hens richer feed, as scraps and offal, and not so much grain. The grain makes them fat, and weakens the organs required in egg laying. Do not forget to give them plenty of ground shells or lime.

✣

The streets of Jerusalem were kept clean by every man sweeping before his own door. If every subscriber to this paper can induce the 12 neighbors nearest his door to take the "Farm and Garden," we will have 400,000 subscribers and he can have the paper 3 years for his work.

✣

Wm. A. Brian, Sussex County, Delaware, asks: 1.–If seed sent is the true Amber Sugar Cane? 2.–A remedy for the cabbage worm? 3.–How to grow peanuts? Answer: 1.–The sample of seed cane sent appears to be the true Amber cane. Our correspondent will remember in the prairie soil of Kansas the cane varies from the same cane in New Jersey or Delaware. Answers to Nos. 2 and 3 will appear in their proper season, March and April numbers.

✣

To Many Inquirers. How to make a cement pipe for drains. Take only freshly ground cement. Cement that is not recently made and fresh, is not reliable; and take coarse sharp sand, *i. e.*, sand that the grains are not round and water worn like beach sand, but sharp, and *free from clay*, mixing the dry sand and cement thoroughly before you wet it for use. The proportions of sand and cement vary in regard to the kind of work intended. In places where there is but little exposure to frost and rough usage, three or four parts of sand may be used to one of cement; but where it is much exposed, use equal quantities of sand and cement. A drain from the kitchen should be laid at least as deep as the ground freezes, or deeper. Lay the bottom of the drain with stones, and take a smooth round iron pipe the size of the drain, and place it on the broken stones in the bottom of the drain, cover it with broken stones, wet your sand and cement, and dash it on the stones. The sand and cement should be wet quickly (for it soon hardens), and dash in on stones in the drain. The cement should be well wet and soft, that it will fill all spaces between the stones. As soon as set slowly move the pipe along, and begin as before. If the work is well done, a good and cheap drain will be made. A drain from a kitchen should be at least three inches in diameter, as smaller ones soon fill. Lay your drain straight, that you can use a rod in cleaning. The secrets are: fresh cement, sharp sand, and quick work.

✣

J. B. H., Trenton, Minnesota, asks what blackberry shall we plant in Minnesota. Answer: The Snyder. There are larger berries, but the Snyder is the hardiest blackberry, and seldom winter kills. There are other and better berries, but they are too tender for you. Stone's early could also safely be tried

✣

Every number of THE FARM AND GARDEN *is edited by a practical farmer, who plows his own land and knows what work is. Our paper is a farmers' paper.*

WHEN THE DAYS ARE LONGER

"What's the difference between a cabbage and an orange?" "I don't know, do you?" pleasantly answered the man. "You don't!" ejaculated the propounder of the question. "You would be a nice fellow to send after oranges."

An Englishman meeting an Irishman accosted him saying: "Can you tell me the way to Wigan, Pat?" "How do you know my name is Pat?" answered the Irishman. "I guessed it," replied John Bull. "Well guess the way to Wigan then," cooly replied the Irishman.

When you send for seeds of any of the seedmen who advertise in our columns, whom we know are reliable, you can send the money for the FARM AND GARDEN *with the money you send to them for seeds. We shall get the money from them, for we can trust them. They are square business men.*

"You can do anything if you have patience," said an old uncle, who had made a fortune, to his nephew, who had nearly spent one. "Water may be carried in a sieve, if you only wait." "How long?" asked the penitent spendthrift, who was impatient for the old man's death. "Till it freezes," was the cold reply.

In search of home comforts: "Why, Mary, have you come back to be a hired girl again? I thought you left us to get married and have a house of your own." "So I did, mum." "Well, what have you come back for?" "Well, ye see, mum, John's done purty well, and we kep' a hired girl, too, and I'm kind o'tired av the way of life. I thought I'd like to come back an' be boss fur awhile."

"I tell you how it is, Algernon," she said in musical murmurs.

"Yes, Maud," he replied, in subdued tones, watching her with the reflected light of the moon in her deep brown eyes.

"Pa has money, you have none. Pa is a free-trader, you are a protectionist."

"Yes," with rising inflection and doubtful tone.

"I will suggest that pa make a free trade of my hand for your business ability, and then I'll look to your arm for protection."

"Bless you, my children," from a stentorian voice on the back piazza.

Read what we give you for so little. You will be astonished how we can give so much good reading for a trifle. We also wonder why you can afford to be without it. Join with your friends and get us up a club as large as you can. We shall not forget it.

CATALOGUES RECEIVED.

"The Monarch Incubator." James Rankin, South Easton, Mass.

Catalogue of Norman Horses. Dillon Bros., Normal, McLean County, Illinois.

Wholesale Price-List of Seeds &c. John A Salzer, Seed Farmer and Florist, LaCrosse, Wis.

"Orange and Fruit Culture." Mapes Formula and Peruvian Guano Co., No. 158 Front street, New York.

Descriptive Catalogue of Star Valley Fruit Farm, Lacon, Illinois. List of fruit trees, berries, grapes, &c.

J. Y. Bicknell's Fifteenth Annual Circular of Poultry. Ducks, turkeys &c., No. 65 Clifton Place, Buffalo, N. Y.

Hercules Wind Engine Co., No. 17 Moore Street, New York. Illustrated catalogue of wind engines, pumps, tanks, &c.

Beach & Co., Rose Growers and Florists. Illustrated catalogue of roses, flower seed, &c. No. 901 south Ninth street, Richmond, Ind.

Hammond's defining catalogue and price-list of slug shot and paint, varnish, &c. Benjamin Hammond, Fishkill-on-Hudson, N. Y.

"Dollar Collections of Roses." Also catalogue No. 2. Storrs & Harrison Company, Painesville, Ohio, catalogue of flower and garden seeds, &c. 116 pages.

"Seed Annual." D. M. Ferry & Co., Detroit, Mich. Descriptive catalogue of flower, vegetable, farm and garden seeds. 112 pages, illustrated.

"Spring Catalogue of Grape Vines and Small Fruits." Joel Horner & Son, Merchantville, N. J. A full price-list of all new and old varieties of grapes and small fruits.

"Vick's Floral Guide." James Vick, Rochester, N.Y., flower, seed and vegetable catalogue, finely illustrated. 120 pages. Sent free to all old customers; to all other applicants for 10 cents.

"Landreth's Rural Register and Almanac." David Landreth's Sons, Philadelphia, Pa. Catalogue of garden, field and flower seeds. The firm has been in business over one hundred years, being founded in 1784.

William Henry Maule, Seedsman, No. 129 and 131 South Front street, Philadelphia, Pa. Vegetable, flower and seed catalogue of all standard varieties and many novelties not generally introduced. The catalogue is a valuable one, and is sent free to all applicants who send an address on a postal card to him, with address where you want it sent.

"Everything for the Garden." Seed and plant catalogue of Peter Henderson, No. 35 and 37 Cortlandt street, New York. This catalogue of Peter Henderson & Co., is one of the finest they have ever issued, and embraces, as the name indicates, everything needed for the garden. The list of seeds is very full, and embraces many novelties of merit. The list of plants, roses and flower seeds, contains all the most valuable seeds yet introduced. Sent to old customers of last year free: sent to all other applicants for three letter stamps.

POULTRY SCRATCHINGS.

Continued from page 9.

DAMPNESS.—Dampness is worse than cold on young chicks, hence, give them their drinking water in such manner as not to compel them to get themselves damp while seeking it.

BROILERS IN FEBRUARY.—Sell your broilers while very young, if you want the best prices this month. From one-half to three-quarter pound broilers are more saleable than those that are heavier. Send them to market alive.

INCUBATORS.—Too much moisture cannot be supplied, but too much air may be let into the egg-drawer if the weather is very cold. Though the temperature may fluctuate somewhat with the atmospheric changes, yet, unless the heat reaches too high or low a temperature, no difficulty need be feared.

NOURISHING FOOD FOR YOUNG CHICKS.—If broken rice be boiled with one-third milk and two-thirds water, adding one egg to each pint of liquid, and the mass thickened with oat meal and corn meal while boiling, it will prove an excellent diet for very young chicks. It keeps well, and may be crumbled very easily when cold.

BROODING CHICKS INDOORS.—A larger number of young chicks can be raised inside the poultry house than by giving them the privilege of yards at this season, as they may become chilled very suddenly and perish, when permitted to run in and out of the building. For that reason a brooder should be placed in a little room, about 8 x 8 feet being sufficient for fifty chicks.

We know a farmer hates to write a letter, and we would say your storekeeper where you trade will write one to us for you. He will be pleased to oblige you. Try them. The world is full of accommodating people.

GREEN FOOD.—As everything in the shape of green food is scarce now, the best substitute is finely chopped onions. If onions are scarce use cabbage. A few turnips and potatoes boiled, with a little salt for seasoning, and enough coarse bran to thicken it, will prove acceptable. Good hay, chopped fine with a tobacco cutter, and steeped over night in boiling water, is also excellent.

LEG WEAKNESS.—Should leg weakness occur among chicks, separate those so afflicted from those that are healthy, or they will be liable to injury by being trampled. This happens usually after evening, and many deaths are attributed to leg weakness, while in reality the chicks would have survived if given a chance. In all broods the stronger show no mercy to the weaker, and the necessity for separation cannot be too frequently urged.

PROMOTING HEALTH.—Small trifling matters, that give but little trouble during this season, when other work is not pressing, are often valuable when put to proper uses. For instance, a good meal of parched grain once or twice a week will be found excellent, and especially if some of the grains are partially scorched, as they serve the same purpose as charcoal, and correct many disorders of the bowels that occur from irregularities in feeding. Even parched bran, when mixed with the soft food, will be found serviceable.

A SUBSTITUTE FOR MEAT.—A subscriber recommends that tallow be melted until quite warm, then to stir corn-meal into it until the whole is a thick mass. When cold it may be broken into small pieces very readily, and will be appreciated by the hens. We would suggest that one-third tallow and two-thirds fresh blood from a slaughter house, be heated in a small quantity of water, and a mixture of one part fine bran, (shipstuff), one part coarse bran, and one part corn-meal be added until the mass will harden when cold.

BONE MEAL AND OYSTER SHELLS.—Be careful that you do not buy ground oyster shells for bone meal, which is often the case when in the shape of very fine powder. To detect the difference, procure five cents worth of sulphuric acid from your druggist, and drop a little on the suspected substance. If it is bone it will turn brown and emit the well-known odor of superphosphate, but if oyster shells no odor will arise, but the disengagement of carbonic acid gas will occur, especially if the shells be placed in a glass of water before supplying the sulphuric acid. We mention this fact for the reason that several cases have come under our observation in which finely-ground oyster shells have been palmed off on buyers as pure bone. It is not necessary that either of the substances be in a very fine condition for poultry.

YOUNG CHICKS.—As early chicks are being hatched by many it will be found that diseases of the bowels occur when least expected. Constipation is similar to cold on the bowels, and is equivalent to dysentery. Wash the parts, and annoint with glycerine. Give a tablespoonful of castor oil in soft food to every six chicks, and feed boiled rice and milk, thickened with oat meal while cooking, for a few days. Should diarrhœa occur, feed bread boiled in milk, give the castor oil as before, and also three drops of paregoric, and one of tincture of iron to each chick. The drinking water should always have a teaspoonful of tincture of iron to each quart of water. Should bowel disease occur it indicates that the chicks have been chilled at some time or other. Keep the brooders at 90 degrees, and clean them thoroughly. Always feed *cooked* food. Corn meal and oat meal mixed, and baked as bread, is excellent. Chop an onion for them every day, and feed milk plentifully.

A COLLECTION.

BROUGHT BY UNCLE SAM'S MAIL AND IN OTHER WAYS.

"Poultry Keeper." Series 2.—Incubators and Brooders. By P. H. Jacobs. W. V. R. Powis, publisher, No. 89 Randolph Street, Chicago, Ill. A practical poultry book, giving full illustrations of the different incubators and brooders; also full of practical directions how use them. To any one wishing to raise poultry with incubators the book is valuable, giving the whole art of artificial incubation a full elucidation. Fully illustrated, 64 pages.

HIGH-PRICED BUTTER.—Dairymen often wonder how their more favored competitors get such high prices for their butter the year round. It is by always having a uniform gilt edged article. To put the "gilt edge" on when the pastures do not do it, they use Wells, Richardson & Co's. Improved Butter Color. Every butter maker can do the same. Sold everywhere and warranted as harmless as salt, and perfect in operation.

NATIONAL STANDARD DICTIONARY.—This dictionary contains 40,000 words and 700 illustrations printed in large type, and is of easy reference and copious in definitions. A valuable feature of this dictionary is a register of the date of birth and death of noted persons in all ages of the world, and the origin of most American geographical names. There are tables of synonyms, foreign words and phrases, soubriquets of American cities, valuable tables and statistics not found in any other dictionary. Pronunciation of all words plainly given. Price $1. Franklin News Company, Philadelphia.

USAGES OF THE BEST SOCIETY.—This valuable book contains all that is necessary for one to know in order to enter the best society. Plain rules are given on introductions, receptions, weddings, parties, balls, dinner socials, in fact all the customs of the best society are fully explained, and it will prove a valuable guide for both old and young. Price 50 cents. Franklin News Company.

WHAT EVERY ONE SHOULD KNOW.—We find this book fills a long-felt want for a cheap and at the same time a reliable and comprehensive book full of practical recipes and facts suited to all branches of industry and trade. It is, in fact, a *vade mecum* of valuable knowledge. Price $1. Franklin News Company.

Mr. Wm. Henry Maule, who has for some time past been the only member of the well-known firm of Benson, Maule & Co., seedsmen Philadelphia, Pa., has changed the old name of the firm to that of Wm. H. Maule. There is no change in the firm further than the change of name, and Mr. Maule will continue to sustain the world-wide reputation of the old name by sending out none but the best seeds. His new seed catalogue is sent out free to all. If you desire to save money, send for one.

A. D. Cowan & Co., No. 115 Chambers St., N. Y., Seed, Plant, and Bulb Catalogue. 64 Pages. Illustrated

Messrs. R. G. Chase & Co., Philadelphia, Pa., and Geneva, N. Y., send us a very handsome lithograph of the Rancocas Raspberry, which they are introducing.

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The Farm and Garden.

Vol. IV. MARCH, 1885 No. VII.

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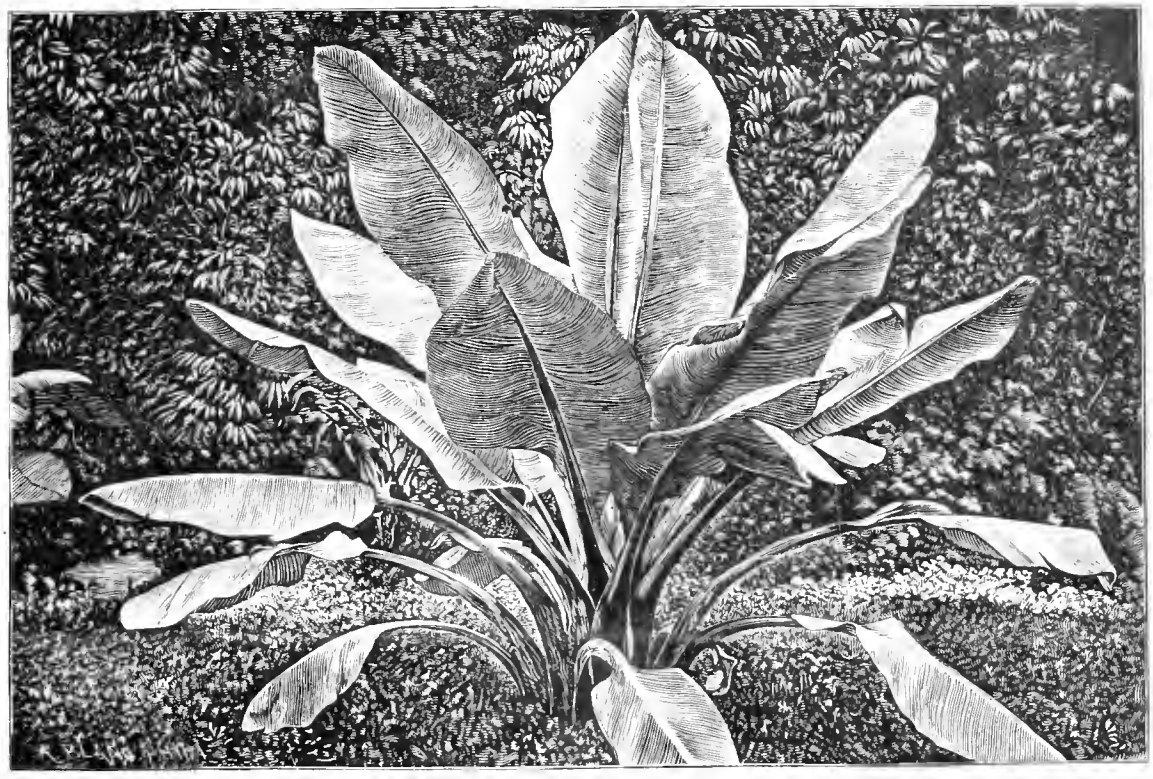


BANANA PLANT.—MUSA ENSENTE. *(Described on Page 6.)*

FARMER'S HOME GARDEN.

By Joseph.

When spring creeps up on the mountain slopes, when the warmer sunbeams change the snowy-white of the landscape, first to uncertain tints, then to bright and glossy verdure, when the Oriole returns to his hanging nest in the maple top, and Robin Redbreasts calling from the tree in front of the window a-mornings, tells us that it is time to rise, the good farmer's wife is thinking about her garden, and pulls out drawers and opens boxes and bags, to examine her stock of seeds on hand.

It is well that she should take an interest in these things, while the men are busy with their farm work. She is the born and natural boss of the gardening department of the farm, and generally fills that office with tact and credit to herself. I can only say to the many mechanic's wives in villages and small cities, who go about or sit in the everlasting rocking-chair, and spend their life in idleness and gossip, "Go to thy aunt (the farmer's wife), thou sluggard, consider her ways, and be wise!"

The planting and weeding required by the few square rods which constitute a village garden, do not afford in the least, too much exercise for a mechanic's wife, delicate as she may be. There is health and wealth and pleasure in the garden, none in gossip. The farmer's garden is or should be large; and his wife, who has charge of the dairy and a large household, cannot be expected to do more than the "overseeing" of the truck-patch. Let the boys do the hoeing, weeding and transplanting.

✝

Farmers in general are not as "flush" with money as they were some time ago. We must "squeeze through" and economize the best we can. We will not despise to save the penny, for such is a penny earned. Seedsmen have not reduced their catalogue prices sufficiently to maintain the "eternal fitness of things." Almost all kinds of farm produce are so much cheaper now; why not garden seeds?

The question is:—Will you throw your old stock of seeds away and buy new? Not by any means. You have some squash, pumpkin, cucumber, melon, tomato and pepper seeds, perhaps some peas and beans, left over from last season's supply. Seeds of that class are just as good the second season, often the third and fourth, as new seeds, and maybe better, producing more fruit and less vine than fresh seeds.

Cabbage, turnips, celery, beet, carrot, radish, in short seeds of all vegetables, in which we prefer thrifty foliage or which are grown for their stalks, must be considered "*prime*," when strictly fresh. Yet, I cannot conscientiously advise you to throw such seeds away, unless they are too old to germinate quickly. They will do well enough when two or three years old. A simple test will show their germinating power.

Parsnip seed should *never* be used after the first season, and onion seed only when seed is scarce. Then I would recommend to mix it with new seed.

✝

It is time to start egg, tomato and pepper plants. If but a few are wanted, a box set in a sunny window may do for a place in which to sow them; otherwise, a hot-bed (or greenhouse) is needed. In some localities, the small gardener can depend on a near-by grower for good plants, but in the majority of cases, those purchased plants are neither well-grown nor of the best varieties. It is hardly advisable to throw away the certainty of having just such plants as you want, by growing them yourself, for all the plants that may be offered you in the grocery, however cheap they are.

✝

The *Rural New Yorker*, in a recent issue, says that there is no perceptible difference between Paragon, Perfection, Favorite, Mayflower and Cardinal tomatoes. I have given expression to a similar observation in these columns more than once. With the present varieties we have reached a status so near perfection, that there is little chance for improvement left. We should not expect better kinds very soon. If you have one of the named sorts, you cannot hope to better yourself by buying another.

✝

Suppose your garden was plowed last fall, as it ought to be, eh? Well then put on a coat of well-rotted manure (unless manured last fall) and replow, then top-dress with hen manure, barn-yard scrapings, ashes, bone-dust or phosphate, and harrow thoroughly. You cannot make your garden too rich, nor prepare it too well. But if you follow the above suggestions your garden will be in first-rate condition for heavy cropping. Let the good woman insist upon having the men do it just so.

✝

Lettuce needs rich, cool, and moist soil, and had best be sown early in a sheltered location, and then transplanted like cabbage, giving it room enough to form large heads. Early Silesia or Simpson is good for early use.

✝

If you have not sown cabbage for very early use before this time, it must be done at once. A cold frame or hot-bed is the right place for growing the plants. For main crop the seed can be sown in a row or two right in the garden, to be transplanted from there. Like turnips and radish, it needs close watching; plaster, air-slacked lime, road dust, wood or coal ashes sifted over the young plants when wet with dew, or the application of a weak carbolic acid solution, or coal-oil emulsion will keep off the flea beetle, but the remedy must be applied repeatedly and thoroughly. Early Jersey Wakefield, Henderson's Early Summer, Winnigstadt, and Flat Dutch, or Fottler's Brunswick are fine varieties, and come to maturity in the order named. Only experienced growers should try their skill with the Marblehead Mammoth.

THE DANGER OF HASTY CONCLUSIONS.

By Reuben Auth

A man told me this morning that strange things occur in his garden. As far as he can see, the circumstances of one hill of *corn* are the same as of all the others in the plot, and yet, some of the corn is not over a foot high, and in tassel, while other hills, near by, planted the same day, are three times as tall. In one row there are several of these low hills in succession. I was asked to explain the cause of this difference; and it must be confessed that it is not an easy matter. It may be that the corn, which he bought in a single package, was mixed, and some of it is a larger sort than the other. If this were so, it seems strange that all the kernels planted in a number of successive hills should be small, while others are all of the larger sort. It may be that the kernels are all of the same variety, but some better matured than others. Experiments show that there is considerable difference between the germinating power and general vigor of one grain and another on the same ear. The very noticeable variation in size can be accounted for on the score of insects. Grub worms and wire worms are common in old garden soils, and by feeding upon the roots, they dwart the plants thus injured. It is a law in vegetable physiology that whenever anything retards the growth of a plant, it also tends to hasten its time of flowering and formation of fruit and seed. It seems as if the plant was informed of the impending danger and put all its energy into the reproduction of its kind. A drouth will cause this same hastening, as many have witnessed to their sorrow.

The differences above referred to, may be due to some warmness in the soil. It is true that no two grains of corn, when planted, are surrounded with identical conditions of food supply. A quantity of manure had been applied to this soil in question, and we may reasonably conclude that it is not perfectly and evenly distributed. Corn is a plant that responds very quickly and fully to the application of any manure, and in this, then, may be found a solution of the striking variation noted.

There are some other circumstances that may vary from hill to hill, but enough of these have been stated to show how little is absolutely known with regard to the growth of any particular plant in a crop. Nearly every reader can bring to mind, cases where it seemed as if every condition was favorable for a fine yield, and the harvest was very poor. The careful reader will often see contradicting statements as to the value of different varieties of grains, fruits and flowers; and most conflicting statements as to the merits of the various breeds of cattle, sheep, etc. One farmer, for example, can find no use for super phosphates and concludes that they are unfit for any soil. While another farmer feels that his profits are determined very largely by the amount of these fertilizers that he uses. Not long since, a writer stated that the application of super phosphates would soon ruin the land. There may be lands upon which these manures are not needed; but, equally true, there are others that are yielding starvation crops from a lack of them.

Some men cannot say enough for the Shorthorn breed of cattle, while others are continually crying them down. This may be partly due to a variation in the breed as all children of the same household are not alike—but frequently the differences reside in the minds of men, and are stated in the papers and elsewhere for selfish ends. A man with a fine herd of Devons is not going to advocate Jerseys for working oxen, and will not speak at length upon the good points of any other breed that will cast a shadow over those of his own herd.

The point that would be here made, is this: Crop-growing is a most complicated piece of work, and the farmer must deal with a vast number of circumstances over which he can have little or no control. There is a natural tendency to pass judgment with insufficient evidence, and to make broad and sweeping generalizations where only a guess should be advanced. There are but few places in this world where no doubt enters. Many differences exist only in the mind, and often these are the most troublesome.

Why did not the corn grow evenly? It may be due to the presence of one or more of several circumstances; but positively, I do not know. Do you?

TOO EARLY PLANTING.

N. J. Shepherd, Elkton, Mo.

The failure to germinate properly is often attributed to too early sowing, especially is this the case in the garden. Planting fine, tender seeds in wet, cold ground, is almost sure to result in disappointment. It is true that, often, many seeds can be sown very early and withstand considerable cold, wet weather, and yet germinate well, and produce good, strong plants. Yet, in a great majority of cases, more disappointment results from too early seeding, than from any other cause. Onions, radishes, turnips, mustard, asparagus, can all be sown early. Some of them will remain in the ground two weeks before germinating, and yet produce good, strong, thrifty plants. Yet, to some extent the vitality of the plant is affected.

My rule in sowing onions is to seed at the first opportunity in the spring. As soon as the soil can be worked into a suitable condition after the 1st of March, I try to sow my onion seed. A few radishes can be sown at the same time.

But with the greater portion of seeds, it is far better to wait until the soil becomes, to a certain extent, warmed up. Lettuce, spinach, parsnips and chicory, can be sown early and will withstand considerable cold weather without serious injury. But tomatoes, cauliflower, egg plant and cabbage should not be sown until the soil is warm. In a great many cases (as careful experiments will show), seed planted two weeks later, after the soil is well warmed up, will make a more rapid growth than that which is sown earlier.

Generally, with vegetables, we want a quick, strong growth, and the easiest way to secure this, is to have good soil, thoroughly prepared, and the seed sown carefully after the soil becomes warm. Much complaint against seedsmen is due to the fact that the seeds were planted too early.

In my experience I find it hard to have any rule for planting in the spring, there is so much difference in the season; and while it is always a good plan to sow reasonably early, yet I have also found that it pays to wait until the soil is well warmed up before seeding, and with many plants I wait until I am sure there is no danger of frost. Peas can be planted very early, but in this case I do not like to cover as deep as when planting later. Beans will do no good when the ground is cold, and there is no economy in planting until the soil is warm. The same may be said of sweet corn, as well as of cucumbers, squashes and watermelons. With these seeds that I plant early, I make it a rule to cover lightly as there is much less danger of seed rotting, than if covered too deep.

Be sure of one thing in seeding early—wait until the soil is dry. Planting when the soil is cold and wet, is much worse than when simply cold. I never have found it a good plan to work soil when too wet, and especially so in the garden, as it cannot be got into proper condition, nor will it cause seed to germinate properly or grow as they should. Better delay planting a week than to plant when the soil is either too wet or too cold; as in my experience much better results have been received.

MISSISSIPPI.

By W. E. Collins, Merigreville, Miss.

Any one familiar with Western farming at the present day, would be somewhat surprised on coming South to see still in use the farming implements of the early days, and it seems to be a foregone conclusion that this will continue for generations yet to come, although there is now a slight demand for improved implements among white farmers. That our farmers should be so backward in adopting improved farm machinery is no mystery to those familiar with the situation. The class of labor employed explains this. Negroes, as a rule, are at best rough workmen, and any costly machinery cannot be entrusted to their handling, and it now seems impossible to improve them. We are, therefore, compelled to resort to the most primitive articles in use—the plow, hoe and iron tooth harrow. These are about the only implements now in use on a cotton plantation cultivated exclusively by negroes. There is another reason why more improved machinery is not now in use on Southern plantations, and this lies in the system of contracts in vogue. Lands are leased to tenants at 100 pounds lint cotton per acre, which is equivalent to $10. The tenant furnishes his own team and farm implements, and his means being limited, he purchases the most primitive and those he is most familiar with.

If a plantation is worked on shares, the owner is not willing to risk improved machinery in their hands. If the lands of the South were worked for wages, it would soon become the study of land owners to reduce the cost of cultivation to a minimum, and to do this, improved machinery would soon be introduced and the country vastly benefitted; but as things are now, I am afraid it will be many days before this occurs. Low-priced cotton will doubtless hurry the day; for whenever cotton is sold on the market at six cents per pound, it will become the study of its producers to reduce the cost of production, and this reduced cost must come through the introduction of improved machinery and labor-saving devices. The two most expensive items in making a cotton crop, are the common weed hoe, and the gathering by hand of the crop. The principal item of expense is the last, which has never been less than $7.50 per bale of 400 pounds lint, nearly two cents per pound lint cotton. Take off this item and that of the hoe, and cotton can be produced for four cents, or less, per pound.

This part of the country (Yazoo Delta), is par excellence *the* great cotton producing section, it is in this basin, and other portions of the Mississippi Valley, that the negro delights; it is here that he is first congregating; it is in this congressional District where may be found Mississippi negro majority—knowing this, it is easy to conclude that improved farm machinery will not be introduced for years to come. They own but little land, and have no desire to own any, preferring to form no home ties, but remain free to go and come at will. They are all renters, or share workers; paying more for rent of land in twelve months, than most people are willing to pay for a title in "fee simple." They keep down all competition from foreigners and native whites, and are *always* given the preference. It is not required that he should give reference as to his reliability or character. The veriest pauper among them can lease land on as good terms as the best, and obtain all the "credit" he wishes. He will be furnished with teams, farming implements and subsistence for himself and family, all to be paid out of the crop *to be* made. No white man can do this. He must come recommended, and be able to supply his own teams, &c., and even then, planters would rather not lease to him.

Now there can be no question that the plantation would be more profitable under lease to the negro, hence this preference. I say more profitable, because the negro spends every dollar he makes at the plantation store, and is ready to repeat it year after year. The Valley will never become a first-class agricultural country under this system—lands will rapidly deteriorate. If the present large plantations were divided in tracts to suit purchasers, they would soon be bought up by thrifty white farmers, and brought to a high state of cultivation, and in a few years the Mississippi and Red River Valleys would produce cotton sufficient to supply the world's demand.

There is more money in growing cotton than almost any staple crop grown. Like other business, however, it must be conducted properly, and not like a certain "Land Company" or syndicate I know of, who entered into the business some two or three years ago, and are in liquidation to-day. To begin with, they were imposed upon, and made pay three times the value of the land. I would be willing, to-day, to engage my services to capitalists entering this business, and accept for those services, *all* over 12½ per cent. on their investment, that the property will pay annually. But, I should wish to negotiate for the property, not trust to them, as they would be sure to pay just double what I could obtain it for; and I would want the management of the labor, &c. It *will pay over* 12½ *per cent* annually without fail, and the property sell for what it cost at any time—but I digress. I hope yet to see the cotton lands of the Mississippi Valley owned by thrifty white farmers, in tracts ranging from 40 to 160 acres. Then the world would soon learn what a country we have here. It is true that much of our Valley land is subject to overflow, but this does not prevent fine crops from growing *every* year. The waters come over, usually, in March, and are gone by May, in ample time for planting, and the water serves to fertilize the soil.

[My next will be on the several crops adapted to this soil and climate; their yield, cost, &c. This to be followed by fruits, stock, &c.]

ANOTHER CHEAP CISTERN.

By W. C. Stock, Switzerland, Florida

There are some soils where the cement cistern cannot be made, and stone cannot be had, and brick is too expensive. In that case a cistern can still be cheaply made, as described below. I have seen several of them in use within the last year.

Begin by making a square or circular excavation from two to four feet deep, according to the firmness of the soil, and of such size as suits you. Make the sides perpendicular, cement the bottom and sides as described in the February number. From the surface build up a brick wall of sufficient height to make the cistern as large as desired. Cement this wall the same as upon the earth below. Cover the whole with plank. This makes equally as good a cistern as either of the others, is much cheaper than all brick, and is

often the only practicable way. In many parts of the country it is desirable, and often *necessary*, to use cistern water for drinking and cooking. In all such cases it should be filtered. The best (and on the whole the cheapest in the end) is made of brick. Build up a well of brick two feet square in the middle of the cistern, setting them on edge, and taking good care that *all* the seams are well closed with cement. Use only soft brick for this alter. The water can be pumped from this well as fast as needed. If the cistern is built square it is often divided by a well in this way, the water allowed to flow into one side, and is pumped out from the other. In this case it is better to dig the hall from which you pump a little deeper than the other.

I think that many people would be healthier if they used cistern water for drinking instead of well water. Many cases of fever and bilious attacks are caused by impurities in the well water. Cistern water, if properly filtered, is always wholesome, and though often unpalatable at first, is soon relished better than any other. I know this last statement to be true from personal experience.

EMPLOYERS AND EMPLOYES.

By John M. Stahl, Quincy, Ill.

There are, and doubtless always will be, employers and employes, and out of the relations and feeling existing between these two classes grow many of the things which vex and perplex both. It might be better, as some assert, if we had no employes in agriculture, if every man were a land owner; but we must accept things as they are, not as they might be, and a better understanding of the rights and duties of the farm hands and of their employers, would be to the advantage of both.

The employer is apt to complain of or to commend only, the quantity and quality of the work performed by employes. The moral character or intelligence of the employe is rarely inquired after when he is hired, or condemned or commended afterward. This ignoring of everything above muscular capacity, is an injury to the employer and a wrong upon the laborer. For aught I know, there was a time the time of wooden moldboards, scythes, sickles and flails—when nothing of intelligence was absolutely essential to the value of the farm laborer, and when the name of "hand" was not a libel upon him; but it takes a thoughtful man, and one possessing that good judgment which is the outgrowth of intelligence alone, to manage the farm machinery now; and who will say in these days of sharp competition and narrow margins the farm laborer should not have a knowledge of the best methods and the ability and disposition to employ them? Hence, he should have not only a good general education, such as can be acquired at our public schools, but he should be a reader, yes, more, a *student* of agricultural books and papers. Not to recognize this fact, is to put all farm laborers upon the same level, and that level the plane of the brute. It puts the good, intelligent laborer at a great disadvantage, and there is not the least advantage accruing thereby to the ignorant, thoughtless employe. It is as when all the potatoes, large and small, are offered for sale together; the lot brings only the price the smaller ones would if offered separately. So, under present conditions, all classes of farm laborers are brought to the level of the poorest; the latter are not raised to the plane those who are better should occupy. It is true that some laborers command higher wages than others, and this may be in part owing to greater intelligence, but there is no concerted action among farmers to grade farm laborers, and the first, and generally the last recommendation is brute force.

In a large majority of cases the laborer becomes one of his employers family, eating with them at the same table and occupying the same room with them during the evening. It is one of our country notions which I shall be sorry to see go, and which is not likely to depart soon, that the employe is none the less a man because he is an employe; and the farmer who considers himself above his laborer, and excludes the latter from his table and fireside, is very unpopular. But, though such may be the case, the family will associate with the laborer at times, and if he is obscene and blasphemous in his language, contamination is certain. The farmer cannot rightly blame his sons for swearing, when he keeps in his employ a man who uses oaths; and he must blame himself if his daughter has a mind besmirched when he takes a libertine into his family. Farm hands are as moral as any class of men; but there are black sheep among them, and therefore, all should be required to present evidences of decency and morality before they are employed. At present, morality in the farm laborer counts nothing for him, as immorality weighs not against him; some employers may refuse to hire an indecent man, but too often we prize a big muscle above a pure heart. We thus wrong our children, endanger our homes and our peace of mind, and are unjust to those laborers who order their lives aright. There should be concerted action among employers to grade laborers according to intelligence and morality; and this would be to the advantage of the laboring class, elevating many and degrading none.

The employe is apt to complain of overwork and harsh treatment. Too often he has just grounds for this complaint; and this is because his intelligence and morality are not considered. He is put on the same level as the brute, and too often treated as a brute. It is not supposed that he has any feelings above the brute; that he has any pride or aspirations. Hence, he is offended, wounded in his pride, abused and driven. Force is sought to be employed when kindness should be exercised and would accomplish the desired result. The object is to get out of him the most work possible; no weather is too severe for him; and if he is tired or suffers from exposure, he is given less thought and receives less pity than if he were a valuable horse. Not all farm laborers are so treated, but many are; and it all proceeds from the notion that the laborer is only a "hand," without a head or heart. Require more of him, and more will be given. So long as he is as the brute, he is apt to suffer from overwork and harsh treatment; but let him be a man, and his rights and feelings will be considered.

Change, in this way, the relations existing between employers and employes, and you will also change the feeling existing between them. At present, that feeling is too often antagonistic; the employer determines to see how much work he can get from the laborer, and the latter determines to give as little as possible. There are complaints from both parties, and good cause for them. This unhappy relation engenders bad feeling. The employer takes no interest in the welfare of the employe, and *vice versa*. On one hand rights are disregarded, and on the other hand work is shirked. Establish a kindly feeling between the parties and the laborer will do his work diligently and well. He will do what he can to advance his employer's interests. The employer will treat him more considerately. Both parties will be benefitted.

But how can this relation and feeling be changed? First, require more of the laborer. Compel him to present testimonials as to his intelligence and morality from former employers. This will at once elevate the farm laborer to the same plane as the clerk, accountant or other skilled laborer. This will accomplish much. Yet, more will be accomplished by reducing the contract of hiring to writing, and in it embodying all the rights and duties of both parties. It will be poor economy to be saving of ink and paper. Every point should be mentioned. When this is done, both parties will be more careful to give to each his dues; and the mutual respect that respect that a *man* feels for a *man* existing between employers and employes will preclude ill feelings and quarrels.

INTENSIVE FARMING.

By John E. Read.

The tendency of wide-awake, energetic farmers, especially of those who live in a comparatively new country, where land is abundant, productive, and not very costly, is to adopt an extensive rather than an intensive method in the management of their business. They want to keep a great deal of land under the plow, grow large areas of wheat and corn, and conduct all their operations on an extended and an ever-increasing scale.

Within certain limits, this is a laudable ambition. It is well for a man to try to do something worthy of his powers, to take a deep interest in his business, and to endeavor to extend and make it profitable. But, unfortunately, in practice, an extensive business does not always mean an increase in the profit which it will yield when conducted on a more moderate basis. It is possible to attempt too much. The manufacturer finds it necessary to gauge the volume of business which he carries on, by the amount of capital at his command. If he neglects this precaution, and attempts to do more than he is able to perform, he is soon brought into financial difficulties. If he can only obtain sufficient material for a certain quantity of goods, it is worse than useless for him to attempt to make a larger amount. In all commercial lines, as well as in manufacturing, the means at command, the capital with which to prosecute the work, is the one safe guide in determining the scale upon which business is to be pursued.

The same principle ought to guide in the work of the farm. The aim should not be to extend to the utmost limit that can possibly be reached, but to do just what can be done with the highest degree of profit. The effort should not be made to see how large a business can be carried on, but to find how to make what is attempted yield the largest return. If a farmer has sufficient fertilizers, teams and help to properly cultivate only fifteen acres of corn, the effort to grow twenty acres will surely diminish the profit which could be secured from the smaller area. It is not the quantity of food that is eaten, but the quantity that is digested and assimilated, that makes a man strong. So it is with the farm crops. It is not the extent of the field that is tilled, but the quantity and value of the crop that is secured, which determines whether the crop has or has not been profitable. A five-acre field sometimes yields more real profit than one four times as large. Large crops on small areas invariably pay better than small crops on large areas.

In many cases the fertilizers applied to a ten-acre field of corn would have given a larger crop, with much less expense for labor, if they had been put on only eight acres. Cleaner culture could have been given to the smaller area, the land would have been left in much better condition for the succeeding crop, and the other two acres could have been devoted to some other crop, or allowed to produce their natural yield of grass.

In revising the plans for the work of the coming season, it will be much better to consider how much manure and labor it will be best to devote to a limited area, than it will be to endeavor to find how large a field can possibly be cultivated. It will pay better to grow four hundred bushels of corn on six acres of land, than it will to go over ten acres for that quantity. To secure it from the smaller area, will require much labor, and a liberal use of fertilizers. In other words, it will necessitate the adoption of an intensive system of farming. The extensive system would require a wider field. It would appear to me a larger business. The farmer who adopted it would appear to be doing much more than one who followed the intensive plan; but the latter would make the most money and be far better satisfied with the result of the season's work.

This plan is not recommended either as a theory or as an experiment. Its practical value has been demonstrated by a large number of the most successful farmers in this country and in Great Britain. We have no doubt that many readers of this article will admit that their experience is similar to that of the writer, which has been that the best paying crops he has ever produced has been grown on moderate areas of land, which were heavily manured and thoroughly cultivated. These readers will need no recommendation to follow the same course in the future. Those who have never tested it will, we are confident, consult their own interests by giving intensive farming a fair trial during the season which is near at hand.

We are gaining many new subscribers, and want to keep all our old ones too. We like a large family of readers. We can talk so much better to you when you are all together.

O. H. Marston, Stoneham, Mass.: "I value the paper, and do not want to lose a number."

A. F. White, St. Paul, Howard County, Neb.: "I take eight papers, but I think more of THE FARM AND GARDEN, than all the rest put together."

David Finney, Blythedale, Pa.: "I am very much pleased with your paper. I enclose an order for it and Meech's Prolific Quince, which I wish sent in spring."

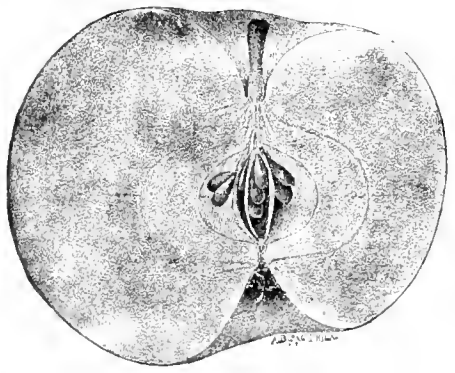
C. W. Griggs, Williamsport, Pa. writes of THE FARM AND GARDEN: "I would renew at all events, for it comes the handsomest and cleanest of a half dozen agricultural papers."

Robertson Bros., 87 Queen Street, Toronto, Canada: "We send twelve subscribers to THE FARM AND GARDEN. I am sure they will be pleased with it, for it is the 'choicest' paper I ever saw."

S. H. Waltman, Millville, Mass., sends a club of seven subscribers, and says: "I like your paper for its seasonable practicable hints. It does not tell it what can and ought to be done; *tell how to do it.*"

Henry C. Chapman, Louisville, Ky., writes: "A friend gave me the January number; I took it home and read it carefully through, and must say it contains more common sense and useful information to the square inch than any other paper I ever read."

ORCHARD AND SMALL FRUITS



HYDE'S KEEPER.

This new apple originated in Columbia County, Ohio, and is an accidental seedling found on a fence corner. Hence, our readers will see that it is not a seedling of fine garden culture, that will prove poor in orchard culture, as many of the more finely-grown seedlings do. The apple, as will be seen by the cut, which is reduced about one-half, is very large. The cut was made from a specimen that was over twelve inches in circumference, and weighed eight ounces. The form of the apple is roundish oblate, and, as the cut shows, the sides are uneven. This apple may best be described as equaling in size the Tallawater and the beauty of color of the Maiden's Blush and Fall. We can say of this new apple, that we know of no apple of finer appearance than the Hyde, and as such, we consider it very good. We are testing the variety on our grounds, and find it to be a good grower, with slim upright branches, and the leaf is covered with a white down that gives the leaf a singularly whitish appearance. We shall have more to say of this apple upon a more extended trial. We are testing a large number of apples, and we shall give notes, as they come into bearing, as to their value and productiveness. The Hyde is said to be a good, but not an early bearer; and from what we see of it, will require a heavy soil, or at least one rich in potash.

THE WINTER KILLED IT.

Big J. vs. Barrow, Fishkill, N. Y.

When winter has passed away and the first days of spring appear, the fruit-grower and those interested in horticulture, naturally enough, goes forth to examine the condition of his orchards, vineyards, etc. Here comes to a Delaware vine or it may be some other variety subject to mildew; he cuts through the bark to ascertain its condition, and he finds it black and dry. He at once decides that it has been injured by the winter, without ever stopping to think that it might have suffered from some other cause. Had he paused for little reflection on the weather, during the latter part of the past summer and called to mind the wet and humid atmosphere of August of several days in succession, accompanied by scalding sunshine, followed again by showers, he would no doubt have remembered the fact that his vines were attacked by mildew, and that much of the foliage had fallen at least six weeks before it should, and before they had performed the functions required by nature—that of ripening the wood as well as the fruit. And here rests the true cause of the so-called winter-killed vines, for when the leaves are once off no further progress is made in ripening either fruit or foliage. There are also other causes as well, that at times produce a similar injury; excessive dry weather during autumn at times injures the roots and arrests the progress of storing the necessary chemicals required to properly ripen the wood, or excessive wet and warm weather in late autumn, followed by sudden and severe cold, with little or no frost in the ground, finds the plant in an unripe condition; the wood filled with thin, watery sap and unprepared for severe weather, and injured canes are the result. Had the season been a regular one the plant would have been properly ripened and therefore pronounced hardy. But this damage is not usually discovered until spring, and therefore the blame rests upon the Frost-King. The same may also be said of peaches, raspberries, and many other forms of vegetable life.

FRUIT NOTES.

If you have not already done it, do not forget to give the blackberries and raspberries a little manure. More will not hurt them.

Cut all apple and other limbs, in pruning, close; such woods heal soonest, and make the healthiest tree. Long knots left in trimming are unsightly and injurious.

Take pains in setting trees, and you save staking. Only a few trees, like the Limbertwig, if well set, need any staking. It may be said a tree well set is well staked.

John M. Meredith, Elwood, N. J., asks if the flowers of the quince are perfect, that is, if the male and female parts of the flowers are found in the same blossom. Answer: Yes; the quince belongs to the order of Rosaceæ, and like the rose has perfect flowers.

Keep the surface soil of newly-set trees mellow. The soil will not get so dry when mellow. Keep all grass and weeds away. A bucketful of water in a dry season will pay for the trouble. The more you care for your trees the more they will prosper.

THE BALDWIN APPLE.—A correspondent of Massachusetts *Ploughman* says this was a wilding found near Wilmington, Mass., by Samuel Thompson, of Woburn. Grafts were taken to Abijah Thompson, whose neighbor, Col. Baldwin, subsequently distributed them.

The rust on gooseberries will usually disappear if the bushes are thinned, and the old wood taken out, and the soil well pulverized around them, the grass removed, and liberally manured with fine manure and ashes. The berries will show a vast change in both quantity and quality.

If you intend to forget to train your grape vines next month, and trim them after it is too late, or not trim them them at all, as is sometimes the case, it would be better to do it now, although later would do as well. For fear you may forget it you had best attend to it the first pleasant day. That is the way to be sure of it, and have it done.

Plant all your early apples in the hog lot near the house; your fruit will be finer and hardy for use. The hogs will consume the fallen apples, worms and all, and in a few years your apples will be almost free from worms. When late apples and early apples are planted near each other, the early apples make the late apples wormy. Keep them apart.

The Wild Goose plum is a very prolific and valuable variety for the South. We saw an orchard of Wild Goose plums in Georgia four years planted that had netted the owner $250 per acre from one crop. They bear finely in that climate, and are very salable. In the more Northern states the cold injures the fruit buds, and they are seldom prolific.

Among the hardy apples suited for the Northwest, on account of hardiness, we should name Duchess of Oldenburg, Yellow Transparent, Red Astrachan, Summer Harvey, Red June, Sweet June, Famouse, Fall Orange, Wealthy, Haas, Grimes Golden Pippin, Willow Twig, Pennock, Wallbridge, Pewaukee and Wolf River. These have been found to be hardy and reliable.

We give from time to time, cuts of the best and most desirable fruits, with a description of them, with an account of soil and section in which they succeed best. This is a new feature in Pomological journals, and we are glad we can aid the reader in a knowledge of the different fruits, and the probable value to him in his own section. We believe in being practical, and write for practical people.

If the trees you set this spring are large and not well rooted, set them deeply, and pack the dirt as solid as possible around the roots which should be carefully spread out, and the ends of the roots set so the tree will be braced by the roots. By deep planting the trees will get more moisture, and will be firmer in the soil, and will not blow over and be lost. Well-rooted, plant the same as they were in the nursery.

The Monticello, Virginia, *Farmer*, says of the yield of grapes: "The first crop of Concord and Ives vines two years planted, will average four pounds to the vine, the Norton and Cynthia about the same number of pounds. The Prentiss he estimates the yield at 2500 to 3000 pounds per acre. At the number of vines reported, 650 per acre will make the yield of the Prentiss to average over five and a half and six pounds per vine.

The Bellflower apple is yet successfully cultivated where the soil is low and moist. We know of a few trees that produced in a soil of that kind one hundred barrels of apples, and were sold for three hundred and fifty dollars. In dryer soils they failed to produce a crop. The Bellflower is poor in pollen, and frequently bears better when planted near any variety rich in pollen. We have much that can be observed with profit in fruit growing.

C. W. Griggs, Williamsport, Pa., asks if the Kieffer and Le Conte pears can be grown from cuttings set in the spring, the same as grape vines? Answer: Last year we set about fifty Kieffer cuttings, to see if they would strike root. We had no rain for weeks, and could not give them a fair trial, but some of them are alive yet, and we think most of them would have grown if the season had been favorable. We shall try it again. The Le Conte does not do as well North as the Kieffer, but takes root more readily.

Quince trees are benefitted by salt. A half-peck spread evenly as far as the roots reach, perhaps a circle of ten feet, will be a good fertilizer. Do not put it in a heap at the butt of the tree, for that will probably kill the tree. Never put manures around the butt, always spread evenly. There are no roots that feed the tree near the butt, and the manure is wasted. The feeding roots are very wide-spread. Do not make a manure heap around it, and thank you have done a wise thing.

Be sure and plant cherries in a well-drained soil. Standing water will kill cherry trees very quickly, especially as soon as they begin to bear. A drained soil will insure healthy trees. We know of a black Tartarian cherry tree thirty years old and healthy, that was planted in a dry soil near the kitchen, where it received the slops from the kitchen, and bears abundantly. While a dozen others planted near it died for the want of a similar treatment. A dry soil and irrigations make the healthiest cherry tree.

We regret we have to announce to our readers, the death, on Sunday, January 18th, of that good man and great pomologist, Charles Downing, of Newburg, New York. Mr. Downing's name is known as the greatest authority in fruit of any in the United States, perhaps we may also say of the world. His work on "Fruit and Fruit Trees of America" will long be the standard work on American Pomology. Mr. Downing reached the ripe age of 82 years, and closed a long life of usefulness. Few men are so well known and so much appreciated during life as was Charles Downing.

We have made some inquiries about the Kieffer pear, in the Philadelphia markets. We find the opinion well established, both among the wholesale dealers and retail dealers, that the Kieffer pear has come to stay. The sales are increasing, and as we once said, the pear as it became in use, its value would be better appreciated. The quality was pronounced by all those who kept stands on the streets, as good, when fully ripe and mellow, and gave good satisfaction to consumers. We have no interest in the pear or any other fruit we describe in our columns, nor do we wish to have, but rather give our readers the facts, and let them think for themselves.

The experience of a very successful strawberry grower has proved with him that land plaster, when applied to the strawberry bed, makes the berries more brilliant, though lighter in color. Nitrate of soda applied at the rate of one hundred and fifty pounds per acre, will largely increase the size of the leaves and berries, but at the expense of the flavor and firmness. The Wilson will grow where the nitrate of soda is used with much larger leaves and longer footstalks, that will keep the fruit from the sand and scald, and make a brighter-colored berry, yet will be firm enough to ship. While the Sharpless, treated the same way, will be so luxuriant in foliage that the berries will fail to ripen, and be too soft for shipment, and insipid in flavor. High grade sulphate of potash improves the flavor, color, and firmness. The phosphate increases the yield.

HAVE AN APPLE ORCHARD.

By Orchardist.

An apple orchard is not made in a day; it is a thing of slow growth. Many conditions are necessary, and several of these must be right, before the work of setting the trees is done. The site is of prime importance. A thoughtful person who contemplates building a house, is quite sure to look the ground over carefully, and locate the building where it will be most healthful and command a pleasing outlook. In like manner, the land needs to be naturally suited to the growth of fruit trees. Never choose low, cold, spongy land for an orchard. A clay bottom to the soil is excellent. The soil should be in a condition to grow a good crop of corn. If it is not naturally rich, make it fertile by using an abundance of barnyard manure. It is a fatal mistake to set fruit trees out in a meadow or pasture. A growing soil is not congenial to newly set trees. A man should know that a certain field is to be made into an orchard for at least three years before the trees are set. During this time have the soil under thorough cultivation. Let hoed crops be raised for two years, and abundantly manured. This will bring the land under thorough tillage before the trees are set. It must be remembered that deep stirring of the soil near the trees is out of the question, after the orchard is planted.

With the soil deep, rich, and mellow, much is secured towards a good orchard. The next thing is the selection of the trees. The number of good varieties is large, and the greatest difficulty is in knowing what to leave out of the list. If the trees are for family use, you must consult the tastes of the family. There should be some early trees, some fall apples and many good keepers for the long winter. If the orchard is for market fruit, you need to learn what the demand of the market will be. Fine looking apples are good market apples. Fine tasting apples are best for home use. Consult your neighbors, especially the one who has been the most successful with his orchard. Visit him, and if convenient, help him to eat some of his best fruit. Nearly all books on orchard making, give full lists of the early, medium and late sorts. It is always best to rely upon old, well-established sorts for the main crop. Novelties need to be only slimly represented. It is nearly always unwise to purchase trees from pleasant-spoken tree peddlers, who are strangers. They show fine fruit in highly colored pictures, while the trees are very apt to be thin close stock, sold at a low price by nurserymen, half of which may not come true to name, and the other half have no names. Buy the stock direct from some reliable nursery man. It is well to buy the trees when they are small, and set them in rows for a season or two. Young trees do not sustain so many injuries as old ones in the hands of the nursery workmen.

An orchard is set to produce fruit, not fire wood, therefore, be sure and give the trees sufficient room to spread. If set in squares, they should not be nearer than forty feet. In setting the trees, care should be taken that the roots are spread out on all sides, equally, and that the fine soil is pressed down closely upon them. Make a plot of the orchard as soon as set. The labels soon get lost and cannot be depended upon. The plot or chart shows the position and variety of each tree. Cultivate the ground for five or ten years, but not late in the season. Look for borers in the trunks, near the earth, and kill when found. Destroy all other insect pests, and expect good returns for many years.

STRAGGLING NOTES FROM OREGON

By J. J. Harden, Stayton, Oregon.

Wheat is as forward here about the 20th of May as it is in southern Kansas, where the writer formerly resided. A month later it is in shock there, while here, harvest comes about the middle of August. Because wheat ripens so early, is the reason that Willamette Valley wheat is considered the best, and commands the highest price of any that reaches the London markets.

Persons coming here generally expect not to be able to grow corn even for the table. It does not ripen sufficiently well to be profitable for feeding stock. It, like wheat, is very slow in ripening, and a specimen will be in perfection for the table for a month, or more, and early varieties do not always mature. For that reason we have "roasting ears" for a much longer season and of a superior quality to those of our Eastern friends.

Potatoes, and especially root crops and cabbage, are profitably grown for feeding stock, although cattle generally, even milch cows, are pastured on wheat during winter, and most of the hogs are fattened on wheat. Cauliflower and celery grow successfully. Early beans and peas can be had without intermission until frost. Cucumbers do moderately well, while tomatoes do not ripen so well; still, they are to be found in every garden.

Small fruits do exceedingly well. Besides gooseberries and currants, the strawberry and raspberry, both kinds, and blackberries, including the native and evergreen, are equally hardy and prolific, and the season of the one running into another, until frost checks the continuous blooming of the latter. For the growth of small fruits, cherries, plums, pears and quinces, considering hardiness, prolificness and freedom from disease and insect ravages, there can be no better place than this Valley.

A company is being formed here to grow and can fruit. Each member grows ten acres, or more, of fruits, and owns stock in the company. It is expected that members from the East will be admitted into the Association.

In the flower garden, pansies violets, daisies, ten-week stocks, tuchsia, anemones, and other plants that require a lower temperature, succeed admirably, while cannas, tuberoses and other plants from the tropics need pampering. A rose will retain its perfection three times as long here as in the Mississippi Valley, and all the everblooomers are not only hardy, but evergreen. Broad-leafed evergreens and English ivies are hardy, while the long list of provokingly half-hardy shrubs and trees that we used to admire—in print, find a congenial home here.

YELLOWS IN THE PEACH.

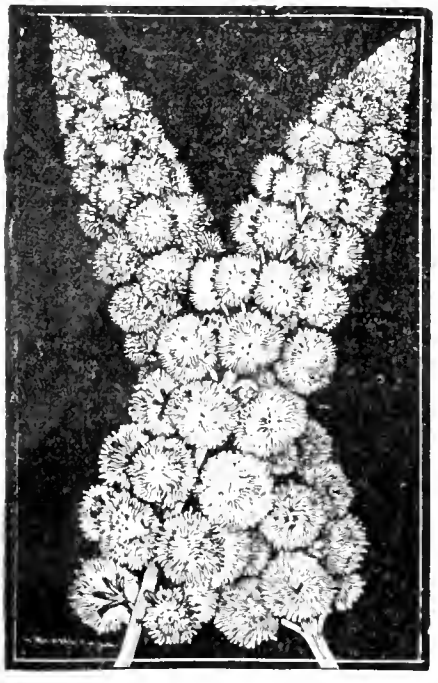
By John McLean.

From a series of observations and experiments, I had adopted the opinion that the yellows in the peach, and the knot in the plum, were propagated by the bees and other insects, through the medium of the blossom. The first item of interest that led me to espouse this belief, was the circumstance of the sprouts from the roots of a common pie-cherry tree, the stem of which had been gratted with the sweet cherry, resisting the knot until the blossoms had furnished a means of conveyance for the diseased virus, while the sprouts from other ungrafted trees of the same kind growing near by were literally covered with knots, in all stages of development. The fact of the sprouts from the root of this tree being perfectly healthy and free from the knots, while they were not too young to bloom, the stem being of the variety known as Jersey Sweet, and incapable of transmitting the disease to the roots, and becoming affected afterwards, would seem to argue or prove the blossoms to be the true means of access to the disease. Accordingly, reasoning from this inference, if I could procure some peach and plum trees from a variety in which these diseases were unknown, and then immediately set to and eradicate every tree that showed signs of being affected with the yellows or the knot, or that were in any way predisposed to the same, I could, by this means, baffle these diseases, and raise up for myself a stock of healthy trees that would yield crops of fruit equal to what had formerly been accomplished.

But however true this may be with reference to the knot in the plum, my experience proves that with the yellows in the peach, it will not hold good. Desiring to put this view to a practical test, I sent away to Carthage, Mo., for a bill of peach trees, both natural and budded, having learned that these diseases had not yet reached the borders of the extreme Western States, intending the natural seedlings to raise seed for stock, while the budded trees would furnish buds for the same; but unfortunately for the success of this enterprise, as well as to my grevious disappointment, most of the trees received from abroad were planted in places, or near, where other peach trees having the yellows had stood. The consequence is that out of fifty seedling peach trees from abroad, and as many more budded ones, not one dozen trees are left to survive the second year of their planting. That the yellows, in most of these cases, were communicated to these trees by means of a small parasite in the ground where the diseased trees stood, is my firm belief. That the blight in the pear tree is communicated in the same way, in some cases, is equally true. Of this I have abundant evidence in the blighting of a number of pear seedlings in the nursery row, over which a blighted pear tree stood, while the other seedlings at a distance were entirely exempt. That budded or gratted trees, of certain varieties, might blight under similar circumstances, without any connection with the blighted tree, may well be supposed; but, that natural seedlings should do so, is not at all likely.

We thank our friends for the many kind expressions of the value of THE FARM AND GARDEN. We appreciate their cheering words, and shall do all we can to make it worthy of the favors it receives. Many promise to add to the list of subscribers they have already sent us, and we extend to them our thanks. We intend to make THE FARM AND GARDEN the cheapest and best paper for the farmer.

OUR FLOWER GARDEN.



NEW DOUBLE WHITE MIGNONETTE, SNOWBALL.

At some time or other all flowers fall under special care and esteem. At one time the Pelargoniums engaged the attention of the horticultural world, and every advance was hailed with delight; instead of the small but pretty Pelargonium Echinatum, and others of its type, we have the magnificent "Regal Pelargoniums" of which Beauty of Oxton and Queen Victoria are charming examples; while among the single and double geraniums Pelargonium Zonale, such varieties as Adam Koch, Deputé Dexaux, Nelly Thomes, Illustre Citoyen, Gambetta, and a host of other equally fine sorts, are a tremendous advance over their ancestor, the insignificant single scarlet. At another time the Primrose was the rage, while at the present the Rose holds first rank, closely followed in popular favor by the Pansy, Chrysanthemum and Mignonette.

For a long time the Mignonette Reseda Odorata, received no attention. It was a fragrant flower, easily grown, and able to take care of itself. The flower was ragged and uncouth in appearance, and the plant "was all over the ground, and no where in particular." Some one, whom history has failed to chronicle, took compassion on its condition and endeavored to start it on the road to recognition and favor, with gratifying success. Steadily it has advanced in fragrance and size, until one variety bears the grandiose title of Reseda Grandiflora Gigantea Pyramidalis. The subject of our sketch, while bearing away no honors for length of name, has attained first place in color and beauty of form. Unlike many of the so-called "white" varieties, which have proved to be a dull gray and possessed of little fragrance, the Snowball has the true Mignonette odor and a pure white color; the flowers are very double, giving to the plant the appearance of its namesake. To its many good qualities it adds the charm of regularity of growth, and forms dense masses abundantly covered with large tresses of bloom.

MUSA ENSENTE. (*Abyssinia Banana*), Which we illustrate on page 1. We are glad to be able to present our readers with a beautiful illustration of this ornamental plant. Musas have of late years come to be extensively used during summer in parks and large private gardens, where they produce a handsome effect. It is generally supposed that difficulty is experienced in preserving them through the winter. This, however, is not the case, as a temperature of about 50° will keep the plant in a growing state, while if the leaves and roots are cut off, and the plant be laid in the cellar, covered with about a foot of soil, there is no danger of it being frosted. They may be planted out in summer, or if grown in large pots, these may be plunged in the ground.

While many Banana plants may be grown in the open ground in this latitude and produce a good effect; Musa Ensenta is the one most admired. The fruit of this variety is not edible, but the leaves are magnificent, broad and of a bright green, with a bright crimson midrib; it grows luxuriantly to a height of seven to ten feet. In answer to several inquiries, we would say that the plants can be obtained from Henry A. Dreer, Philadelphia, or Benjamin A. Elliot, Pittsburg, Penna.

TUBEROSES.

Some people seem to have difficulty in blooming these, and yet, no bulbs are easier to manage, providing you get good stock. Whether wanted for blooming in pots or in the open ground, they may be potted now in good, rich soil. If only one bulb is planted in a pot, this need not be larger than five inches, while a six inch pot will readily hold three bulbs. Of course they can be shifted afterwards, when well rooted, into pots of a larger size. After potting, put them in the warmest place at hand, and at first do not water more than once a week. When the tops begin to grow they should receive enough water to keep the soil moist, but not wet. Towards the middle of May, plant out in the garden if wanted to bloom there. The Tuberose is one of the choicest of flowers. It produces long spikes three times as large as our illustration, of pure white wax-like double flowers of great fragrance and beauty. By many, its fragrance is considered to be the finest of all flowers; even one or two flowers being enough to perfume a whole room. The comparative low price at which the bulbs can be had, enables any one to grow them in quantity.

LILIES.

Now is also the time for potting Lilies to bloom in the house or conservatory. The best for this purpose are L. Auratum, Longiflorum, Harrissi and the Lancifolium. All bulbs, as soon as received, should be carefully examined, and any decaying matter removed. They should then be laid in soil, or better still, cocoanut fibre, in a moderate condition of moisture, until the bulb recovers its usual plumpness and the roots are just on the point of starting from the base. Then they should be potted, or planted out as required. It is best when planting, to surround the bulbs with soil. Manure should never be dug in with the bulbs, though they accept it gratefully as a top-dressing, liberally applied after they have been established. The soil should contain a good part of rich heat and near one-third sand.

PANSIES.

These lovely flowers are favorites with all, not only for the brilliancy and variety of their colors, but for the durability of their bloom. Seed may be sown in the open ground in spring or summer, or in hot-beds earlier. Young plants produce the largest and best flowers. They should occupy a cool, partially shady spot, and the ground should be fine rich; coolness and moisture are necessary. Transplant when one inch high.

VIOLETS.

About Paris, the cultivation of the Violet is carried to a great extent, and in some places near that city, three or four acres may be seen covered with them, the ground being of a rich, free, warm nature and well exposed to the mid-day sun; the plantations being made in spring, and those required during winter being grown in frames. It is almost needless to say that they may be propagated to any extent by division; but strong, healthy, free-flowering plants are raised from seed. Some fine new varieties are offered this season by different seedsmen.

The insects that trouble Violets most, are the green fly and red spider. The first is generally the result of a close unhealthy atmosphere, and is most easily got rid of by gentle smokings. Red spider is caused by strong sun and dryness at the roots. Hand-dusting with sulphur is the best remedy; but it is easy to prevent its occurrence by maintaining a damp atmosphere by syringing the plants and surroundings.

Earthworms may be destroyed by using lime-water. Take about a half a pound of lime to two gallons of water, and use when precipitated and the water clear.

When planting Tuberoses, the small surrounding bulblets should be removed. A top-dressing of cow manure is beneficial when the plants are in growth.

One of the best summer blooming plants is Plumbago Capensis; flowers sky-blue—very unique. Repot now, and cut the shoots back close. Give no water until it begins to grow, except enough to keep the soil moist.

Poinsettias that have done blooming, may now be dried off in a warm place. Afterwards, put them out of the way in a cellar, to plant out or set out in their pots in June.

Among the best hardy ornamental plants we should mention the Yucca, or "Adams Needle." There are several species, hardy and well suited for flower garden purposes, and they have the advantage of being distinct from each other.

Finest Irises. For permanent planting the variety of evergreen Iris included under the general name of Germanica, are the most suitable, being very rich in color, quite hardy, and easily grown. The dwarf Iris Pumila would be the best and bloom earlier than Germanica.

PANSIES.

If you have a greenhouse or cool bay-window, why not try a plant or two of Asparagus Tenuissimus, the new graceful climber that is taking the place of Smilax.

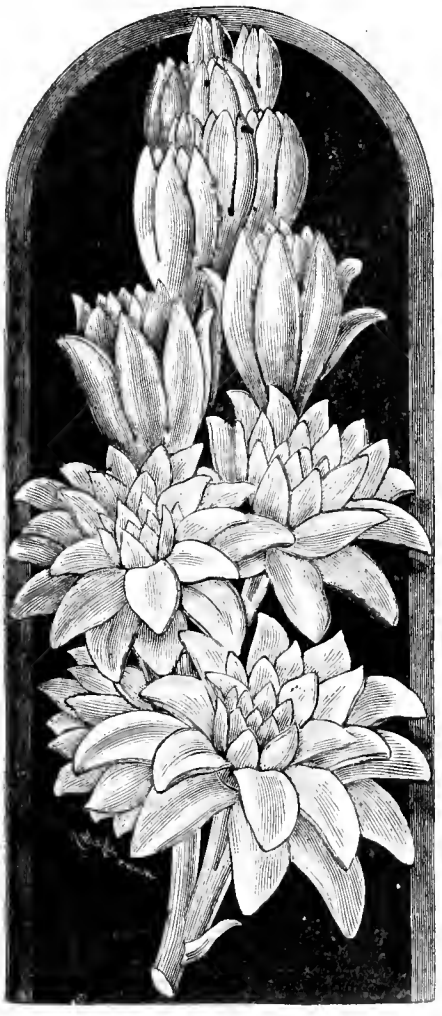
The controversy as to keeping live plants in a room at night continues to be carried on with vigor and acrimony, although most people have probably supposed that it was long since set at rest. At a medical conference recently held in France, it was demonstrated to the satisfaction of all the savants there present, that plants, as long as they are plants only, may safely, and even with advantage, be admitted to the elysium from which they have so often been exiled. These pretty ornaments, as a learned writer now declares, "far from being hurtful, are beneficial, inasmuch as they exhale a certain amount of ozone and vapor, which maintains a healthy dampness in the air, and, besides that, are destructive of the microbes which promote consumptive tendencies in human beings. It is only flowers, and not the plants which bear them, that do the damage. Ferns are innoxious; roses and sunflowers are pernicious, at least while they are in bloom."

Next month will be the particular month to pay attention to the sowing of hardy annual plants. The sooner they are sown the better they will flower, providing, of course, they are really hardy. They are generally distinguished from the tender class in florists and seedsmen's catalogues. In sowing annuals, the soil should be slightly worked up first, so as to make it rather mellow, and after the seeds are sown they should have a little soil sprinkled over them, according to the size of the seeds. Failures often arise from the seeds being buried too deeply, and also from the soil being too stiff, and baking after a rain. Light sandy soil should be used in most cases.

During February, a great many plants, such as Begonias, Fuchsias, Verbenas and Coleus, can be raised from cuttings. This should be the time for preparing a large supply for summer bedding. The beautiful evening glory, Ipomea Noctyphiton, of which we will give a half size illustration next month, can only be raised from cuttings; these, however, root very quickly, if started in a warm place. Cuttings with two eyes will be found large enough, and, when well-rooted, they can be planted in a three-inch pot well filled with rich soil. You have no idea what a splendid growth they will make in a season; but we have already said so much about these plants, that we must stop here.

BEGONIAS

To florists and owners of greenhouses:—It would be difficult to find three more beautiful or more available subjects for in-door gardening than Begonia Cherere, Begonia Venusta and Begonia Speciosa, of the first is beautifully illustrated in the London *Garden* of December 20th, 1884, while all the other species are of first-class merit as flowering plants. It may be owing to their somewhat strong and large growing habit, that comparatively little is done with Begonias by cultivators at the present time. In very small houses it is hardly possible to afford these plants the treatment and space they require for their full growth and development. There are, however, thousands of large, glass structures where Begonias would be found to thrive and to afford



TUBEROSES.

a display of brilliant flower charms, such as would those whose houses are embellished with standard climbers.

LARGE RHODODENDRONS.

A writer in the London *Garden* gives the dimensions of a few standard Rhododendrons planted about thirty-five years ago. The largest one was found to measure five feet at the stem, the circumference of which was two feet nine inches; depth of head, ten feet; circumference of head, forty-eight feet. They still retain their freshness and vigor, and are annually covered with bloom.

The Philadelphia Florists and Growers had a fine time at their second annual supper. A large number participated, and some good speeches were made. Mr. Evans' remarks about the new rose, "Her Majesty," which he has just purchased from Mr. Bennett, were listened to with interest. The gold medal awarded to the originator of this rose, was passed around and much admired. Philadelphia should be proud of her enterprising florists.

By the way, we have a florist and grower in our midst, who now has thirty houses devoted to the choicest of cut flowers. He does not advertise, nor issue a catalogue, but his reputation for growing good stock stands so high that he cannot fill orders. Leading florists from New York and other large cities get many of their plants from him, because none can grow them as well. The secret is that he has large houses, a good open situation with plenty of light, and above all, he understands his business. What a good **thing** for the others that he does not issue a fine catalogue; what a business he would do!

The William Francis Bennett Rose seems to have gone off with a "boom." Every prominent florist catalogues it, and, although the prices range from $1.50 to 2.50 per plant, according to quantity, there is already a good demand for it. One grower bought three thousand dollars worth and several six hundred and one thousand dollars worth.

The three beauties advertised so extensively by Messrs. V. H. Hallock, Son & Thorpe, should be purchased by every lover of flowers. Our friend Blanc tells us that the engraving does not do them justice. The colors of Bessera Elegans, and especially of Cyclobothra Flava, should have been portrayed by a colored plate. The flowers, after being cut, last for a very long time. 'Milla Billora, even if cut before the flowers are open, will expand beautifully in water and last much longer than it left on the plant. The very low price at which these novelties are catalogued, will enable every one to buy them in quantity.

GLOXINIAS

That have been left over since last season, in sand or in their pots, should now be replanted in good, rich, peaty, sandy soil; with good drainage. It is best not to give them too much heat at first; let them come out slowly without giving much water, for fear of rotting the bulbs.

CALADIUMS.

Florists, and those having greenhouses, will now commence to start the fancy-leaved varieties in heat. About the best plan is to plant them in a shallow box, filled with moss. Here they will soon begin to grow, and then they can be assorted as to colors. Those who only have a window to grow Caladiums in, should wait until May before starting them. By this means they will grow quickly and strongly, and they will remain in perfection until late in the season. Some English growers now keep their tubers very late, so as to have the plants in all their beauty during the winter instead of summer.

CALLA HISPATA VARIEGATA. (Spotted-leaf Lily).

If a strong tuber of this can be procured, it will form a highly ornamental plant. We saw one last season planted in a twelve inch pot, that was a beauty indeed. It filled the pot with strong shoots, the leaves being beautifully spotted and so nearly transparent that one could almost see through them. This lily is also a very free bloomer, although the flower is not as large nor as white as the regular Calla Lily.

CEREUS CAESPITOSUS.

Last season we received a number of these rare cacti while they were in bloom, and were much pleased with the pleasing color and fragrance of their flowers. We had not paid much attention to the plants during the winter, well knowing how little care they require, we did not even give them a watering, as they were placed in a house where the atmosphere was rather moist. So, we were surprised a few days ago in looking over them, to find the majority of them actually in bud; even some of them that had been accidentally thrown out of their pots, and had not a particle of root left to them. This shows how easily these plants are managed.

If you are about to make up your order for flower seeds, you should try some of the novelties sent out for the first time this season, and especially the following:

IBERIS HYBRIDA NANA,

(New Tom Thumb Candytuft). This novelty is of great merit. There can be nothing prettier than this little candytuft for edging beds, borders, rockworks, etc., and it is of particular importance for bouquet making. It makes a true dwarf, compact and beautifully rounded bush. The plant is well adapted for pot culture, but its beauty will be more perfectly developed if planted out in the garden. The flowers appear in great profusion in June, if sown early, and will produce flower-heads continuously, until cut down by frost. It can be had in various colors, viz.: white flesh color, purple and rose.

NASTURTIUM EMPRESS OF INDIA

This nasturtium is of a very dwarf habit, and while the flowers are of the most brilliant crimson color, the color is also of the darkest shade of green, making a beautiful contrast. The flowers are produced in enormous quantities. This novelty was awarded a certificate by the Royal Horticultural Society of London, which, alone, is enough to recommend it, as this award is never given except to novelties of undoubted merit.

Live Stock.

While grain is cheap and meat dear, feed the grain and sell meat. When grain is dear sell grain. Talk as little of hard times as possible. Business will be dull, and grain low, as long as people stop work, and lament hard times. Come, let us cheer up, and push ahead.

CHANGING TO GRASS IN SPRING.

Although the snow is on the ground in some localities, yet the next month may be warm enough to start the grass in some sections, and the first thing to be done by the farmers who have plenty of pasture will be to turn out the stock. Every spring we hear of the prevalence of bowel diseases due to this cause. It will do no harm to allow stock the privileges of the pasture as early as may be desired, but there should never be a complete change from winter feed to pasture until the stock has been gradually brought to pasturage. The first day's pasturage should not last over an hour, and no change at all should be made at the stable. The sudden change often causes abortion in cows and mares, and enfeebles the ewes that are late in lambing. On those farms where ensilage has been used plentifully the stock will have less difficulty on early pasture than when no succulent matter has been fed, and the same may be said of those farmers who feed roots. Grass, when it first makes its appearance in the spring is almost equal to a cathartic in its actions on the bowels. This would be beneficial if not continued, but where a complete change from dry to green food is made, and the stock compelled to subsist largely on the young grass, the effect is very weakening to the animals, and especially to the young stock. Calves are always seriously affected, while colts become very thin in flesh until later in the season.

WINTER FEEDING OF STEERS.

The feeding of steers in winter is done rather with a view of converting the crops into a more saleable product here than with the expectation of realizing a profit from the steers. There are several advantages in favor of the winter feeding of steers, among them the following, viz: The feeding material is not only consumed on the farm, but there is a large quantity of manure saved. The labor is usually performed during the winter, when help is cheap, and other work not pressing. It avoids the hauling of the farm produce over bad roads, to say nothing of the labor attendant upon sending it to market, which is saved by feeding it to stock. If the farm is located near a city, the steers will transport themselves to market. There is also a profit in feeding steers. They are usually bought in the fall, when they average about 800 or 1000 pounds weight, at from five to six cents per pound. When sold in the spring they usually average from 1200 to 1400 pounds, and the price realized is from seven to eight cents per pound, thus returning not only a profit on the increased weight, but also by reason of a higher price for the whole. The estimated cost of keeping a steer over winter, and bringing him into market in good condition, is about twenty dollars, but of course this estimate varies according to the severity of the winter, and the quality of the food allowed.

BREAKING MULES.

By Thos. D. Baird, Greenville, Ky.

I have heard some farmers say that in breaking a mule the first thing to do was to knock it down five or six times, then you might do something with it. By this treatment the animal receives a shock both mental and physical, that in many cases injures the constitution of the animal without conducing to its proper training. It is erroneous as well as inhuman. The first thing in breaking young animals of any kind is to govern your own bad habits, then you are ready and fit to break the animal.

In observing the action of the mule, and studying their nature, we find them to be a timid animal, possessing a great amount of curiosity in their composition. Affection strongly characterizes all their actions, but they possess a peculiarity unusual in most domestic animals, that of resenting any injury received at any time. From these circumstances they have received the credit of viciousness and stubbornness, which, by a proper study of their characters, and by a proper treatment from the beginning, can, in most cases, be overcome. It is much easier to train up a mule in the way in which it is to go, and to fit it for the purposes for which it is intended, than to overcome and bad propensities, arising from years of mismanagement. At all times one should move among the colts, handling them quietly, and without evincing any outward manifestations of fear, in this way you will soon gain their confidence. By kind treatment mules may be rendered the most docile and affectionate creatures among our domestic animals. That shy, skittish disposition so common in the mule, is much of it from mismanagement and ill treatment.

In breaking mules begin when they are young, handle them gently, but firmly, avoid the possibility of it breaking away from you, for success depends upon the result of the first effort, and the impression made upon it. Have all the harness strong, and in gearing be gentle, steady, and confidential. After being hitched do not endeavor to repress to great eagerness in the animal, lest it becomes discouraged. In all things be quiet, gentle, and firm, this will give the mule confidence in himself.

STOCK NOTES.

THE LAMBS.—Keep the rams away from the flock until all the ewes have lambed, and be careful that too many ewes are not together, or some of the lambs will be injured.

THE TOOLS AND THE ANIMALS. The tools will need looking after. Before beginning work with the teams, oil and clean every implement, using coal-oil, freely, and it will save labor.

FEEDING ROOTS. Cutting and slicing cold frozen roots for stock is not economical. They should be placed over night in cold water, in order to draw out the frost, and before feeding, the water should be well drained off, and the sliced roots sprinkled with meal and salt.

THE FENCES.—We do not advise you to mend your fences now, but to wait until the frost has finished its work, and then the posts will need attention, as the frosts will loosen them. It is well enough to nail up the opening, but permanent repairs must be done later.

CHEESE MAKING.—There should be a school in every farming community for teaching farmers how to make cheese. We admit that the dairies can make a cheaper article, but good cheese is not easily procurable, and once the home-made article is tried, no regrets will be experienced, as but few cheeses are now made of the whole milk, in comparison with the tons of the lard product with which the county is over-loaded.

MILCH COWS. As the cows usually come in at different times, it is well to remark that the milk from a fresh cow should not be mingled with that of the others too soon. It is a common practice to remove the calves when they are only three days old, but the milk from the dams will be at times ropy, and unfit to drink. Yet, this fact is disregarded, and the milk sold or used as food, and it is not surprising that some complain because the butter does not come, when they mix milk of different qualities and from cows in all stages of flow.

LOOK OUT FOR THE MANURE. Be careful about the manure when the snow begins to melt, as greater loss occurs then than at any other time. It is worse than a drizzling rain, as the slowly melting snow penetrates every portion and carries off all soluble material. It may be considered rather laborious, but it will pay to get the manure spread as soon as possible, or else place it in heaps under cover. Absorbents will not arrest the loss unless the manure is turned over and mixed with it, and it will be money in the pocket to shovel the snow away from the barn-yard altogether.

SHEEP AT THE BARN.—Although sheep should be kept at the barn during winter, they should never be closely confined. No matter how cold the weather may be, sheep must be allowed to go in and out at pleasure. They prefer the snow, and even damp weather, to being crowded in the barns, and unless they are gratified in their desires become subject to diseases. Too many sheep should not be kept in one flock, and an open shed is better for them than any other kind of quarters, provided it is kept clean. They should have a small trough for salt, and should be watered at least once a day regularly.

THE PIGS.—If you desire your pigs to grow keep them in good warm quarters until the weather opens, and then give them plenty of exercise. Do not try to *fatten* them. Fat is useless to a pig in spring and summer. What is required of the pigs is *growth*, or the building of the frame work upon which to place the fat later on. It does not require strong, concentrated food for growth, but a variety, and plenty of exercise, which promotes health, and wards off disease. Skim-milk, and the run of a clover field will do more for a pig than anything else, and it should not receive a grain of corn until next fall.

WORKING THE HORSES.—As soon as the time for spring work begins, do not work the horses too severely at first. Standing in the stables all winter renders the muscles soft, and heavy exercise brings on soreness. The best plan is to share the work among them according to the number, giving each animal a half day's labor at a time. Horses that have been well wintered, however, will be able to do greater service than those which have been partially neglected, and can afford to lose a portion of their accumulated fat before summer; but with the beginning of hard work there should be an increase of the grain allowance, of which oats should predominate.

WEANING THE YOUNG STOCK.—March is an excellent month for weaning all the young stock that are old enough. The colts may be gradually weaned, so as not to interfere with spring service on the part of the mares, and the calves that have been allowed to remain with the cows during the winter, as is sometimes the case with those of choice breeds, may also be taken away. There are two reasons for weaning now, which are, that there is less liability to disease of the bowels during cold weather, and also to avoid weaning them after grass is ready, which is always injurious to recently weaned young stock. With a little care, the young stock can easily be weaned in a few days, without danger of retarding growth.

We always thank our friends for what they do for us, and know they take pains to get subscribers for the "Farm and Garden," which we always appreciate. We often get letters saying they were induced to take our paper by advice of a friend and are pleased with it.

THE POULTRY YARD.

As we have given some space on editorial page to poultry, our readers will excuse us for having cut this page down.

BROILERS.

Broilers are usually hatched under hens in March for the earliest supply, but where the season is severe, the hens and broods must be kept in a good warm location. It is useless to attempt to raise broilers by leaving the chicks entirely to the care of the hens. They will gradually drop off one by one, until as many are left as the hen can conveniently cover, and when the minimum has been reached, the chicks will thrive. Chicks under hens demand as much care as those in brooders, especially at this season, and unless they receive it, at least one-half will perish.

FEEDING COOKED MATERIAL.

The food for young chicks should always be cooked, for if this is done there will be less liability of bowel disease; but the adult stock should have whole grains a portion of the time. By cooking the food, one is better enabled to feed a variety, as potatoes, turnips, beets, carrots, and such like, can be utilized with advantage. All such material as bran, middlings, corn meal, or ground oats should at least be scalded, if not cooked, which renders it more digestible and more quickly beneficial. Where shells or lime are not within reach, a substitute may be had by stirring a spoonful of ground chalk in the food of every six hens, but gravel must be provided where this method is adopted.

A DISPLAY OF MARKET POULTRY.

Now that the poultry shows are over, and the programmes for next season will be made, is it not an excellent idea to combine a display of market poultry with that of the fancy breeds? Farmers, as a class, take but little interest in poultry shows, as they are usually conducted, for the reason that no inducements are offered them as premiums. Everything is sacrificed to "points," which should be encouraged, in order to adhere to purity, but there is no reason why market poultry should not be exhibited in *connection* with the pure breeds. Farmers do not understand the "points," and cannot compete with breeders, as it is harder to breed a perfect fowl in points, than to breed stock true; but the farmer knows what a good fat hen is, and what broilers should be. There should be a display of capons, crossed breeds, market chicks, dressed carcasses, and even eggs. And when an excellent market fowl is produced by crossing, the manner and cost of so doing should be given. Fairs should be for the purpose of giving *instruction*, and not for the honor of securing premiums only. We should endeavor to promote the poultry interests in some other manner than in empty competition for the mere fact of securing advertising reputation. The *poultry* interests and the *fancier's* interests are two distinct matters, and the true method of holding a poultry show is to offer inducements to *all* who are interested.

HOW MANY EGGS WILL A HEN LAY.

We often read of hens that lay 200 eggs a year, but such statements do more harm than good, by inducing the inexperienced to believe such to be a fact. Any one who is familiar at all with poultry, knows that during the fall all hens undergo the process of moulting, or shedding of the feathers. This requires, usually, about three months, or 100 days. As there are only 365 days in a year, we have 265 days left after deducting the moulting period. If a hen lays, regularly, an egg every other day, she will lay 133 eggs, but, she will probably lose three months more in hatching out her broods, and even if she is a non-sitter, she will take a resting spell. As moulting is a heavy drain on the system, but few hens lay during that process, though there are exceptions, and where the number of eggs exceed one every two days, it will be found that a corresponding reduction occurs during some period of the year. While we admit that certain individual hens have been known to lay as many as 150, or even 175 eggs, in a year, such cases are rare, and if one has a flock of twenty hens, or more, he should be satisfied if there is an average of 100 eggs a year for the whole flock, or rather, nine dozen. Four dozen out of the nine should realize thirty cents per dozen, three dozen should bring about twenty cents per dozen, and two dozen should realize fifteen cents per dozen, in this section, or an average of about twenty-three cents. Of course this calculation may be wrong, but it will convey an idea of what may be expected.

THE BEST BREEDS FOR COLD CLIMATES.

By P. H. Jacobs, Wayne, Ill.

There is no one breed that suits all the different climates of the United States, and therefore the desire to secure a general purpose hen, like the general purpose cow, is an impossibility. When the snow is very deep, the hens must be kept indoors, and the active breeds, (which are the best layers), such as the Leghorns, Houdans and Hamburgs, become restive, and are soon addicted to vices, such as feather-pulling, egg-eating, etc.

The hen best suited for a cold climate should have a small comb, in order to avoid the frost, should be well feathered, and easily kept in confinement. Nor is it best to use the pure breeds exclusively, as they are bred, as a rule, too fine. The beginner should rely on crosses for his purpose, seeking to combine the good qualities of several breeds in one. The hardiness of the Plymouth Rocks, the heavy feathering of the Cochins, the early maturity of the Leghorns, and the small combs of the Brahmas and Wyandottes should be secured; and at the same time there must be retained yellow legs, skin, and good laying qualities. The best foundation is the common fowl, for the reason that it is always acclimated. The first thing to do is to increase the size, which may be done by the use of a light Brahma cock, which also implants the small pea comb. A cross of the Rose-comb White Leghorn will give early maturing qualities, and if the cross is continued by the use of the Wyandotte, the size is again larger and the comb small, with plump bodies and golden yellow skin and legs. Occasionally, for a change, a dash of the Pea-comb Partridge Cochin may be used with advantage; but whenever a cross with the Cochin or Plymouth Rock is made, it should be followed with a Wyandotte, as one of the principal objects should be to breed for small combs.

One-fourth Leghorn blood is enough in any cross, as the Leghorn blood predominates. A half-bred Leghorn hen will have nearly as large a comb, and be nearly as small in size, as a pure-bred one, and in making crosses use the Leghorn cock with hens of the larger breeds instead of the other way. A good, heavy fluff on a hen indicates that she is well protected against cold, and if the houses are warm and comfortable, the hens well cared for, and made to *scratch* for all they eat, there will be no difficulty about getting eggs in winter. But to get eggs in winter, if the climate is severe, there is no reliance to be placed in Black Spanish, Hamburgs, Houdans or Polish. The Leghorns may be partially excepted, but the best are the Brahmas, Langshans, Cochins, Wyandottes and Plymouth Rocks, the good qualities of all of which may be combined, to a certain extent, by judicious crossing.

POULTRY SCRATCHINGS.

MATERIAL FOR DUST BATHS.—Dry dirt is not easily procured now, and the best substitute is finely-sifted coal ashes. Wood ashes should be avoided, being injurious should the weather be damp.

THE NEW YORK SHOW.—There were 10,000 birds, including pigeons and wild fowl, at the Fanciers' show in New York City last month. Thousands of visitors were present from all parts of the country.

MARCH WINDS.—There is nothing like dampness and cold winds for producing roup. See that every crack in the poultry house is stopped up. It is better to leave the door open than to allow open crevices.

GOOD INCUBATORS.—At the recent New York show over fifty incubators were exhibited, and nearly all were in successful operation. The time is fast approaching when sitting hens will be entirely superseded.

PROLIFIC LEGHORNS.—Mr. R. R. Lewis, of Atco, New Jersey, reports that he finds White Leghorns to be good winter layers. His flocks lay as well now as in summer—due to good quarters and care in breeding. For years he has bred for vigor, and is a strong believer in the prolificacy of White Leghorns.

LINING FOR POULTRY HOUSES.—Tarred felt is the best material. It can be easily tacked on the inside, does not harbor rats or mice, and is obnoxious to lice. The only objection to it is that it renders the poultry house dark, but where there is a good, large window the advantages are greatly in favor of its use.

SCRATCHING MATERIAL.—The hens should always be provided with something within which to scratch. Anything will answer, such as cut straw, chaff, sawdust, earth, wood ashes, or even sweepings from buildings. Above all things keep the hens at work during confinement, as they will remain in better health, and prove themselves more productive.

A SAFE REMEDY.—The celebrated Paris diphtheria remedy has been tried with success in cases of roup in fowls. The method is to place the hen in a box (such as a soap or candle box), and burn wood, tar, and spirits of turpentine, equal parts, until the box is completely filled with the dense black fumes arising from the combustion. As the sick fowl inhales the smoke the mucuous matter is dissolved, and relief is immediate. It is a simple remedy, and worth trying.

FROZEN DROPPINGS.—If the droppings are not removed daily they become too hard, and the larger the accumulation the greater the difficulty of removal. Dry dirt should be sprinkled under the roosts, but as it is not easily procured at this season, land plaster, if dry and fine, may be substituted. After cleaning away the droppings scatter plaster liberally over the floor, and under the roosts, and the labor of removal will become an easy matter and quickly accomplished.

THE HOUSEHOLD.

AUNT HESTER'S DOCTORING.

By Althea L.

"It is hardly worth mending again," said Fanny, regretfully, as she set aside the big dish pan which had served her so long and so faithfully, "though I am sorry to give it up."

Aunt Hester examined it critically a minute, and then decided that she could patch it so effectually that it "would be good for another five years." Fanny watched her with much curiosity as she cut a round of stout yellow muslin the size of the bottom of the pan, then painted the outside of the tin and laid on the cloth. Then she gave the latter a thick coat of paint, also, and set it aside to dry. Sure enough it was doing good service still, five years afterward.

The coal-scuttle was also going out at the bottom, and fine coal-dust often sifted out on Fanny's bright oil-cloth. Aunt Hester "doctored" it in the same way, without and within, and there is no telling when that will ever wear out. "It is the first time I ever heard of mending tin or iron with cloth," said Fanny.

But Hester's fashion of mending rag-carpets, was quite as peculiar. I never tried it, but her plan worked well for her. She made a thick flour paste, and cut out a patch the size she desired, and then pasted it neatly and firmly down on the worn spot. Every thread and strand was glued fast, and when it was dry it would keep in place a long time, and hardly show the patch.

She was a great help to Fanny when it came to repairing some old ingrain carpets for the bedrooms. Worn places were cut out, and the seams ripped apart. Then the pieces to be joined were lapped an inch or two, and felled down on each side. It gave a strong flat seam, and the carpet could be used on either side. She calculated it all out with care before the carpets were taken up. This is an excellent plan for any housekeeper who finds economy needful, and who cannot replace the old with new as often as she would like.

Putty was an infallible cure, with Aunt Hester, for broken earthen-ware which was not designed for table use. It must be left long to harden, but then it was like iron, which is more than can be said of any "patent cement" I have ever found. Sometimes such repairs are not as ornamental as they are useful.

But glue was Hester's strong point. She extemporized a glue-pot out of a small can set inside of a larger one; the outer one to be filled with water, and then melting up five cent's worth of glue, she repaired every rickety chair or picture-frame, or book cover about the house. Fanny thought it was the best investment of five cents she had ever known.

The Farm and Garden makes offers unlike any other paper. Read and act upon the offer on page 1, this number.

LET IN THE SUNSHINE.

By J. E. McC.

New Year's is generally considered the time for good resolutions, new starts and enterprises, but I think it can hardly compare with the blessed spring time. There is something inspiring in the very sight of the first blue-bird, the first tender blades of grass, and the scent of the first "Mignonette Violet," which bloom as soon as the snow-wreath fades. The spring sunshine is soul-gladdening, and the fresh, strong breezes which dry the earth, quicken the pulse like wine, only it is a far safer stimulant, as it is both life and strength-giving.

It is not wise to sit down and sigh over the long array of work looming up before one as the season opens. Rather take up the duties one by one as they come up, and let all the sunshine into the heart that it will take. Heart-power is the real power in this world. It will give a spring to all the activities, both of body and mind.

Little plans maturing day by day, are among the very pleasant things of life, even though they may seem trifles in themselves. An answer to a long letter sent to a distant friend, which she has answered in the same spirit, giving minute news—details from the old home, has often made a hard day's work seem light and cheerful.

"How glad I am that I did this, or that in the winter when I had time," remarks the thrifty housewife, as she reaps some little harvest of the winter's sewing. It is a good rule generally to do everything as early as you can. Some things, of course, are better made the day they are wanted, but anything that will "keep" well, is all the better for being made beforehand. Nothing gives more composure of mind than this consciousness of reserve forces—only waiting to be called out as needed. It saves a great deal of the wear and tear of "worry" which brings so many mothers to their graves prematurely and draws crow-feet all too early about the brows of so many others.

Here is a good little verse from Dr. Watts which an old Sea Captain said had helped him to go comfortably several times around the world.

"I'll not willingly offend
Nor be easily offended;
What's amiss I'll strive to mend,
And endure what can't be mended."

It may not be high poetry, but it is good sentiment and would work a wonderful change in some families if adopted as the household motto.

THE GREENWOOD TREE.

By Lois.

"The Greenwood Tree" may be very beautiful and poetical in its place, but it has no beauty in the eyes of the housewife, who sees its remains in her wood box, when the dinner hour is coming on. The farmer who fails to provide a supply of dry wood, when he has the leisure, must not grumble over late meals, undone bread, and half-done potatoes, even after a hard days work in the field.

Pharoah has been handed down as a proverbial old tyrant all these centuries, because he required bricks without straw, but that was a trifle compared with cooking meals over sizzling sticks of green wood. Enough "straw" cannot be raised in common stones to do the business, and as for a blaze, that is out of the question. Then comes a frantic search for "one more" old barrel head or stave to split up to coax the kettles to a boil, and while the wife turns aside to do her chopping the work all falls behind, the baby falls into mischief, and the poor tired woman falls to crying unless she is made of sterner material than most women.

Such shiftlessness and indifference to the absolute needs of a household require heroic treatment rather than meekness and patient endurance. Decision of character is just as important for a woman as for a man. It is no part of a wife's duty to encourage such a sinful neglect on the part of one, who is the nearest and should be the dearest of all the world to her. Paul says of such a negligent provider that "he has denied the faith and is worse than an infidel." The real welfare of our dear ones, should be more to us than any temporary consideration.

Mrs. H. had such a careless husband, who, day after day, left her with no fuel to prepare meals for a tableful of workmen. "Oh I can't bother about wood now, you must pick up something. Have Jane look about the barn and fence corners." When all there resources were exhausted he pettishly remarked, "Do the next best thing then," as with an injured air he walked off.

Meal time came, and the house was tidy and cool. The wife was spinning, and the little girl churning, but no savory dinner odor cheered the hungry men.

"But where is the dinner," asked the astonished farmer. "Please look in that pot on the door-step," said the wife. There was a potful of nicely cleaned vegetables, and a good piece of salted meat, the only drawback being, they were uncooked. In answer to his exclamation she remarked, "You told me to try the next best thing and it seemed to be to set the pot in the sun.

A good load of wood was hauled that afternoon, but before they set out, she urged them to take a lunch, and hastened to bring out from her store room, plenty of good bread, butter, doughnuts and milk. There was very little "picking up" to make fires after that.

ODDS AND ENDS

A gentleman who is the owner of seven daughters, calls his mansion "The House of the Seven Gabbles."

Professor Sumner says that the whole theory of wages can be thus simply expressed:—"When two bosses are running after one man, wages are high. When two men are running after one boss, wages are low.

Sometimes a young man fancies it sounds cosmopolitan to adopt the style of restaurant waiters, and call for "a stew," "a fry," and the like. If you will observe a gentleman, you will see that he takes his home manners with him wherever he goes.

TABLE TALK—ONE STYLE.—"Sal, when you are done with that plate of meat, hand it here." "Jim, soon as you get time, hand up them potatoes." "Jake, start that pie this way." "Just give us a chunk of cheese, if you don't want it all yourself."

Paul Boynton, who once thought of going through the Niagara Rapids in his rubber suit, took the precaution first to number some railroad ties, and send them through. When the battered, splintered fragments were recovered, he changed his mind.

FIRST ATTEMPTS.—When Mr. Greely was a printer's boy, some farmer brought into the office a monster squash, and the hands were asked to write a description of it. Horace tried his "'prentice hand," but the effusion was dropped into the waste basket. What would not autograph hunters pay for it now?

A poor woman with a baby in her arms, entered a crowded car, and had a hard time to keep her balance, as she had to hold on to the strap with one hand, and to the child with the other. A comfortable looking man sitting before her, glanced indignantly up and down the car, and at last exclaimed, "Why does not some one get up and give the lady a seat?" Then he settled back with an air which seemed to say, "such a selfish world."

How sweet to my sight was my mother's old kitchen,
As prompted by hunger, I entered therein;
The kettles and sauce-pans, they looked so bewitching,
And a halo of glory surrounded the tin.
The bag of old Java—the coffee-mill by it,
The tea urn and caddy on shelf put above;
The jar of nice pickles and all the good victuals,
And the juicy mince pies, which so dearly I love;
Those tender crust pies, the spicy mince pies,
The sweet juicy pies which so dearly I love.

A NOVEL SHEPHERD.—A farmer riding along a country road, came upon a number of dogs which were barking furiously at a flock of sheep huddled together in a fence corner. The poor lambs and thin mothers were quaking with fear. But a brave watchman stood guard and kept the dogs at bay. A sharp little two-year-old colt pranced up and down, and struck at the dogs with his fore feet if they came too near; and experience must have taught them to keep at a respectful distance.

SILENCE.—Speech is the usual mode of expressing our thoughts, but silence is oftentimes more powerful. A contemptous silence can cut deeper than sharp words. An observing silence may be more inquisitive than questions; each glance being an interrogation point. In argument, a studied silence can imply, "Your remark is so impertinent, or childish, I need not answer it. Its absurdity refutes itself." One may express profound admiration silently. A grave silence, too, is often the most keenly felt reproof.

About the cheapest medicine that mortals can use, is *sleep*. It will cure restlessness, irritability and nervousness; will often cure headache, backache, toothache and heartache. It will make heavy burdens seem light, and great trials small. A good sleep is often the turning point in a sickness, as has been known from very early times. "If he sleep, he shall do well." Do not rob yourself or your family of this blessed restorer. "'Tis that way madness lies," or a general breaking down of the system, which makes life a burden.

HID IN THE SMOKE.—We may, perhaps, put too fine a point on it when we speak of the affection of an old goose for a horse it followed all about the pasture, day after day. It may be that it had an eye to the insects the horse disturbed in grazing. Our feathered friends often show great sagacity in looking out for their prey. An old hawk, in France, used to hide in the long train of black smoke coming from a railroad engine, knowing that the small birds that fly up at the approach of a train, could not see him until close upon them, and so they fell easily into his clutches.

COMMON FALLACIES.

It may surprise some of our readers to be told that the starch of bread has not the slightest nutritive property. Its sole office is a heat-producer, and just like the coal of the engine, the starch or sugar is burnt up inside us to keep up the temperature of the machine. It is the gluten, the sticky, tenacious matter in the grain, which is the nutritive, flesh-forming material, but in the present article we have no space to follow the changes it undergoes in the system, for we are simply treating of starch at present, and we trust we have made it clear how it is changed into sugar, and thus made soluble and fit for absorption into juices which keep the body at a uniform temperature and in good repair.

It is a common, but mistaken notion that sago and tapioca are very nutritious. On the contrary, they consist wholly of starch, with only about three per cent of gluten, so that, unless cooked with milk or eggs, they form a very insufficient food. The same is the case with Indian corn flour and arrowroot, which have scarcely a particle of nutritions matter in them, so that it is a great mistake to feed an invalid or a child on such materials. They are no doubt useful as easily digested heat producers, but they must be cooked with milk or eggs before they are of much use for actural nutriment, and many a child has been starved to death through its parents' ignorance of this fact. It is true medical men often recommend arrowroot for those in delicate health and it is of great importance to keep up the natural heat of the body with the least exertion of the digestive organs, but it cannot be too widely known that arrowroot, pure and simple, is a mere heat producer, and milk, beef tea, soup, or other suitable flesh-forming food, must be given with it if the child or invalid is to be kept alive.—*Western Rural.*

THE JOYS OF CAMEL RIDING.

A few days ago I had my first ride on a camel, and I thought it would be my last. It was to go to our camp, that I got cross-legged upon an Arab saddle, insecurely fastened by strings, upon the back of a great, lumbering, hump-back brute. I no sooner attempted to take my place on the saddle, than the camel, which was lying prone, into which position he was forced, began grunting like an old village pump violently worked. At the same time he turned his prehensile lips aside, grinning like a bull dog, and showing a grinning row of teeth, which he sought to close upon me. I got aboard without accident, and had not long to wait for a rise.

The first movement, as he lifted his fore legs, nearly sent me over backwards; the next, as he straightened his hind legs, still more nearly tipped me over his head. I had been warned to hold fight, but it was only the clutch of desperation that saved me. After several lunges, the brute got fairly on his legs.

The reins consisted of a rope round his neck for steering, and a string fastened to a ring thrust through his nostrils, to pull up his head, and stop him when going too fast. My camel began to move forward, and thereupon I oscillated and sea-sawed as it siezed with sea-sickness or cramp in the stomach. Involuntary as the movement was, an hour of it, would, I am sure, have made as abject a victim of me as the worst sufferer on a channed passage.

A heartless friend was in front of me on another camel, which he set trotting. Instantly I became helpless as a child, for my camel disregarded the strain upon his nostrils, and my fervent ejaculations. My profane Arabic vocabulary was too limited to have the slightest effect. I swayed to and fro and was bumped up and down, until I was almost shaken to peices. It would have been a positive relief could I have found myself at rest on the ground, but the motion was so incessant I had no time to make up my mind what course to adopt. It ended, as even the experiences of the worst kind must do, and I found myself still on the camel's back.

Not so my humorous friend, who, to my great comfort, performed a double somersault, and did not succeed in landing quite on his feet. I was told that I would become accustomed to camel-riding, and might even get to like it. But my faith is not great enough for that.—*London Telegraph.*

The Italic type was the inventions of Aldus Manutius, who employed it, not as we do, in quotations, but in the execution of a series of small classical works intended for general perusal. It is said that in this character Aldus attempted an imitation of the hand-writing of the celebrated poet Petrarch.

Candy should be tested by putting a small piece into a glass of water. Whatever settles to the bottom is not sugar, but an adulteration.

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EDITORIAL COMMENT.

March. Spring's morning begins to dawn, and is ushered in with the jubilant notes of the "Cock Robin" and his mates.

After a long spell of rest, of comparative ease and domestic enjoyment, the farmer is now ready to commence with the execution of the plans so carefully studied out during the long evenings and blustery days of the winter just gone by.

Having resolved to grow more grain and fewer weeds, he makes a beginning by carefully cleaning his seed grain.

He knows that it is better to change grain, wanted for seed, with a neighbor, who is known to have nice, plump, and clean seed, at a sacrifice, or to buy good seed at a good price, than to use poor seed which he chances to have on hand.

He selects and tests his seed corn and garden seeds.

He examines his tools and harness, and makes the necessary repairs.

He finishes drawing logs and wood, and when the fire-wood is all sawed, split, and corded up, he gets out a cord or so of kindling wood for his wife or hired girl, well knowing, that the "women folks" on the farm find enough to do without having to hunt all over the place for material wherewith to kindle the fire every time they want to get dinner or supper.

He profits by a late fall of snow to draw manure and other things, on runners instead of wheels.

He selects the finest and richest manure for the garden, and puts it on thick.

He cleans his cellar, removes rotten apples and vegetables, sorts over and sprouts potatoes, sprinkles air-slacked lime, carbonate or chloride of lime, or some other disinfectant over the floor and walls and bins.

He picks up around the back door and removes everything of a dubious nature or suspicious scent, that has accumulated there during the winter.

He cleans the hen-house, ditto the pig-pen, and takes the manure to the garden.

He finishes trimming the orchard, cuts out the old raspberry canes, and gives trees and small fruits a liberal dressing of manure.

When everything else is ready, and the ground dry enough to crumble, he starts the plow, but never before.

"Well shaken before taken" applies with a great deal of force to the compost heap.

This scramble after success and prosperity is like hauling produce to market or logs to the sawmill. One man takes the advantage of a nice body of snow and with his two tons upon a sleigh, draws his load in one third the time and much easier than another, who goes with one ton upon the wagon, over a rough and hubbly road.

Or like going to the station to take the train. One person knows the right time, and "catches" the train. Another goes it hit-or-miss, and is behind time.

Our readers may be sure that the amount of hard work is of less importance than doing the right thing at the right time, and that a little intelligence (brains) often outweighs a heap of bodily labor.

We do not believe that the farmer should select the roughest road, and kill himself with hard work; and it is always our aim to show him easier highways or short cuts to success.

If hog cholera, as now generally conceded, is transferred by bacteria, neither care in feeding nor cleanliness can prevent its spread. Bactericides, such as carbolic acid or chloride of lime, properly diluted and brought into the organism of the diseased animal (through the food), will most likely prove to be an effective remedy.

We dislike to admit that the primitive methods of raising hogs, so prevalent in the South, cannot be charged with even a share of the blame for the destructiveness of the hog cholera during the past season, and we believe that the root-hog-or-die system, should yield to the eat-and-grow-fat plan.

Many parts of the South are admirably adapted to profitable hog raising. But the consumer wants meat, not merely skin and bones, though it may be prudent for the Virginian to have hogs that can "outrun the nigger." Hogs, rather fewer in numbers, but kept clean, well-fed and fattened with good corn instead of filth, will prove much more satisfactory and more profitable to all concerned, than the half-wild stock of to-day.

Excessively dry weather last fall has prevented the setting out a great many trees and shrubs, particularly in the Middle and Southern Atlantic States. If you wish to plant this spring, remember that it is well to do so early, yet, that the *time* of setting out is of less consequence than *doing it well*. Trees need as good soil, and this as well prepared, as any other crop.

The roots of trees and plants, when received from the nursery, should be thoroughly soaked in water and not exposed to the drying influence of sun and wind. Prune the tops severely, particularly in the case of peach trees, press the soil firmly around the roots, and stake every tree which is top-heavy, like tall apple trees.

We cannot too strongly urge the farmer to annually grow a few peach, pear, and apple trees from seed. Some grape vines, currants, and gooseberry bushes, and so forth, from cuttings. Budding and grafting is soon learned by practice, and you can show your boy how to do it. When you (or your neighbor) want a tree or two, or something of that sort, you know where to find just what you need.

It is the culmination of folly to presume that an acre is required for the purpose, unless you wish to supply your whole town. A few square rods are sufficient, and may be made a source of much pleasure, instruction and profit; for "a penny saved is a penny earned."

In one of our exchanges we notice some reports on egg-farming. Several parties in the North-eastern States, who keep from 150 to 200 hens each, figure out their annual net profits to be between $1.25 and $2.00 for each hen. But when they state their "secret of success," the matter seems to be more in a muddle than ever. One attributes success to the fact that he feeds nothing but soft food, another to his feeding nothing but whole grain, a third, to a warm and weather-proof building, while a fourth thinks that thorough ventilation, afforded by an open shed, to be the real secret of his good luck.

We have experimented with less than half the smaller named number of fowls, but with results highly satisfactory to us. Our hen house might be greatly improved, it is true; at least we think that our hens, with a smaller supply of ventilation, afforded by numerous cracks, would have done still better. As it is, they have laid well this winter.

The secret of our success is in the first place—*early-hatched pullets*; next—stimulating food in judicious quantity; third—warmth supplied by a cooked breakfast and warm drink (milk or water).

The fact that our old hens, which are only one year older than the pullets, have laid not *nearly so well* as the *manger stock*, warrants us in laying particular emphasis on "early-hatched pullets" for winter layers; and as one dozen eggs in winter, is as good as two in the summer, or nearly so, the profitableness of pullets is obvious.

Early hatched pullets, however, are not inseparable from failures. Our neighbor has pullets of the same age as ours, but did not get an egg in the colder part of the winter.

We give our fowls a good, warm breakfast every morning, often seasoned with salt and Cayenne pepper, warm milk or water to drink, a sufficiency of chopped apples, beets, potatoes, cabbage, and other vegetables; *oats* in the *bundle* and wheat thrown among leaves and litter, to make them scratch; an abundance of meat, bone, lime, etc.; and for supper, a dose of whole corn, often charred on the cob.

Hens thus treated, are *compelled* to lay, whether they wish to or not. We advise you to raise chickens as early as possible, say in March and April, to take good care of them while growing, and you will have fowls beginning to lay in early fall.

Luck is very good, but pluck is better. The former cannot always be depended upon; the latter helps us out of every difficulty without fail. Farmers, make a note of this!

Here is another contribution to our list of popular errors. Try to steer clear of such mistakes as to think that the old sheep should be kept over. That old hogs are more profitable than thrifty, growing pigs. That old steers still grow into money. That old hens lay better than early-hatched pullets. That it is easier to "shoo" the chickens out of the garden all summer long, than to keep them out by a good picket-fence. That you will repair matters at once by getting one or more settings of eggs from your neighbor whose hens laid all winter, while yours did not. That it was more due to the "breed" than to the "feed." That it is too much trouble to raise what berries and vegetables your family wants. That you must buy a new buggy for your boy, or a new organ for your daughter, before your wife is provided with clothes-wringer, washing, and sewing machines. That you and your family can afford to do without at least a round half-dozen of *good* papers and magazines, agricultural and otherwise. That the trash, known as story papers (Family Heralds, etc.), and cheap novels are not worth one penny a ream, or fit reading for either old or young. That wool will not recover its former firm stand in the market, unless the tariff is doctored. That wheat will always be as low as it is now. That a fat law suit is better than a lean settlement. That quarrelling farmer's boys, when they bring their troubles and fracas into court, do not cut a deplorably sorry figure. That all well-water is wholesome because it looks clear. That rotting potatoes in the cellar do not endanger the health of the people living in the room above. That horses should be over-worked, ill-fed and ill-treated, merely because they are old and not worth much.

[N. B.—If you have a neighbor, who cruelly misuses his poor old teams, by all means report him to Bergh's agent, or give him a sound thrashing, which he richly deserves.]

What this country, and particularly the Southern part of it, needs, is more wind-mills to pump clean water for stock, and fewer stagnant pools. (We do not like to drink milk, manufactured out of thick, slimy mud, which had served as a place for the hogs to wallow in, as we have seen it during last summer's drouth.)

When we read so many recipes for cakes and sweetmeats, calling for eight, ten or twelve eggs each, we feel dyspeptic at once. The farmer deserves a good table. Set that down as a fact. He should have the best bread; nice, mealy potatoes; good meat, fish, poultry, eggs; every kind of vegetable in its season, and an abundant supply of the choicest fruits.

Eggs are much more wholesome alone, and more palatable, too, than in rich pastry, pies, and mince-nuts. Times are hard. Eggs are high. Economize in the composition of dyspepsia food.

And still we find the "four per cent. loan" advertisements, and others of the same fraudulent stamp, in some of our Agricultural contemporaries. The *Ohio Farmer* gives a quarter page of space to the lottery schemes of the "Farming World," of Chicago, merely because "they are willing to pay for it."

Such advertisements leave a stain on your pages, brethren, that can neither be covered up by the rose-tint of the "Farmers Guide," nor wiped out by editorial notices of the *Ohio Farmer*, to the effect, that those fools who will be taken in by these ad's, deserve to be swindled and should blame none but themselves. Shame on you! Physic is what you need!

The workman is known by his chips, the thrifty farmer by his wood pile, but without chips. He saws his wood; does not chop it with the axe.

Every farmer should have a separate small yard, near the house, for the little chickens while they run with their mothers. Get out some stuff for fences and coops now.

We would say to our friends that you will all get the premiums and papers in due season. We are as anxious for you to get them *at once*, as you are; but sometimes the mails are slow, but are pretty sure to arrive at last. We shall send all the premiums and the papers, for we want you to have them and read THE FARM AND GARDEN regularly. We want you to have every number.

We shall send the potato bulb and rose and quince premiums as soon as the spring is advanced far enough to send safely. We want our premiums to reach our subscribers in good order, and will send them as soon as safe to do so.

The "Farm and Garden" goes slow on new things until after it has tried them. Never discards a good thing because it is old. Never recommends a poor thing new or old. That's the way we do and our readers like it.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of the FARM AND GARDEN, *even though he takes no other paper, can feel in a measure acquainted with all the leading publications.*

From "Gardeners' Monthly," Philadelphia.

BLACK WALNUT CULTURE.

Mr. Graves, of Texas, ten years ago planted ten acres to walnut trees, by hand, two hundred to the acre, in all two thousand trees. The trees are now nine inches through, and grow at the rate of an inch a year, and when twenty years old they will be worth $25 a tree, making the forest worth at that time $50,000. But this is not all. Last year the trees bore 400 bushels of walnuts, which brought $2.50 per bushel, making $1000 for the ten acres of land—good interest for land worth $15 per acre. If at the age of twenty years half of the trees are cut and sold for $25 a tree, or $25,000, the nuts per year from the remaining 1000 trees will be worth $2500 a year.

In reply to the query "What quantity of milk should a cow give to be considered profitable?" a well-known dairyman answers 4500 pounds—2800 pounds for the first 100 days, 1000 pounds in the 100 days following, and 700 pounds between the completion and that time and drying off. Professor Brown, of Canada, in reply to a similar question, puts the figures at 4000 pounds for 200 days, and as much as possible in the subsequent 165 days, and that every 100 pounds of milk should make three and one-half pounds of butter. Leaving out of consideration the performances of phenomenal cows, accurate records are at hand of native cows with records of from 6500 to 8000 pounds in the season, which shows that a steady advance is being made in the yield of cows. The improvement is very slow, and will continue to be until farmers raise their best cows and heifer calves from their best cows, and have the sire with a mother of milking strains to more perfectly establish the milking habit.

From "Tribune and Farmer," New York.

BED MAKING.

As I was making the beds to-night, I thought perhaps trying to excuse myself for being such an indolent chambermaid: how much better it is to make them even at this late hour then, as some persons do, the first thing after rising; for now, at least the sheets, etc., are thoroughly aired. It is quite common among thrifty housewives, or among those who wish to have all their work "done up" at an early hour, to make their beds quite early; as soon, in fact, as they are vacated, taking the clothes and putting them on in great haste without raising the windows or exposing them to the air.

We know that a process called insensible perspiration is all the time going on in our systems, and that our garments are permeated by it and need to be often changed and exposed to the purifying influence of the atmosphere to render them healthful; and I believe that in one of the articles of the *Tribune and Farmer* it was recommended that all the garments worn during the day should be removed and others substituted, and that none worn through the night should be worn during the day. At least it is an excellent practice; and it is just as necessary that the sheets, pillows, etc., of our beds should be exposed to the air; but in cold weather we are apt to forget it, and, as I have heard old ladies say "run and make them while they are warm." But we should raise the windows, remove the clothes and expose them and the bed to a current of fresh air until the impurities shall have been removed by the purifying influence of the atmosphere and the room filled with pure air; inasmuch as health is more important than to have the beds made early.

Please read the Premium Offer on page 1.

From "The Canadian Breeder."

DR. JOHN VOELCKER ON ENSILAGE.

At the recent meeting of the Maidstone Farmers' Club, Dr. John Voelcker delivered a lecture on Ensilage.

After treating the subject very exhaustively in its various aspects, the lecturer continued:—By way of a brief summary I would say that ensilage is a very good food, but that fodder is improved in quality or value by the process I hold is not and cannot be the case; and whether it will pay or otherwise to make silage in place of hay will depend, not upon the value of the changes produced in the fodder, but upon external circumstances, such as the prevalence of bad weather, which prevents good hay being made, or the absence of sufficient food, such as roots, for winter feeding. In some parts of England, for instance, the weather is so uncertain that it is quite impossible to make aftermath into hay, and in other parts again, on heavy clay lands, roots cannot be got to grow well, and there is, in consequence, no food for winter keep. In such cases ensilage will prove a valuable substitute and way out of the difficulty, and in the case of continued bad weather good ensilage will always prove better than bad hay. When, however, good hay can be made, I believe the farmer will always make it, and rightly so, for it does not undergo the loss consequent upon ensilaging, nor involve the cost of erection of special constructions to hold it. Lastly, it must be remembered that, even if coarse grass may be rendered softer and more digestible by ensilage, this can never put into it valuable feeding constituents which it did not originally possess. On the relative cost of harvesting hay and making silage experience is very varied, for while the former involves the expense of making the hay, it must be remembered that in ensilage the cost of carting the immensely larger bulk of wet grass, etc., and of subsequently storing it is very greatly increased, much time is occupied, and a larger staff of hands required for the work. Where the number of laborers is limited, the simple carrying and filling would be such as to necessitate for the time the stoppage of all other farm work, and if, as Mr. Henry Woods tells us, we should readily grow from thirty-five to fifty tons of maize to the acre, the mere work of cutting, carrying, and storing this would be enough to strain the utmost resources of the average farmer. The difference cannot be too strongly borne in mind, that in hay, a crop is being carried which is practically all dry and useful feeding material. In fodder for silage we are carting eighty or more per cent. of water, which has absolutely no worth whatever; then not only do we cart this water but we store it also.

From "Pamphlet on Potatoes, issued by Mapes Formula and Peruvian Guano Co., N. Y."

MANURES.

Any soluble salt or fertilizer, like nitrate of soda, sulphates of ammonia, potash salts, kainit, acid, phosphates, plain super-phosphates, etc., when incorporated in the soil, acts as a *solvent on* all the *plant-food in the soil, and indirectly* supplies the crop, to the extent of the resources of the land, with all the remaining elements of plant-food which the fertilizer applied fails to contain. It *exhausts* the soil of everything except of those elements which it supplies from its *own resources*. While the result for a season or two, from such a partial fertilizer, particularly on a strong soil, may be apparently satisfactory, yet, all the time the soil is being exhausted. There is only a limited amount of plant-food in the soil in condition to yield to the solvent action even of such soluble salts as above named. If the process could be kept up indefinitely it would be very different. To restore the land when it has been made 'sick,' or exhausted, by stimulating fertilizers, is one of the hardest and most expensive processes in farming.

It will thus be readily seen how fertilizers have come to be looked upon by most farmers as mere "stimulants," "make-shifts," "good to start the crop with," whereas, these same farmers are always ready to admit the sterling manurial value and lasting effects of pure bone and unleached wood-ashes. Now, these materials, excellent as they are, are just as much artificial or concentrated fertilizers as any properly-made commercial manure. The only difference being that while bone and wood-ashes (unleached) form a very fair complete manure, supplying some of all three of the leading plant food elements—nitrogen, phosphoric acid and potash—many of the fertilizers sold are nothing but acid phosphate with small proportion of nitrogen and enough kainit added to justify them in claiming the name of complete manure. A complete manure, a manure complete in a practical sense, one supplying all the leading plant-food elements in full proportions necessary to meet the requirements of the crop on average soils and in the best and varied forms—as found in stable manure—*can never exhaust the soil*, but on the contrary, with the exception of some waste of unused nitrogen, all the plant-food ingredients, notably phosphoric acid and potash, will last thirty year and more; will, in fact, last indefinitely, until used up by future crops.

Eben E. Rexford in "Western Plowman," Moline, Ill.

THE FARM WAGON.

You have got a new wagon, have you? I am glad of it, for farmers, like most other persons, like to have new things around them, and especially so if the new is better than the old. Let us look at the matter. The box is a stout one; but there should be an addition made to it not only as a strengthener, but as a means of preservation, therefore what I suggest is directly in the line of economy, for whatever makes a machine last longer saves money for you. Get a strip of heavy band-iron as wide as the box boards are thick, and have holes drilled in it about six inches apart. Then screw it to the upper edges of the box all around. If you don't do this your box will soon be marred and broken into on the edges by heavy articles like boards, pieces of timber, or machinery which may be loaded into the wagon. With this strip on a box the edges cannot be easily injured. It will cost a few shillings, but it will make your box more durable, and you will find it a paying investment.

What kind of a seat has the wagon? Oh, the old-fashioned spring-seat in which the springs are long strips of hard wood, which fasten under the box toward the rear of it, by a rod running across, and are held up by hooks which hang in the box. I do not like this. Why? Well, because such a seat, though springy and easy-riding is attached to the box in such a way that the weight of two or three persons in it gives it a swaying motion which racks the box, and soon spoils it. The best seat is one with springs, like those on buggies, under them. A seat with these springs can be removed in a moment. The other seat cannot be easily removed, and two persons' help is necessary to make the work at all easy. The seat with springs under it is not in the way, as the one with spring bars is, and is not as likely to break down.

Have you side boards to use on the box in harvest time? You ought to have. You can make them yourself. The blacksmith can put irons on the box in which to slip the strips at the end and middle of the side boards. With them it will be easy to pile on and draw a much bulkier load than you could without them, for without them your load would be in danger of losing a part of itself on rough roads, or when driving fast.

Of course you want your wagon to look well? Then you must have a shed for it, and keep it housed from storms and the hot sun. If it gets wet, as soon as dry, give all the wheels a good wash of thin oil about the hubs and spokes, to prevent the next rain from soaking in. Oil the axles frequently, and always use a good lubricant. Poor axle grease should always be avoided. It damages the wagon, for it is of no benefit, and the use of it leads the farmer to think that he is properly caring for the wagon's welfare, and the first he knows the axles are worn and cut with friction. Get something you know to be good, or use tallow or lard, applying it as often as you think necessary. Never let the axles get gummed over with sticky substances.

From "Country Gentleman," Albany, N. Y.

MISTAKES IN TREE PLANTING.

Inexperienced orchardists who purchase their trees at nurseries and pay good prices for them, in their desire to get their money's worth, prefer large, handsome specimens. These are set out with the full spread of their ample heads, without further care. The owner has not particularly observed how much of the roots have been taken up in digging them; or remembered or known the fact that nurserymen cannot secure more than a small portion of the roots belonging to "good-sized trees." A long time is required for them to recover from the check thus given them. With smaller trees a much larger proportion of the roots may be easily taken, and very little check occasioned in their subsequent growth. Buying these large trees instead of small and thrifty ones is the first mistake.

The next error is in leaving the large trees with their short roots to hold them firmly without support, and the wind sways them about, forming a hole in the soil about the stems, admitting drying air, and injuring or killing them. Proper staking would prevent this harm; but selecting small trees with their ample roots would entirely obviate staking. The second error is the omission of this care.

But a greater mistake is in planting the large trees with their full, branching heads entire. The wind has ample purchase on them, they have more leaves than the roots can properly feed and they are accordingly stunted in growth. This harm would be avoided by cutting back three-fourths or more of all the previous year's growth before the buds swell. Trees set out side by side for experiment, a part of them unpruned, and another portion shortened back, have shown a striking result; the latter sending out new growth half a foot or a foot in length the first year, and the former only an inch or two. The omission of cutting back is the third error.

The greatest mistake of all is in giving the young trees no cultivation; allowing the soil to become hard and crusted, or covered with weeds and grass. Some kinds of trees feel this neglect more than others—peaches the most, cherry trees the least; but with all, this neglect is highly detrimental. Many young and newly-set trees die in consequence, and those which survive may grow two or three inches, while a wide surface of well-mellowed and clear ground will often cause the trees to make two or three feet of growth, if in connection with other good treatment.

We could cite numerous instances proving the truth of the preceding positions. The late Dr. Kennicott once informed us that in purchasing trees for customers, he always succeeded best with those of second or third quality in appearance and size, and at low prices, because he could easily induce purchasers to head them back freely, but they could not be persuaded to spoil the large, handsome heads of the high-priced trees by pruning. The smaller ones had, of course, the better roots, as they were more easily taken up. We have seen a young and newly-set peach orchard, one portion of which was neglected and the other well cultivated in potatoes, none of the latter of which grew less than a foot and a half, and some nearly twice as much the first summer, while none of the former made shoots three inches long. A writer in the *Practical Farmer* mentions several instances where quite small trees were transplanted in the same orchards, along with fine, six-foot trees, but in every case the former outgrew and outbore the latter in the course of a few years.

CORRESPONDENCE.

MORE ABOUT FLORIDA.

By W. C. Stork, Switzerland, Florida.

When I offered in the January number to answer questions about Florida I little thought what I was bringing upon myself. I have received over 120 letters of inquiry from twenty-five States and Territories, and still they come two or three per day. The subject seems to be one of such general interest that I will make a few statements that will answer many inquiries.

In the FARM AND GARDEN for September and October, 1881, I gave my views upon market gardening in this State. I cannot as yet add much to what I then said. This neighborhood is as healthy as any part of the United States with which I am acquainted, and I have lived in four different Northern States. We have some sickness; I have never found a place yet where doctors and undertakers were not needed. But we have less real sickness here in proportion to the population than in Indiana, New York, or New Jersey.

Our summers are long and hot, beginning in March, and lasting until November. But we never have the sultry, oppressive hot weather so common at the North in July and August. Sunstroke is unknown. It is always comfortable in the shade, the nights are always comfortable, and usually rather cool. We have some mosquitoes and flies, but not enough to be a serious annoyance—not so bad as I have often seen them North. Northern white men work out-of-doors every day through the summer, and many of them all day long, but as a rule they rest three or four hours in the middle of the hottest days. We cannot grow corn profitably, the crop only averages from ten to twenty bushels per acre, and is seldom planted. It pays better to grow something else and buy our corn. There is no grain grown here in any quantity except rice. We can grow plenty of grass for feed, such as Johnson grass, Guinea grass, Millo Maize, Millet, &c., but timothy and clover do not do well, and are seldom tried. Orange trees begin to bear in from six to ten years from the seed. All the soils that I have seen in Florida are sandy or muck, the former *all* need fertilizing to produce good crops, but when properly enriched and cultivated it yields very profitably. While waiting for a grove to bear, a living can be made by growing vegetables and strawberries for market. Poultry is also profitable, and right here I will say that Joseph has taken the wind all out of my sails. I intended to write a letter on that very subject, but he has so nearly covered the ground that there is little left for me to say. I will say, however, that I believe a flock of hens in an orange grove will pay for their feed and the labor of caring for them, even if you do not get an egg, nor raise a chicken. If the grove is divided into yards, so as to prevent too great crowding, they will keep down all weeds, and their droppings will enrich the soil to such an extent that very little other fertilizer will be needed.

I believe this State is as good a place for a poor man as any in the United States. Less labor is necessary to support life here than in the North. Groceries and provisions are as cheap as in most parts of the United States, so also is clothing, and very much less of the latter is required.

Hereafter I must request that those who wish further information shall write out their questions and leave one or more lines blank for the answer, and be sure to enclose a stamped envelope.

FARM AND GARDEN, GOOD FRIEND:—Some one was kind enough to send me a copy of you for January, with which I was more than pleased. In perusing your pages, I came across "Odds and Ends" department; and therein the allusion to the circular saw, and its introduction into England in 1790, but its inventor being unknown.

The circular-saw was invented by a member of the Shaker Community, at Mount Lebanon, New York,—his name I cannot now recall, but easily obtained—in the year 1785. The original instrument was deposited, by one of the members of above society, in the Archives of the New York Agricultural Society, Albany, New York, about the year 1854, and can be seen there now. The Shakers, at the time, declined, from religious motives, to take out a patent, although they were famous for inventions, among which might be named cut nails, metal pens; these were first made of silver-plate, Babbitt metal, etc., etc.

I hope somebody will be so good again as to send another copy of the pretty FARM AND GARDEN.

G. A. LOMAS.

While writing up frauds we received a letter from an Iowa friend, who was swindled out of $1.50 by the magazine lottery swindle which we exposed some time ago. We are glad to say our Iowa friend saw the exposure but did not find the advertisement in THE FARM AND GARDEN. We will not insert a fraud on our readers. We rather would expose them. Passing on the frauds to us, gentlemen, we will attend to them.

W. W. J., Harrisburg, Pa., asks about gooseberries. We cheerfully answer. The interest taken in gooseberries is increasing, and there are many new kinds now claiming public favor.

We would ask our friends who are now taking THE FARM AND GARDEN, when they renew to send us all the items of interest they can, or any suggestions how we can make THE FARM AND GARDEN of more value to them. We want to do well by our friends, and hope they will do well by us. We always appreciate their favors.

Mrs. E. R. Southwick, Belvidere, N. J., asks how to take the lime taste out of a new cistern? Answer: If good cement has been used there should be no lime taste. If there is, draw all the water from the cistern and see if the sides are cemented hard, if not, apply a coat of pure cement as was given in our article on cisterns in February number. Pure cement leaves no lime taste to water.

L. Parkhurst, Rapid City, Dakota, asks, 1.—How to make prepared gypsum for whitewashing. 2. Can a market be found for gypsum of which he has thousands of tons. 3. how to make water lime. Answer: The manufacture of prepared gypsum is a trade secret. 2. Gypsum is so cheap, from four to eight dollars per ton when ground ready for use, you could not make it pay you. 3. Water cement is a peculiar kind of magnesia limestone, very impure, and is the rock, which, when ground, makes the cement. The rock is found native, and cannot be made artificially, as cheap as from the natural rock or of as good a quality.

M., Green Island, no State, asks, under date of December 24th, 1881, whether a certain piece of land on the James river, twelve miles from Petersburg, Va., is a good place to locate, with a view to going in the poultry and fruit business, etc.? The land in Tidewater, Virginia is generally poor, and often dear, at the small amount asked for it per acre. I would not advise any one to buy "a cat in a bag." See the land before you invest. The location is good for raising poultry. I could not say whether the land is adapted to fruit growing or not. That depends on the particular piece of land. Success in either branch or undertaking, depends on *the man* as much as on the land. Some places along the James River, below Richmond, are subject to malaria.

Write again, giving full address and particulars, and I will answer by letter.

JOSEPH.

I am a subscriber to your valuable paper, and read it through each month. I thought I would give your readers my experience with the recently introduced, but valuable forage plant, Millo Maize. Last Spring I procured seed enough to plant about one-tenth of an acre. I planted it on common cotton land on the 7th of May. The month of May and June were very dry and cool, consequently, it did not grow much until after the 1st of July. On the 10th of August I cut some for the purpose of curing for forage; again, on the 5th of October, I cut the same part of the patch, leaving about one-fourth of it for seed. At the two cuttings, I cured about 500 pounds of excellent feed, as good as any clover hay made anywhere. Mules and cows eat it very greedily, either green or cured. I believe on good land it will make from four to six tons of cured fodder per acre, probably more. It will pay to grow it for the seed alone. Hogs and poultry are very fond of it. It will make from 100 to 150 bushels of grain per acre on good land. I believe it would make good bread if properly ground. I intend to give it a trial any way.

One of the great advantages Millo Maize has for the Southern and South-western States is that it stands drouth so well; for two months before the frost came and killed mine we had had no rain, but it was perfectly green. The only disadvantage that it has, as I can see, is that it is somewhat slow to cure. I honestly believe it to be the best forage plant yet found for the South and South-west.

JAMES H. HAWKINS, Georgia.

MARCH WIND.

"Talk about creamery butter," said a grocer on Woodward avenue, "give me the old-fashioned-sweet-cream-home-made-churned butter of the country, like this," and he laid a roll on the counter and proceeded to butter some crackers.

"Eh! what's that?" inquired the customer. "Country butter, let me taste it."

So more crackers were buttered, which he ate gladly.

"How much of that butter have you got,?" he asked, wiping his chops with a smack of satisfaction.

"Took the most of it home to my own family, Col. M——— bought some, and will be in after the rest. You see it isn't easy to get June, clover-ted cream butter at this time of year. You couldn't find a pound in any other store in town," said the grocer, proudly.

"Send me up the lot," said the customer, "I don't want any creamery butterine after eating that. I was brought up on a farm, I was, and know good butter when I see it." And he paid for his goods and went out.

"Where did you strike that butter?" asked a man who was eating prunes and pickles near the stove.

"Down at the factory where they make it," replied the grocer calmly. And the beating of their own hearts was all the sound they heard.

German joke, literally translated: "Of what sickness is the Mrs. B. dead?" "Exactly know they not; perhaps because she too fast lived" "How so?" At marriage was she, according to her own story, three years younger than her husband, and after her death was she, according to the birth and death certificate, nine years older than the same."

A young law student in the Southwest went to an old judge to be examined for admission to the bar. After a desultory conversation to the judge said, "Well, young fellow, hang out your shingle and go ahead." "But you have not examined me," "Never mind," was the brilliant reply, "If you don't know no law you won't get no practice, so you won't do no harm no how."

A young man who believes in self-improvement, having recently married, suggested to his wife that they should argue some questions frankly and fully every morning, in order to learn more of each other. The first question happened to be "whether a woman could be expected to get along without a hat," and he took the affirmative, and when he was last seen he had climbed up into a hay loft, and was pulling the ladder after him.

"How in the world can you content yourself to live in this dead-and-alive place?" asked the city visitor of her country cousin, "I know I should die if I had to stay here." "Well," replied the rustic relative, "I suppose I should, too, but then the city folks ain't here only a few weeks in the year, you know."

An Illinois lady is said to have collected a string of buttons twenty-four feet long. This accounts for so many men in that State with their suspenders attached to their pants with a shingle nail.

A sentimental editor says "It is comforting to know that one eye watches fondly for our coming, and looks brighter when we come." A contemporary is grieved to learn that his "brother of the quill has a wife with only one eye."

An Iowa chemist recently discovered an explosive belle veil to be nineteen times as powerful as dynamite; but the secret of its composition was lost at the time of its discovery, together with the chemist and most of the glass in town.

A COLLECTION.

Brought by Uncle Sam's mail and in other ways

G. M. T. Johnson, Binghamton, N. J., issues the most interesting Poultry Book, for 25 cents, we have ever read. Send for it. Mailed on receipt of price.

The Perfect Hatchers' Co's Automatic Incubators are having great success in the hands of practical farmers. See their advertisement on page 9.

Everyone interested in Firearms and Sporting Goods should send for the Catalogue issued by Messrs. J. A. Ross & Co., Boston, Mass., also their 1885 Calendar. See advertisement in this issue.

That grand old paper, the *American Agriculturist*, has done better this year than ever before. It succeeds because it deserves to. We send it with THE FARM AND GARDEN for only $1.25 a year.

John Saul, 621 Seventh Street, Washington, D. C., Catalogue No. 6 of new, rare and beautiful plants. A large and varied list of flowering and foliage plants, bulbs, &c.; 72 pages. Catalogue, No. 2, of new and beautiful flowers, garden seeds, &c. 32 finely illustrated pages.

We cannot refrain from calling attention to the advertisement of H. J. Baker & Co. on top of first column of last cover page. They have occupied this space each spring for three years, and have dealt justly with many readers of this paper.

Mr. Charles Lippincott, of Cinnaminson, N. J., read an Essay on Incubators and Brooders, before the State Board of Agriculture, at Trenton N. J., on February 4th. It can be obtained of P. T. Quinn, of Newark, N. J. Mr. Lippincott has three incubators going now, his first batches being over eighty per cent.

Wm. H. Fay & Co., Camden, N. J., are manufacturers of manilla roofing and lining. For keeping cold and heat out of frame houses and for making cheap roofs, this is valuable. A sample and interesting circular is sent to all who apply and state that they are readers of THE FARM AND GARDEN.

COLOR YOUR BUTTER. Farmers that try to sell white butter are all of the opinion that dairying does not pay. If they would use Wells, Richardson & Co's Improved Butter Color, and market their butter in perfect condition, they would still get good prices, but it will not pay to make any but the best in color and quality. This color is used by all the leading creameries and dairymen, and is sold by druggists and merchants.

THE PEOPLE'S FARM AND STOCK CYCLOPEDIA. We have received from Jones Bros., Publishers, Cincinnati, Ohio, the above work, for which we express our obligations. The work embraces all the most useful topics in farm and garden affairs, and is especially full of all matter that relates to stock, poultry, diseases and cure of animals generally. The work is well written, in a pleasing and attractive style; full of illustrations, and contains a vast amount of useful information. To a beginner in farming the work is one of rare value, and the practical farmer will find it full of matter that will amply repay him for a perusal. We believe this work will meet a ready sale and prove a popular work with the farmer and readers generally. Printed on good paper, from large, clear type; well bound. 1230 large octavo pages.

CATALOGUES RECEIVED.

T. S. Hubbard, Fredonia, N. Y., Small Fruits.
J. T. Lovett, Little Silver, N. J., Small Fruits.
R. M. Morrell, Plymouth, Indiana, Small Fruits.
H. G. Corney, Cornwallon-Hudson, N. Y. Small Fruits.
George Stinson & Co., Portland, Maine, Novelties.
Ellwanger & Barry, Rochester, N. Y., Nursery Stock.
R. T. Pierce & Co., South Haven, Michigan, Fruit Boxes.
T. T. Lyons, South Haven, Michigan, Small Fruits.
E. & J. C. Williams, Montclair, N. J., Small Fruits.
Small & Matthews, Boston, Mass., Small's Calf Feeder

POTATOES.

IRISH. SWEET

Pamphlet prepared by Charles V. Mapes, New York, containing accounts of some interesting experiments showing demand for complete, not partial, fertilization. Among the most striking of these are the following:—

1. When fertilizers exhaust the land.
2. Large yields of potatoes on sixteen acres.
3. 528 bushels on one acre.
4. Continuous growing of potatoes for eight years.
5. How over 1000 bushels of potatoes are grown on an acre.
6. Scab, wire worms, etc., in potatoes.
7. Sweet potatoes, their composition.

These accounts are from the pen of Prof. G. C. Caldwell, Sir J. B. Lawes, of England; E. S. Carmen, *Rural New Yorker*; Dr. F. M. Hexamer, *American Garden*, and others.

This valuable pamphlet contains, among other useful information, a table showing the effects of fertilizers supplying only a single element, as compared with complete fertilizers. Sent free to applicants by Mapes Formula and Peruvian Guano Co., 158 Front St. N. Y.

The Farm and Garden.

Vol. IV. APRIL, 1885. No. VIII.

INSTRUCTIONS TO CORRESPONDENTS.

Subscriptions may begin with any number, but we prefer to date them from January of each year. Price fifty cents a year, in advance.

Renewals can be sent now no matter when the subscription expires, and the time will be added to that to which the subscriber is already entitled.

Notice is always sent of expiration of subscription. If not renewed it is immediately discontinued. No notice is required to stop the paper, and no bill will be sent for extra numbers.

Remittances may be made at our risk by Post Office Order, Posal Note, Registered Letter. Stamps and Canadian Money are taken, but if sent in ordinary letters are at your risk. We do not advise you to send money or stamps without registering. See instructions on page 12.

Receipts.—We send a receipt for all money sent us. If you do not hear from us in a reasonable time, write again.

Addresses.—No matter how often you have written to us, please always give your full name, post office and State. We have no way to find your name except from the address.

Names cannot be guessed, so write them plainly and in full. If a lady, always write it the same—not Mrs. Samantha Allen one time and Mrs. Josiah Allen next. If you do not write Miss or Mrs. before your signature, do not be offended if we make a mistake on this point.

Errors.—We make them; so do every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us any way. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

ADVERTISING RATES.—From Issue of January, 1885, to December, 1885, Inclusive, 60 cents per Agate line each insertion.

CHILD BROS. & CO., Publishers,

No. 725 Filbert Street, Philadelphia, Penna.

OUR NEW READERS.

This number will reach many who, perhaps, may not have met THE FARM AND GARDEN before. To them we would say THE FARM AND GARDEN, as its name indicates, is a paper for the farm and garden. We have now almost completed four years of successful journalism and placed THE FARM AND GARDEN in the front rank of the enterprising farmers' papers. Our paper is a sprightly monthly of twenty pages, and gives practical suggestions upon every subject of interest to the farmer and gardener. Our inquiry column is full and practical and we desire to serve our readers in every branch of the farmer's occupation and make his home pleasant. We are asked how we can give so good a paper as we do for the small sum that our club rates indicate. Our answer is, we work hard like the farmer, early and late, and, like the honest farmer, give full measure for the money we receive. Hard-working farmers and all others who take an interest in this work, will you not send us a club of your friends as subscribers and help us in this way?

Remember a good kitchen-garden should be on every farm. Plant your garden in long rows. Tend with a horse. Save much hoeing, and have a good garden. The horse will work a garden cheaper than you can.

A certain Scotchman says that Americans boast of being ahead of everybody in everything, of having the finest soil, the finest climate and the best chances altogether, and *still are afraid of everybody.* If the last observation be true, we can see therein only the effect of the teachings of political demagogues, with their fanatical demands for a tariff "as near as possible to the prohibition point." We can and do compete with the world. We need not hide ourselves behind Chinese walls. We want to trade (buy and sell) with every nation on the globe.

We advise two new features in grafting, in our articles on that subject, viz.: Shaping the graft at the bud and setting it with the white wood above the stock. These two features we find, by the experience of thirty years in all forms of grafting, to be valuable and new. We never saw them recommended before, and have tried them for a long time, and would not graft any other way. We have tried many experiments in grafting, but these we claim to be original. The first feature of the bud form of graft will seldom fail to take, and the second will always make a wound heal over the soonest. We have often had, in top-grafting, the graft to make a growth of six feet, be well-branched, and one and one-half inches in diameter.

We take unusual pains to see that our advertisers are reliable men in their line of business. We believe that an advertiser who does what he agrees to do, should be patronized, and we give space only to those whom we believe to be honorable.

We refuse many advertisments from parties whom we are not sure are reliable. We believe the plan a just one.

Drought, severe winter, and the Hessian fly seem to have taken the matter in hand to stiffen the wheat market in the near future. Yet it is very unlikely that wheat will ever reach again its former high prices. We consider it much safer, with the present outlook, to prepare for growing more grass and corn, to be manufactured into beef, mutton, and pork, than to grow all wheat. Grain is low; meat keeps up its price pretty well.

It may be asked how we can afford to publish a monthly paper so finely illustrated, cut, and trimmed, ready for instant perusal. We never did believe in sending out a paper in which the reader must do what the publisher should—cut and trim the pages and ask a double price, as some do, for a half finished paper. We want the reader always to get the worth of his money, and when he gets THE FARM AND GARDEN we do not intend he shall have to buy a paper knife, needles and thread, and bind and cut his paper before he can read it. The farmer has to clean his wheat ready for market, we say let the publisher do the same.

Popular errors:—That any advertiser will give you something for nothing, merely for the fun of giving;

That swindling advertisers die very easy from a little exposure in the agricultural press;

That you can get the work of two men out of one man, who is provided with one of the much advertised modern sawing machines;

That farmers should be bashful and over-modest. "Ragamuffins only are modest," says Goethe the great German poet. Don't take a back seat, gentlemen; you are just as good as doctors, lawyers, or politicians;

That it is a waste to feed wheat, good nice wheat, to laying hens or growing chickens.

Not many agricultural periodicals dare to take as manly a position, in regard to the anti-oleomargerin legislation, as the *Rural*, when it commends moderation, "for Draconian laws cannot be enforced in these modern days any more than in the days of old." Our readers know that the FARM AND GARDEN stands always ready to defend the farmers interests to the last breath, as far as consistent with justice and fairness. But fairness is never a comparison with fanaticism, which is the natural out-growth of ignorance or hypocracy. We need not blow into the "prohibition horn," to convince our readers of the sincerity with which we side with the farmer in every issue, nor simulate a fanaticism, of which to be guilty, we are neither unfair nor ignorant enough. What good shall we expect of all laws which must remain a dead letter? We will not question the natural or constitutional right of any person, to manufacture a wholesome butter substitute, out of wholesome materials, like clean beef tallow, or to sell, buy or eat such an article under its proper designation.

When the *Rural* "heartily commends every judicious effort to restrict the sale of all deleterious imitations of dairy products, and to prevent the sale of all imitations or adulterations of butter and cheese *under the guise of genuine* articles, we can but respond with a hearty Amen. In our last February number we demanded laws which would enforce "cleanliness in the manufacture and honesty in the sale of butter substitutes," and now we have only to add that the penalties which the legislators of the different states may attach to the violation of such laws, will please us the more severe they are.

SHALL WE BE ROBBED?

We see by the *Charleston News and Courier*, that the Kiowah phosphate lands, embracing about 2500 acres situated about eight miles from that city, have been sold to Mr. R. L. Rylance, a gentlemen of Lancashire, England. He has also leased several other rich phosphate properties in that section, and proposes to produce a large amount of phosphate and ship it all to England, where a company is forming to take all the phosphates offered. The phosphate should be kept in this country for the benefit of the American farmer, to enrich his lands, and promote his agriculture and not that of a foreign corporation. These phosphate lands are rich and valuable, and would, if properly worked, enrich and render fertile thousands of our acres and make labor for our citizens in developing our country. Our agricultural interests suffer from the investment of English capital which is now used in buying up our pasture lands by thousands of acres and is fast monopolizing all the cattle lands to the exclusion of the American herder. They are also buying vast blocks of mineral lands, of coal and iron. They also purchased large sections of timber land, and now purchase and lease our most valuable phosphate lands. All the income from these investments is at once sent to England and our people receive no benefit from the income. Should we allow any one to hold lands in this country who does not make it a home? While THE FARM AND GARDEN welcomes all who help build up and improve our country, whose home and interests are ours, yet we believe we should take some steps to prevent a wanton waste of the country.

NEW ORLEANS EXPOSITION.

We were of course at the Exposition, and had one of the most pleasant mid-winter trips that could be taken. To see, in January, trees laden with oranges, and flowers in bloom, while snow and ice locked in winter's grasp the frozen North. The Exposition is a wonderful display of our progress in agriculture and the Arts. The buildings are large; the main building alone covers thirty-three acres, and the other buildings nearly as much more. We were pleased with the warm welcome extended to us by the Southern people, and it seemed that to meet them was to meet cordial and obliging friends. We received on all sides a hearty welcome. The exhibits are extensive and varied, no one can describe them. We could not fail to witness among the various fine State exhibits, the enormous productive powers of the Northwest. The display of their vast resources was looked upon with astonishment by every beholder. We hope all our readers, who can, will visit the exposition and enjoy the same pleasure we did.

CUTTING THE SEED.*

Single Eye. Drs. Sturtevant and Terry. Yields Resulting from different Amounts of Seed. Reliable Tests.

Various theories have been advanced and various methods of cutting the seed recommended. One of the latest of these, and widely practiced because the most ably defended, is *the one-eye system*, as advocated by Dr. Sturtevant, of the New York Experimental Station, and baptised, "Cutting from North-east to South-west," by B. F. Terry, its most enthusiastic champion.

Figure 1 explains Dr. Sturtevant's discovery. Each bud is the terminus of a branch connecting it with its source of nutriment in the middle of the tuber. The dotted lines indicate how the tuber should be cut in order to supply each eye with a share of this most important interior substance, in other words, to leave a reasonable amount of root to each coral branch.

Dr. Sturtevant's statement, to the effect that merchantable tubers cut in this manner, have yielded him six times as much as eyes cut shallow, four times as much as those cut in the ordinary manner, and twice as much as potatoes planted whole, and Terry's and other writer's reports, have done much towards popularizing that method.

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*From new book by "Joseph," entitled, "Money in Potatoes."

Our own experiments during a series of years, faithfully and persistently repeated on different soils and under different conditions, have long since forced us to abandon our former partiality for light seeding, and to accept the inference that the cry "too much seed," raised by some writers, and resulting in the popular error of using an insufficient amount of seed, together with the check-row system, is the chief cause of the low average of the potato yield, which is but a fraction above eighty-five bushels to the acre. We have not held back with our views. Our cries of warning have sounded through the Agricultural press repeatedly.

If Dr. Sturtevant, Terry, *et al.*, who, under peculiar circumstances, (on lands containing an excess of ammonia), or with peculiar knack, have made the one-eye system a success in their hands, now wish to induce the common farmer to adopt this system for his common farm soils, they proclaim a mischievous doctrine, which can only result in a further decrease of this low average yield. Meaning well, they do great harm. They are the false prophets, whose teachings, in this respect, we hear but not heed, while in many other respects we listen to them with the ears of the faithful.

be improved by judicious trimming at an early period. The tops may be cut off above the seed-leaves, thus forcing out the laterals, and the plants will attain a lower and more compact bushy growth, greatly preferable to the usual style.

✢

Tender vegetables should not be planted too early. Remember the frosts towards the last of May of the past year.

Damage from late frosts, however, can often be prevented by setting a few heaps of old rubbish, corn stalks, weeds, grape-wood, brush, &c., on fire late at night, thus filling the atmosphere with a cloud of smoke.

✢

Now take up your cuttings of currants, gooseberries, quinces, etc., which were buried in sand in the cellar, and plant them in nursery rows. The top bud only should be left out of the ground. Grape cuttings, however, should not be planted before the soil has become warm.

✢

The easiest and quickest way to sow onion seed, is with a garden drill, (Mathew's). If you have none, and cannot borrow one from your neighbor, I advise soaking the seed in tepid water for a day or two, then mixing with dry plaster, to dry off the surface, and planting a pinch of seed (5 or 6), every eight inches in the row. The onions come up in little clusters, far enough apart to admit a hoe between them. A great deal of hand labor is thereby saved, and the onions spread out and grow *exactly* as well and as large, as if they were growing one every two inches.

✢

Do not forget to mix a few radish seeds with onion, parsnip, carrot, and all other seeds which germinate slowly. The radishes come up quick and even to indicate the rows, thus enabling you to use hoe and cultivator early.

OUR SUBSCRIBERS' OPINIONS.

Mary J. Wells, Cowles, Neb.: "I think THE FARM AND GARDEN is just splendid."

Robert Edgecombe, Parson, Kan.: "We are well pleased with your paper. It is brimful.

Northern Nursery Co., Traer, Iowa: "We consider THE FARM AND GARDEN a first-class paper."

Mrs. C. Wineland, Bryan, Ohio: "Your paper is a welcome visitor. I send you twelve subscribers."

I. D. Barnes, Marthaville, La.: "All men and women who are farmers, should take your valuable paper."

James Bassett, Miles, Washington Territory: "I like your paper better than some that cost three times as much."

Mrs. M. A. Ames, Marinette, Wis: "I find your papers very interesting, and will take good care to keep them all."

Mary H. Bell, Plattsburg, Mo.: "I like THE FARM AND GARDEN very much and feel that I can hardly get along without it."

Mrs. M. A. Snyder, Barnhardt's Mills, Pa.: "I take pleasure in reading THE FARM AND GARDEN, and think it a valuable magazine."

Mrs. C. B. Sears, La Honda, Cal.: "I do not want to lose my paper for one month, as my family are very much interested in it."

Will E. Pittaway, Miles Grove, Pa.: "I will get as many names as I can, for your paper deserves a good round number of subscribers."

W. H. Kiser, Winterset, Iowa: "To take THE FARM AND GARDEN means a considerable amount of information for a very small consideration."

Cotton Belt, Memphis, Tenn.: "The absence of the old reliable FARM AND GARDEN from our table deprives us of one of our most valuable sources of agriculture information."

G. E. Stovall, McCoy, Ore.: "I consider the papers very precious and never was so well pleased with a paper of its kind in my life. Everybody here that has seen it is pleased."

"The good FARM AND GARDEN must come to S. R. Smith as long as he can get the twenty-five cents, and he would take a "Buck saw" and saw wood at night after his day's work was done before he would go without it."
Honiton, Maine.

E. B. French, Babylon, L. I., N. Y.: "For a year I have enjoyed the perusal of THE FARM AND GARDEN. It is full of good things, always suggestive, and never stale. Best of all, it is evidently controlled by men of sound moral principle who do not seem to crave the lure of humbuggery and fraudulent advertisers. Your liberality is in the highest degree commendable. I enclose the names of four subscribers. I wish I could say a hundred. I edit the agricultural department of the *Budget*, and among all our exchanges I positively find none I enjoy more than your little magazine. Speed the good work. Count on me as a friend, and I will speak a good word for THE FARM AND GARDEN whenever I can."

As this paper will reach many who are strangers to us, we refer all who doubt our willingness and ability to carry out our promises, to the following well-known firms:—Jas. Vick, Seedsman, Rochester, N. Y.; Wm. H. Maule, Seedsman, Philadelphia, Pa; W. H. Hallock, Son & Thorpe, Nurserymen, Queens, N. Y.; C. W. Dorr, & Co., Seedsmen, Des Moines, Iowa.

FARMERS' HOME GARDEN.

By Joseph.

Stewed half-grown gooseberries make an excellent sauce. I and my family, also like them fresh from the bush when ripe. I am well pleased with "Smith Improved." It makes a very strong growth, and yields heavy crops of large fruit.

✢

Cuthbert, Hansel, or other kinds of Red raspberries may be preferable in some localities. I have the Turner (Southern Thornless), which is very hardy here. A few short hedge rows give us a heap of fruit, annually, and we have no desire to change for any other variety.

✢

There is no variety of raspberry that I would part with more reluctantly than Shaffer's Colossal, with its mammoth canes and mammoth berries. Perhaps not profitable for market, unless local, it is magnificent for home use. A few bushes will supply a family with fresh berries during a number of weeks.

✢

Fay's Prolific still stands at the head of the list of currants. We want no other.

✢

The family garden should be free from stumps and boulders. Dynamite is now cheap, and if such stumps, etc. are in your way, a few pounds of the explosive will soon clear them out. But fooling will not do in this case. Ten one-pound charges, fired off one after another, might not make the least impression on a large rock, while a single three-pound charge would blow it to atoms. It is essential for the performance of good work to use that amount of dynamite which is sufficient to have the desired effect at the first pop; otherwise, at least in case of stumps, the whole job may be spoiled.

✢

By far the greater part of tomato plants grown for sale, are tall and over-grown things. But few growers seem to know how much the plants can

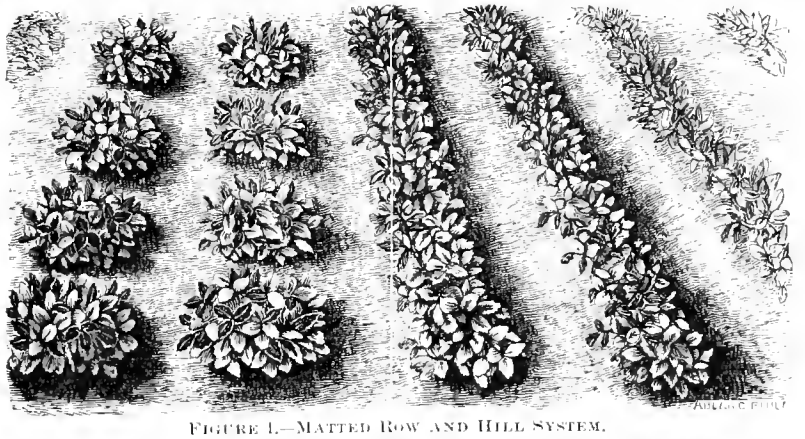


FIGURE 1.—MATTED ROW AND HILL SYSTEM.

STRAWBERRIES.

"Small fruits to people in the country, are like Heaven, objects of universal desire and very general neglect."—E. P. Roe.

"Doubtless God could have made a better fruit than the strawberry, but doubtless God never did."—Dr. Boteler.

This issue, being our Annual Strawberry Number, contains the following articles on the subject of this luscious small-fruit:—

The Preparation of the Soil; Soil; Botany of the Strawberry; Effects of Cross-Fertilization; Hill Culture; Fertilizers; Irrigation; Transplanting; Picking and Marketing; Varieties.

SOILS.

The strawberry is more uniformly successful in all soils than any other fruit. It appears more at home, provided manure and moisture are present, than any plant we cultivate. The strawberry will do very well in wet land, if it is cultivated in narrow beds with furrows deep enough to hold the standing water. The crowns of the plant must be kept above standing water or the plant will drown out. With narrow bed culture, wet lands will produce fine berries. Even shifting sands will, with proper culture, yield rich returns of excellent fruit. The best soil is one moderately moist (not wet) and friable enough to allow the berries to root easily, for no plant loves a well cultivated and friable soil as much as the strawberry. A noted strawberry grower says a soil that will produce good timothy will produce good berries. So it undoubtedly will, and so will lands too light in character to grow timothy or other grasses.

PREPARATION OF SOIL.

Much labor may be saved in cultivation by selecting land that has been long in cultivation; land, where all seeds of red and white clover, green and blue grass, and perennial grasses have been eradicated. These grasses we mention are very troublesome to destroy. They will take root after the tending of the berries is finished, grow a great height before the berries ripen, and will seriously injure the crop. They cannot be removed until after the picking, and then they have grown to such a height, and are matted so thoroughly, that their removal is very difficult. For this reason we mention the previous preparation of soil. The thorough eradication of these grasses is desirable. Care should also be used not to apply any manure or mulch that contains foul seeds of clover or grasses. Barn-yard manures should be composted with potash salts before using, which will, if properly applied, destroy all the seeds in the compost, and be useful as a fertilizer also.

BOTANY OF THE STRAWBERRY.

It may not be known to some of our readers that all plants are bisexual, except a few plants called Cryptogams. Most plants are perfect, or that is, plants that have both stamens and pistils perfect in all the flowers. The Wilson and Sharpless are of this class, and are hermaphrodite, or perfect-flowering, while in the Manchester, Crescent, and others, the samens are abortive or wanting, and such berries are called pistillate berries. The pistils are the female parts of the flower; they spring from the seed of the berry, one from each seed, are about a line in length, and are found in the centre of the flower. Figure 2 gives a flower where there are only pistils present. Figure 3 shows the same flower cut in sections. Such flowers as those of pistillate berries, like the Manchester, Crescent, and others, will not bear fruit unless a staminate plant, as the Wilson or Sharpless, is planted near to fertilize them. This is done by the stamens of the flowers which are shown in Figure 4, and in cross-section of Figure 5, where the stamens are seen in an outward circle around the pistils in the centre of the flower. These stamens produce a kind of yellow dust called pollen, and when a bee, or other insect, in search of honey, crawls over the flower some of the pollen clings to the bee, and is lodged on the pistils of the flower. The flower is then perfected. A portion of the pollen which still adheres to the bee, is carried to those plants which are deficient in stamens, and hence, also, in pollen, when at once the same fertilization takes place as it did in the former case. The reader will see, were it not for the bee and the stamens of the perfect blossoms of staminate berries, the pistillate berries would be barren, and would not produce under any circumstance. Such varieties often fail to produce fair berries for want of a sufficient number of perfect flowering varieties near them. When they are planted four to one, the fertilization will be complete, and an abundant crop of perfect berries will be produced. The question will be asked, "why plant pistillate kinds at all." We answer, "many of the pistillate berries are the most productive and valuable varieties when properly fertilized, and are among the most profitable."

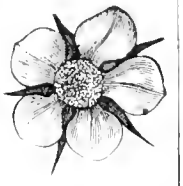


FIGURE 3.

FIGURE 4.

THE EFFECTS OF CROSS-FERTILIZATION.

THE FARM AND GARDEN was the first Agricultural paper to give prominence to the important effects of cross-fertilization of strawberries. In January, 1881, our gifted contributor, Mr. J. T. Lovett, first brought the subject prominently to the notice of the horticultural public. The subject is now of much interest to all fruit growers. Mr. Fuller, some years ago, alluded to the fact that there was a variation of berries where there was a cross-fertilization, but it remained for Mr. Lovett to fully demonstrate the influence of varieties on each other when planted together, as he did fully first in THE FARM AND GARDEN of last year. Many deny there is any influence at all exerted by pollenization, and it was a fertile subject of discussion at the recent meeting of the Mississippi Valley Horticultural Society, at New Orleans. Wm. Parry, of Parry, N. J., claims he has observed the effects of cross-fertilization fully marked in pears, and many others claim the same of other fruits. There are also very many who deny any such effects, and attribute all the changes noticed to difference in cultivation. We find, by intercourse with many practical strawberry growers, and from reports of the various horticultural societies we receive, that the fact appears to be well established that changes do occur by cross-fertilization, that fully affect the size flavor and general character of the fruit. The reader will read elsewhere in this paper, the difference in the sexual organs of the strawberry, and that while some are perfect flowering, like the Wilson, Hovey, and others, yet, there is a large class which need, like the Crescent, Manchester, and many more, to be planted near the others, or they will fail to produce perfect berries, or entirely fail to produce at all. The Wilson will, as fertilizer, with pistillate varieties, make a firm berry and will carry well. Let the Sharpless be used, and a larger berry will be produced by the cross, but at the expense of the firmness. A well-known grower of strawberries, showed us some rows of the Manchester in which every fourth plant was a Sharpless, and informed us that the Manchester was so changed by the Sharpless in its size, shape and color, that they were all picked and sold together for Sharpless, and were to all appearance Sharpless. He had all the bearing qualities of the Manchester combined with size, color and shape of the Sharpless. Director Lazenby, of Ohio Experimental station, in experiments with cross-fertilization, has found in every instance a marked resemblance in shape, size, color and general appearance to the fruit of the male parent. So strongly was this marked, that he states that the cross-bred berries bore no resemblance to the female parent. Crescents were fertilized with four different varieties—Cumberland, James Vick, Charles Downing and Sharpless. Fertilized by the Cumberland, the berries were light in color and soft; with the Vicks, small but firm; with the Downing, they were similar to the Downing, with the characteristic gloss of that berry; with the Sharpless, they were large like the Sharpless, and irregular. He also experimented with the Manchester, with the same results as with the Crescent.

FIGURE 5.

T. T. Lyon, of Van Buren, Michigan, in a letter to the *Rural New Yorker*, disclaims belief in any marked degree of effect in pollenization, and says that the crescent remains, with him, the same soft, insipid berry, whether fertilized by the Wilson, Bidwell, Sharpless or Miner, and says the same of other varieties he has tested in cross-fertilization. He claims soil and cultivation will account for the changes supposed to be produced by cross-fertilization. There is a possibility that Mr. Lyon may be misled, from the fact, as observed by Mr. J. B. Rogers, of Millburn, N. J., that some of the pistillate berries, in rich soils, become fertile and self-fertilizing, and such may be the the case with Mr. Lyon, and his berries may not be cross-bred at all. So far, it appears to us, the proof that cross-fertilization does affect strawberries, as asserted, seems to rest on a good foundation, and will be advisable for our readers to make a note of it.

FERTILIZERS.

The strawberry wants two things in abundance, *manure* and *water*. The ground cannot be made too rich and productive. Potash and phosphate, especially potash, are specific manures for strawberries. They never seem to know when they get enough of them. Barn-yard and stable manures contain them all, and can safely be used in any quantity. The more you use of them the more the profit. The last load in all cases paying better than the preceding one. Where there is a scarcity of stable and barn-yard manures, ashes and the various potash salts are next in value when applied with bone-dust. The high-grade sulphate—80 per cent.—we like best, then the muriate, and the common form of kainit.

The proper time for application is, when used largely, before the plants are set. One ton per acre of potash salts and one of bone-dust will be found useful. The bone-dust can be sown broadcast, after setting the berries, but before is preferable. The use of potash fertilizers, after setting, must be in small quantities—say two or three hundred pounds per acre, and after each rain again applied. By this manner of applying the potash salts all danger of burning the plants by

them will be avoided. Gypsum will make the berries of a lighter color, but will not affect the firmness. Where a rapid growth of the berry is desired, the application of 200 pounds of nitrate of soda per acre, before a rain, a week or two previous to ripening will greatly increase the size of the berries, but at the expense of firmness. Varieties that have large leaves, like the Sharpless and Kentucky will be greatly increased in foliage and will ripen poorly, while those of moderate-sized leaves, like the Wilson, will be benefitted by it. The leaves will be so increased in size that the berries will be better shaded. The nitrate of soda also is valuable in dry weather. Plants fertilized with it will stand dry weather better. Use manure freely for great profits in berry culture.

IRRIGATION.

The question of irrigation is each year commanding more attention among practical strawberry growers. The great value of moisture to the crop, and the uncertainty of rains at the period of ripening, the most precarious period of successful berry culture, has led to an extended discussion upon the merits of irrigation as a means to supply moisture in field culture. As yet no experiments have taken place that will fully decide if irrigation pays, by an increased yield of the crop. No one doubts the value of irrigation, the cost is the only question to be decided. The most successful plan so far has been the laying of drain tiles a foot deep under the row, before setting the plants, and when the irrigation is needed filling the tiles with water and allowing the water to saturate the soil. This plan has been found to be the best of *all plans*, so

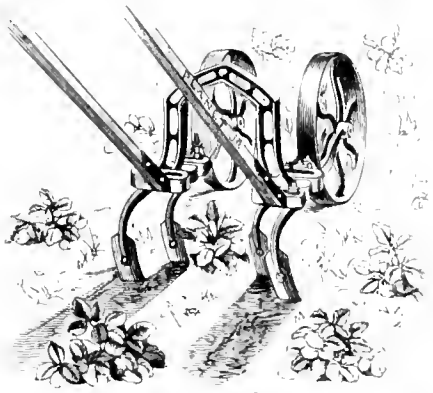


FIGURE 6.

far tried. The water does not harden the soil as when applied by surface watering. We shall watch with interest trials that are made to test the water. A very successful plan of irrigation for garden culture is that of setting near the berry plants ordinary earthen flower pots, even with the soil, and on approach of dry weather filling them daily with water. Those who try it will be delighted with the largest and most delicious of berries.

HILL CULTURE.

Hill culture would be more practiced in berry growing were it not for the trouble of keeping the runners from taking root, thus, making the matted row and also the use of the hoe being more necessary. We give a cut of a very excellent plan of setting berries by the hill system, and an easy plan of cultivation whereby the use of the hoe is almost entirely avoided. The plants are set in rows, eighteen inches between them, and the same distance apart in the rows. Then a space of three feet left for horse cultivation and three rows of hills planted as before. These hills range crossways as well as in the row. The cultivation is easy. The three-foot space is thoroughly pulverized by the horse cultivator and crossways by the use of the Planet, Jr. wheel hoe, made by S. L. Allen & Co., of Philadelphia, the use of which is plainly shown in the cut. When hoed crossways, the cultivation is continued by going the other way and all the soil will be loosened, weeds and grass exterminated, and the labor of hill culture will be greatly reduced. The ground should be cultivated by the wheel hoe after each rain. The weeds and grass are more easily killed by frequently stirring the soil than by destroying it after it has become well established. After the berries have fruited, the space between the hills is well cultivated and manured and the runners now be allowed to grow. They will soon fill the space and make a matted row for the next season's crop. We prefer, however, annual renewal. The runners are easily reduced by the use of a circular cutter, an illustration of which we give. The cutter is made of a cast steel ring, a foot or so in diameter and very sharp. A single thrust over the hill will cut off all runners in a rapid and successful manner. With the aid of the wheel hoe and runner cutter, the labor in hill culture is greatly reduced. We give in Figure 1 a good illustration of the berry in both hill and matted row systems of culture. It conveys clearly the two plans.

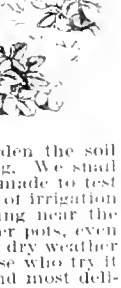


FIGURE 7.

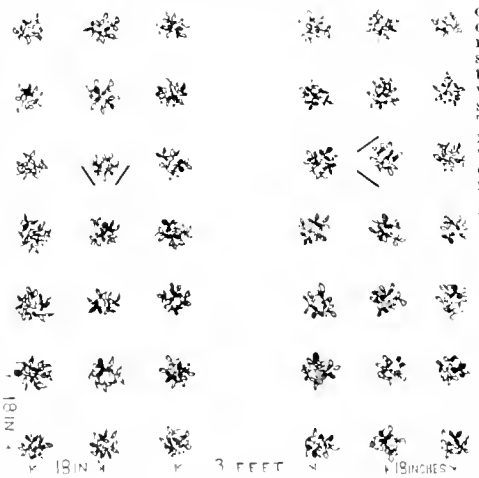


FIGURE 8.

TRANSPLANTING.

Always secure young, vigorous plants of the varieties you wish, for transplanting. Old plants —those that have set fruit—are not good for this purpose. They may be recognized by the black roots that adhere to them, and if these are used the old roots should be broken off, with the black stem to which they are attached.

Young plants may be known by their fresh-looking appearance and the mass of long, white roots, free from black ones, and are the only ones fit for setting.

The dead leaves, if any, are also removed, and if the weather be dry allow but a few of the green leaves to remain. The leaves will soon grow, while if many are left the plant may be exhausted of all its vitality and perish. The best season for planting in field culture is in May, or earlier, if weather permits,

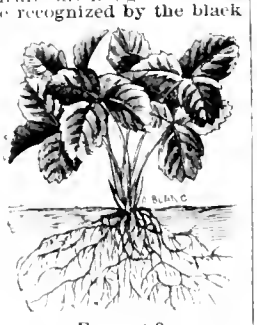


FIGURE 9.

for the plants become then fully rooted for a large crop the coming year. In transplanting, spread the roots out even with the surface, as shown in figure 9, not too deep, as in figure 11, or too shallow as in figure 12. The cuts are so well done, that the idea of setting is fully illustrated.

FIGURE 10.

MULCHING.

The great use of mulching berries is not only to keep the weeds from growing, but also to keep the ground from exposure to the hot sun and drying winds. The mulch, by its gradual decay, also furnishes manure for the soil. The mulching should not be done before a hard freeze in the fall or early winter. Freezing will arrest the growth of the plants and they can then be covered with the mulch without danger of smothering them, as a more early mulching might do. The best material for mulch, is fine hay or fine cut straw, and chaff that falls behind the machines in threshing. All that is required is fineness of the straw or hay. Long straw cannot be spread evenly, and it cannot be removed from the row in spring when the plants are starting into growth. The thickness of the mulch depends upon the material and the climate. When the mulch is fine and the winter mild, from four to six ordinary loads, per acre, are sufficient for a covering an inch or two thick. When the mulch is coarse and the winter severe, from four to five inches are used. In spring the mulch must be carefully removed from the crowns of the berry plant, or it will smother them. Mulching always pays well. It makes larger berries, keeps them free from sand, and dirt, and by making them later in bloom, lessens the danger of injury by late frosts. Many Western growers, after the crop of berries is gathered, set fire to the mulch, to kill the insects injurious to the fruit.

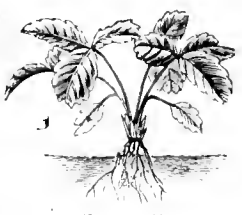


FIGURE 11.

PICKING AND MARKETING.

Berries carry, keep fresh longer, and of course sell better, when a portion of the stem is left on when picked. This is done by pinching off the stem above the berry, with the thumb and finger nail, taking care not to bruise the fruit. Pulling or stripping the berries from the plants will lessen the market value, and when very carelessly done, the berries are valueless for shipment. Berries carry better when picked in the cool of the morning, and allowed to stand open to the air in the shade. Picked in a hot sun, and at once put in a tight box, out of the wind and air, will cause speedy softening and decay. Always ship berries in a well ventilated car. Ventilation will always keep the fruit in good condition. It is needless to say, make your berries good for good prices. The crates for shipping, should be as light and have as much spring as possible. The boxes must be packed closely in the crates to prevent shaking or moving. Berries well picked and well shipped, are half marketed. Never lose sight of the home market for berries.

VARIETIES.

We will not take up the subject of varieties. Our country is so large, the climate so varied, the number of varieties so great, and the wants and tastes of people so different, that we could not recommend a list that would suit all who would grow berries. We are often amused to hear berry growers, who plant largely, in the same vicinity, differ widely as to the varieties that suit the neighborhood in which they are located. "When doctors differ, who shall decide?" All we can do is, from time to time, to figure and accurately describe all berries, as they appear to us. The selections must be to the taste and wants of the grower. The suitability of any berry can only be correctly found by trial on the grounds of the person who wishes to grow the best fruit. No theory will be of use. Practical experiments only, will decide it to the satisfaction of the grower.

FIGURE 12.

The *Gardeners' Monthly*, in commenting upon the immediate influence of pollen on fruit, says: "We have looked carefully into the literature of the subject and find no fact adduced in favor of this theory that cannot better be explained in light of modern facts, except, possibly, Indian corn." The editor also quotes the Hon. Simon Brown, of Concord, Mass., in the report of the Department of Agriculture, 1863, as stating "that careful experiments in growing all kinds of cucurbitaceous plants for the purpose of testing this very question failed to show the slightest indication of change in any one of them."

Our experience is different. We find that a few pumpkins planted with watermelons will harden the rinds of the melons and make them carry well and will affect also the texture and flavor. We also find by experiment that the Bay View melons we planted were at once changed in form when planted by the side of muskmelons, and the flavor was insipid, while the same seed planted alone was excellent in flavor and perfect in shape. We also find that cucumbers planted with muskmelons make them very insipid, and that when preserving citrons or gourds are planted near watermelons, the character of the melons is changed and the flavor ruined. The rind becomes hard and solid. We find the softer varieties are more subject to influence by the harder than the harder by the softer variety. Again, we find a variety kept by itself pure for a series of years, will not be as subject to influence as one of degenerate character. Or, in other words, the more fixed the type the greater the influence, and the softer the fruit, the more susceptible of change by a superior pollenizer. Careful selection and purity of breeding in plant seed growing will, as in the case of stock breeding, produce a fixity of type that will have power to transmit its type upon types of inferior power. We believe, from an extended personal observation that pollen changes the character of the fruit as well as the seed in very many cases of cross pollenization.

FARMER'S HOME GARDEN.

By Joseph.

As this issue of THE FARM AND GARDEN is to be a "strawberry special," I cannot refrain from showing, in the following, how strawberry enthusiasm served me. Like a blind man, I have been going around in a circle for a dozen years or more. I started in with Wilson's Albany and Charles Downing, and they were perfectly satisfactory for all my purposes. Soon, however, the "novelty craze" got possession of me. It had about the same effect that bad whisky is said to have, of course I do not know from personal experience. As long as the exhilaration lasted, all was lovely and delightful. Then came the after-clap—nausea and headache.

All the new varieties were purchased in quick succession and at fancy figures, generally $2.00 for one dozen, or $10.00 for 100 plants. These were carefully nursed and tested, only to be discovered after a year or two. I had the Monarch of the West, Great American, President Lincoln, Sharpless, Bidwell, Jersey Queen, Big Bob, and many others. The Manchester came so well recommended, that I set out $10.00 or $15.00 worth of plants, and enlarged my bed just as soon as I could grow runners. Then arrived that shamefully puffed up humbug, the James Vick (sorry it bears so good a name), of which I also planted quite largely. All these varieties were plowed up, the Manchester last, and now I have only a well-kept bed of the James Vick. But I would gladly give it for a bed one-half its size of well-grown Wilson. So, at last I got back to the same point from which I started about twelve years ago.

It is, however, not my intention to condemn all these new varieties. They have not been of much value to me, but may do very well in the hands, and on the land of others.

OUR STRAWBERRY NUMBER.

This month we add a new and valuable feature to THE FARM AND GARDEN. We not only give a number full of practical information on all subjects connected with the farm and garden, as our readers will find, but, also, in addition, full and valuable papers on strawberry culture. Every farmer who grows strawberries, and all should, at least for home use, will find this number valuable. It will give him all needed information on strawberry culture. This is not at the expense of our regular readers, for we give them a number full upon all the usual farm and garden topics. Though the expense is large, yet, we give to our readers the strawberry matter free. We believe in always dealing fairly, and we know our readers will appreciate our efforts. We have a large class of intelligent readers whom we desire to please, and shall always give them even more than we promise, and more for the money, than any other paper in the Union.

STRAWBERRY NOTES.

If you have any idea of growing berries, send for the catalogues of growers who advertise with us. They are reliable and prompt business men.

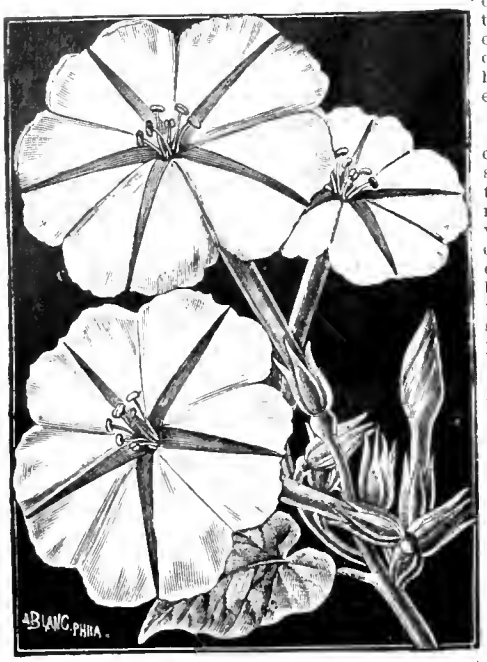
WANTS IN STRAWBERRY CULTURE.—Good varieties, good culture, plenty of manure, and plenty of moisture. Where the money is.—A location near a good market, fine berries, and plenty of them. Who succeed.—Those who pay attention to business and adopt all the hints we give in this number of the FARM AND GARDEN.

When the matted row system is followed in berry growing the plants are set generally from sixteen to eighteen inches apart in a single row, and the runners allowed to grow. We prefer to set one foot apart, and keep the runners down the early part of the season until they are well rooted, and then later allow runners to fill the row. This plan will make a very vigorous plant, and will insure a large berry, but takes more plants.

EXPOSURES.—Exposure has much to do with successful culture. Where a very early crop is desirable, to command fancy prices, and early frosts need not be apprehended, choose a southern exposure, in as warm a situation as possible. The period of ripening will then be advanced a week or ten days, frequently doubling the value of the crop. Where the frosts are untimely, a northern exposure is safer. Retarding the blooming will save the crop from frosts, but at the expense of earliness. The berry season may be greatly extended by planting the late varieties on a clay soil. This will produce late berries, and being less warm, an exposure will retard the ripening for some time. Selecting early varieties, a sand soil, and a southern exposure, the earliest berries will be grown.

HILL CULTURE.—There is a great advantage in hill culture over the matted-row system, where fine-sized berries are in demand. Planted as we recommend in this number, in hills, there will be 14,520 plants per acre. Should the plants yield, under high culture, one pint per hill (a small crop,) and the berries command only ten cents per quart (a low price for extra berries), the yield in money value would be over $700 per acre. Should the berries range only one-third in price above those of the matted row, there would be left over $200 for the extra care in culture and manuring. Always use high culture and plenty of manure with the hill system, and raise extra-fine berries where there is a demand for them. You can easily net $500 per acre. Where there is only a market for low-priced berries, the matted-row system will answer. You will have the quantity at the expense of size and quality.

OUR FLOWER GARDEN.



THE MOON FLOWER.

FLOWERS THAT WILL GROW IN THE SHADE.

There are few plants that will flower in places from which sunshine is entirely excluded. Some plants will grow well enough developing shoots and leaves, but flowers of nearly all kinds must have some sunshine. Of those that do well and flower when planted out in the open ground where the sunshine only comes for two or three hours during the day, may be named the following: Calceolarias, Fuchsias, Lobelias, Herbaceous Phloxes, Pansies, Forget-me-nots (*Myosotis*), Lily of the Valley, and other herbaceous plants and shrubs whose native habitation is shady woods. Perhaps a better effect is produced in such situations by ornamental leaved plants, such as Coleus of all kinds, Achyranthes, Caladiums, Cannas, Aspidistra, and other plants with high colored leaves. With those may be combined the different styles of grey or white leaved plants, such as Centaureas, Cinerarias, Gnaphaliums; plants known under the general popular term of "Dusty Millers." These are much more preferable for such shady situations than flowering plants. It may here be remarked that the cultivator of plants in rooms should understand the necessity of sunlight to plants that are to flower, and endeavor to get them as near as possible to a window, having an eastern or southern aspect. The higher the temperature, the more plants suffer from want of light. Many plants such as Geraniums, Fuchsias, or Roses might remain in a temperature of 40° in a cellar, for example, away from direct light for months without material injury, while if the cellar contained a furnace keeping up a temperature of 70° they would all die before the winter was ended. If tropical species, they might stand it better, but all plants quickly become enfeebled when kept at a high temperature and away from the light.

LILY OF THE VALLEY

A correspondent informs us that she had splendid luck in blooming Lilies of the Valley, without any special culture or pains being taken. She simply bought good strong imported single pips, planted them in boxes 6 inches deep, filled with soil composed of one-third loam, one-third peat, and the balance well rolled manure and sand; after a good watering and pressing down of the roots they were placed in a cellar and covered with four inches of ashes. This was on October first. They were not seen to until January 15th when some of them were brought up into a warmer place where they gradually came up nicely, not one failing to bloom. Within the last few years the fashion for the flowers of the Lily of the Valley has increased to such an extent, that, though the importation of roots has probably tribled each year, the price of the flowers is still quite as high as when the forcing first began. The failures which attend the winter flowering of this plant are due, mainly, to the use of improperly developed roots. As with similar plants, a certain size or development of the crown or underground bud, is essential to produce the flower. What that size should be, is not always, even with the most experienced, easy to determine. In the Tuberose, the Japan and other lilies, we find that bulbs that are less than an inch in diameter are not certain to flower. The crown or "pip," as florists sometimes call it, of the Lily of the Valley when sufficiently developed to flower, should be at least an inch and a quarter in length and one inch in diameter. This however is not the extreme limit as much smaller pips have been bloomers.

SCILLAS.

Last fall we imported varieties of squills, which could not all be bought in this country, for the sake of seeing the bloom and habit. Several of them have already flowered, and have given us much satisfaction. Among the first to bloom was Scilla Siberica, which we have often described. It is indeed a gem among early spring flowers, so beautiful that no garden of any kind can be complete without its shade of porcelain blue which quite distinguishes it from the other species. Being small, several can be grown in a pot for blooming in the greenhouse.

SCILLA HYACINTHOIDES COERULEA

Is another pretty variety and a profuse bloomer with flower stalk about 6 inches high. One bulb will produce several spikes, and last in bloom for quite a long while. The varieties Alba, Rosea, and Rubra are also very effective, especially the latter.

SCILLA PERUVIANA.

We were very much pleased indeed with this beautiful plant. The flowers are of a fine blue, very numerous, arranged in a large, regular, umbel-like pyramid, which lengthens during the flowering period. They cannot be described to advantage, and must be seen to be appreciated. It is one of that kind of bulbs, that if it were to cost two or three dollars each would receive a place in all fine conservatories, but because it is cheap it does not receive the credit that it deserves.

SCILLA CAMPANULA.

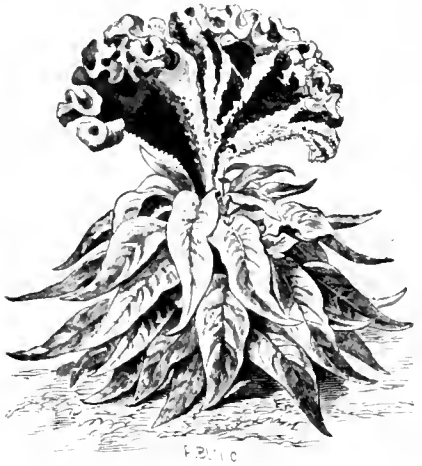
Is another very pretty kind, but nothing to compare to Peruviana for stateliness of growth. Still it is well worthy of a place among the others.

SCILLA CILIARIS.

We have no bloomer of this as yet, but the foliage is very fine.

ALLIUMS.

In these we are much disappointed so far, and would hardly recommend them a *trial*. They are somewhat objectionable, from the odor of the stems and foliage when crushed. To growers of collections there are among the great number

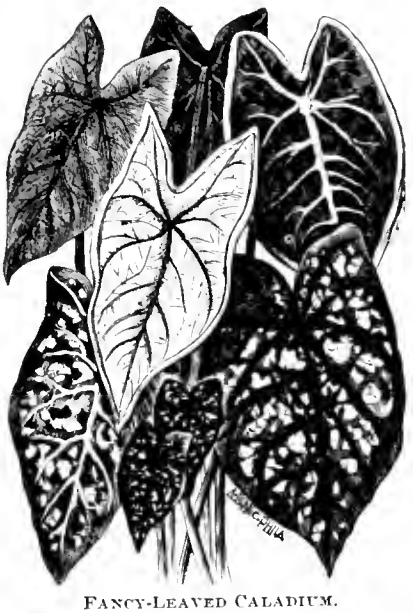


DWARF VARIEGATED COCKSCOMB.

of known species some interesting kinds such as Neapolitanum, Paradoxum, Ciliatum, Flavum, Fragrans, and Triquetrum. The latter a very profuse bloomer. One bulb producing as many as ten spikes of pure white, star-shaped flowers in the course of a couple of months.

BEDDING PLANT.

There may be nothing new in the fact that our flower-beds need to be deeply dug occasionally, but the operation is so important that it can



FANCY-LEAVED CALADIUM.

hardly be too frequently adverted to. Trenching is perhaps the proper term and yet it scarcely expresses what we mean. The time to do it is, of course, when the beds are empty; once in two years is enough. The best time is in the autumn, after the summer beds are remounded, but those who have not attended to it can do so now or as soon as the frost is out of the ground. If you have not sufficient depth of good soil to trench the beds, in the ordinary sense of the word, that is, to bring the bottom soil to the surface, take out a couple of good barrow loads of the surface from one end of the bed and place it on one side, then commence to dig up the bottom, bringing the surface soil from the next trench on top of that just dug up. By this means you are able to dig up the bottom and still retain the surface soil on the top. But where there is sufficient depth of good soil it is preferable to trench in the ordinary way; that is to bring the bottom soil to the top. The advantage of stirring flower beds is two-fold; it creates a wider field of action for the roots, and it also gives roots an opportunity of getting down out of the reach of drought in a dry season, and it makes a better drainage in a wet one.

COLORED FOLIAGE.

The use of colored and other fine-foliaged plants in the flower garden has, of recent years, greatly increased. The cause for such extended use being, first, the introduction of a large number of suitable plants; secondly, the foliage and subtropical bedding of public parks. What the limit shall be, must, of course, be left to the taste of the owner of the gardens. We would include all the colored, variegated Pelargoniums which, if thought well, could be allowed to flower. Hardy, variegated plants would also be included such as Japanese Honeysuckles, variegated Periwinckles, Ivies and similar plants; also the hardy Sedums, Saxifrages and others of the carpeting type. The grand effects that can be had with this class of plants and variegated and colored-leaved plants of the tender section with graceful leaved plants in combination, are infinately greater than any that can be had with flowering plants alone, not to mention the additional merit of standing all weathers without injure. One of the brightest and most perfect beds as to coloring,

planted in geometrical form, for summer effect, may be composed of the following plants:—Sedum Acre Elegans, cream white, Sedum glaucum-grey; Herniaria Glabra, green; Mesembrianthemium Cordifolium Variegatum, light yellow; and the bright orange and scarlet Alternantheras, all dwarf plants. The standard or central plants being a variegated Abutilon or some tropical plant.

SUCCULENTS.

By way of variety, succulents are a desirable class of plants to employ in the flower garden, more particularly in dry positions and under the shade of trees, where some plants do not flourish satisfactorily. Perhaps they may be considered quaint rather than pretty, nevertheless, arrayed on a ground-work of dwarf Sediums, Saxifrages, and similar plants, few bedding arrangements elicit more admiration. But apart from reason, their power of withstanding storms of wind and rain or even drouth or cold, they are always in good form; they should have a place in all summer gardens of any extent. Their variety is greater than that of many bedding plants, and this merit is enhanced by the fact that they harmonize well with many kinds of hardy plants that serve as cushions on which, as it were, to display their quaintness. The term succulent includes all plants of a fleshy, juicy character, the more common type being the Sempervivums, Cotyledons, Kleinas, Echevirias, Agaves, and Aloes.

CELOTIA (*Coxcomb*).

For growing in pots these are unexcelled, as well as for growing in the open air, where, if used in bold groups, they form a fine effect. For this purpose they should be sown in pans in March and kept near the glass, to prevent the seedlings being drawn. As soon as large enough to handle, they should be placed into small pots, grown rapidly in gentle heat, until the crowns are formed. Then they may be set out in June (in rich soil), and liberally supplied with water. Thus treated, they will continue in good condition for a long time. When well grown, from seed of good quality, they never fail to please and attract attention. The variety here illustrated, Celosia Cristata Variegata (Gold and Crimson Variegated Coxcomb), is very handsome. It forms magnificent large heads, variegated with crimson, orange, green, shaded and striped. The golden yellow and deep crimson are of the most brilliant hues. A fine collection of Coxcombs is one of the most interesting sights to behold.

ANOTHER LITTLE CACTUS TALK.

We often hear people say, when looking over a collection of Cacti, "How can you be so fond of those horrid plants?" But when they have an opportunity to see them loaded with their large, magnificent, showy flowers, they cannot say too much in their praise. True enough, it is not every one that can bloom them as well as a Geranium, but that is where the pleasure in growing and blooming them "well" comes in. An amateur does not want to bother with what every one can do, or else he could not take pride in his own achievements. While some Cacti bloom as readily as a Calla, others do not. We must admit that they require less constant care and watchfulness than the majority of other blooming plants. We have on our table now a plant of Echinocereus Cæspitosus that was received from Mexico last October. It had no roots whatever, and had probably been pulled from the soil in which it grew a month or two before. We did not plant it; in fact, we forgot all about it until we came across it on the shelf, and, on picking it up, found that a bud was forming. Then another and still another one appeared, and now this plant is blooming beautifully and several more buds are ready to open. The flowers are of a delicate purple, large, and delightfully fragrant. Show us a plant (unless it be a bulb that requires a long season of rest) that will bloom under such circumstances.

We do not pretend that this plant will keep on blooming or that we could expect this of every other Cactus, but that with proper treatment the Cactus will bloom and become more popular.

We know that the Cactus requires good loam—leaf mold and sand in equal parts. If potted in spring or summer they should be watered moderately until November and then water should be given sparingly or not at all until March. Then take them in hand and give them a good soaking and see how quickly they will begin to grow and produce buds and branches. But even now you must be careful and not drown them. In July and August give them as much water as any other plant. Young plants should not be kept as dry during the winter as older ones. Some people bed their Cacti out during summer. This may do very well in southern localities, but we would be afraid to advise this for all species, although the Night-blooming Cereus will be immensely benefited by this treatment.

The Cactus family embraces many genera and a vast number of species, the genus Cereus alone containing over 150 species. The macerated branches are sometimes used for medicinal purposes, and five dollars a pound is frequently asked for it. All the varieties of the Cereus are remarkable for the brilliancy and singularity of form of their flowers.

Cereus Flagelliformis has small creeping or trailing stems, with bright, rose-colored flowers, and makes a capital plant for terra-cotta hanging baskets. C. Gigantus rises fifty to sixty feet high, with a diameter of two feet. In the genus Echinocactus are represented the most grotesque forms imaginable. They number an immense variety of species, and are all well worth growing. Besides these, there are the Mammillarias, Melocactus, Opuntias, Epiphyllums, Phyllocactus, Ripsalis, etc., all of which deserve a place among the oddities.

THE EVENING GLORY (*Ipomœa Noctiphyton*).

We should not wonder but that our repeated allusion to this elegant climbing plant had induced many florists to offer it for sale, and grow it extensively. As a rapid grower it outruns the morning glory "by a large majority." Hunt up some of our back numbers and see what we have said about it. Cheap and good, and will last you for years.

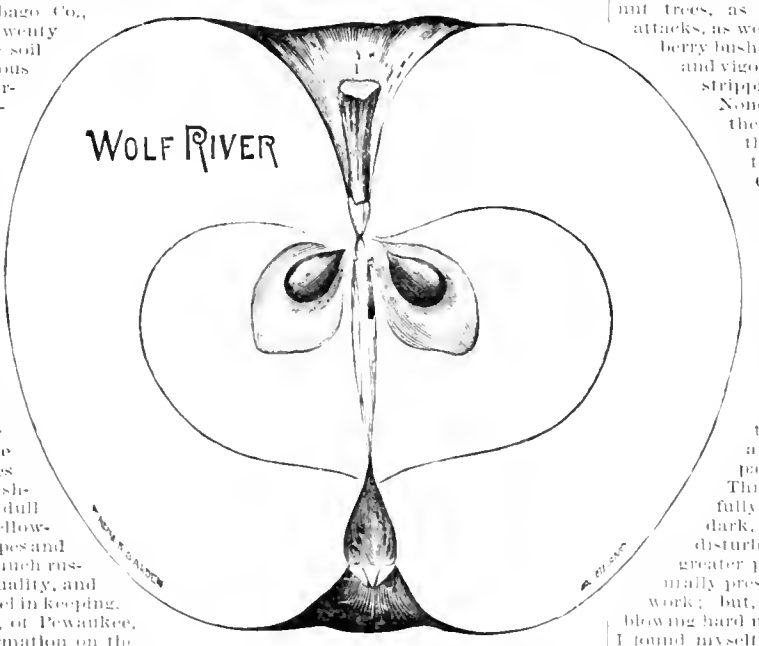
DOUBLE DWARF HOLLYHOCKS.

Have you seen what the florists have been doing with the old-fashioned Hollyhock? No? Well just look over Messrs. Peter Henderson & Co.'s Catalogue, and examine the illustration and description of the new Double Dwarf Hollyhock "Crimson Pyramid." Our readers who have not received this magnificent catalogue should not fail to send for it, enclosing five-cent postage. The book is well worth twenty times that amount.

ORCHARD AND SMALL FRUITS

WOLF RIVER APPLE.

We give our readers a cut of an apple valuable for the Northwest on account of its great hardiness. It is one of the non-clads, and is also desirable on account of its fine size, which is shown in our accurate cut taken from an average size, well-grown apple. The Wolf River was originated by W. A. Springer, of Wolf River, Fremont Co., Wisconsin, from which it takes its name. The original tree, we learn, is still growing in the northwestern portion of Winnebago Co., Wis. on the Wolf River, about twenty feet above low water mark. The soil is a red, sandy clay, very impervious to water, and was originally covered by white oak, ash and elm timber. The land where the Wolf River now grows was once set in a large orchard of seedling apples, and now it is almost the only one which has been hardy enough to stand the climate and surroundings. The Wolf River will succeed in wet soils better than any variety so far tested. The tree is a strong, spreading grower, wood dark, and buds pinkish, and what may be called an annual bearer although it bears a heavier crop on alternate years, and sets the fruit evenly through the tree. We describe the fruit. Size, large to very large. Specimens have been shown of twenty-eight ounces Form irregular, usually roundish-oblate and often angular. Color, dull red or crimson in the sun on a yellowish green ground with obscure stripes and many small light dots. Cavity much russeted, stalk short. Only fair in quality, and keeps well into March, apt to shrivel in keeping. We are indebted to G. P. Peller, of Pewaukee, Wis., for our specimen and information on the apple. Our cut gives the exact size and shape of the apple, size of stem and core of the apple; in fact, it is a perfect reproduction of the Wolf River. Tree a vigorous grower.



(Full size and exact shape.)

CLEFT-GRAFTING.

Cleft-grafting is the best mode of grafting large stocks, and the plan generally used. The art is one that requires careful attention to small particulars, for if not done properly the graft may grow, but will take years to make a tree. If well done it will at once grow rapidly; more in one year than one poorly grafted will in three. Our cuts are so perfect that you can at once see how to become an expert in grafting. These cuts are are made expressly to show what no work on grafting has done before, new and valuable features in the art of grafting, and a great improvement on the common plan. By examining the cuts, it will appear plainly to the reader.

The stock you graft on must be cut very smooth with a sharp saw. If the stock is large, it is better to cut it off twice—once above where you intend to graft—so that if it should split, you can cut again, and have a good stock to graft on. Split your stock, and then make the graft, as is shown in the cut. See figure 2, in which the bud forms a part of the graft that is inserted in the cleft. This idea is a new one, and when the graft is set, the peculiar curve of the wood and bark is sure to find a spot in the stock to form a perfect union, while in a graft, as commonly made, one sometimes fails to find such condition for the union when the graft is inserted.

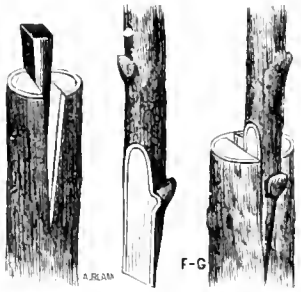


FIG. 1. FIG. 2. FIG. 3.

In all cases you must have the wood of the stock and that of the graft even, no matter if the graft is inserted beyond the thick bark of the tree. The graft should be so inserted that if the bark of both graft and stock were to be removed, they would just be even, for the sap always starts and flows first between the wood and bark, and the graft should be set so the sap-wood of the graft and stock meet. This is important, and must never be neglected. By cutting the graft on the bud plan, as we show in the cut, this is sure to be done in some part of the graft, and seldom fails, even with a novice.

Do not insert the graft too deeply; no deeper than shown in the cut, where a spot of white is on the graft, above the stock. Figure 3 shows a part of the slope of the graft at *a* left above the stock. The graft should never be inserted so that the white wood of the graft does not appear above the stock. This is important, for if you graft as we advise, the new wood will at once start from the graft, and will grow and heal the stock over. We have had stocks of one inch in diameter heal over in a year; when set as is sometimes done, fail to head at all, and blow off. Wax all exposed wood over well.

WHIP-GRAFTING.

Where the graft and stock are about the same size, cleft-grafting gives place to whip-grafting, the plan of which is shown in figure 4. The stock and graft are each cut on a slope, as shown in the illustration, with a sharp thin knife, making a smooth cleft. Both are united as shown and the points of stock and graft are then trimmed evenly, and securely tied with a string, well waxed. The whole is then waxed over. When the tree has grown, the string needs loosening. Take a sharp knife and give a drawing cut across the string and leave it alone. The growth of the tree will now spread the ends of the cut apart and allow the tree room to grow.

A LETTER FROM NEW ZEALAND.

Charles Ryley, Turanaki, New Zealand.

I have not written to you since the 10th of September and in the interum, we have passed through the most dismal attempt at a summer that anyone ever remembers, either here or elsewhere. I should think October, November, and December, were nothing but an unbroken spell of wet weather, with almost constant gales of cold, winterly winds. The consequence is, that most fruits have been a failure. Cherries all dropped off before ripening, with the exception of a few of the hardiest kinds. Of pears, I do not believe that a bushel remained on the trees in the whole district. Plums are almost a total failure. Of the quinces, not one has set. Apples are a very poor crop, excepting where the shelter is exceptionally good, and even then the fruit is small and poor. Strawberries were miserable; and so were all bush fruits, excepting gooseberries, which bore in a most unusual manner, the bushes being loaded with heavy crops of very large berries.

The excess of moisture appears to have aggravated the disease known here as "root-fungus," and the mortality from it has been unusually great. Our other insect pests were also particularly troublesome this season. The small, green lady-bugs, on the plum, were far more numerous than I ever saw them before. Instead of staying, as they usually do, two to three weeks, they remained fully five, confining their attention not only to the plum, cherry, and Spanish chestnut trees, as they generally do, but making attacks, as well, upon the apple trees and gooseberry bushes, materially affecting the health and vigor of all of them, and in some cases, stripping them of every vestige of a leaf. None of our small birds seem to eat these insects. The fowls can only get them when they are helped to them then they devour them greedily Constant feeding of them increases the powers of laying eggs. The plan that I adopted to give my trees some protection from these voracious insects, was to have a couple of frames, eight feet by four, covered with calico, and a hinge down the centre of each. These are laid on the ground, underneath the trees, and the trees are beaten with switches. The beetles fall on the sheets by thousands, and are then poured into a can containing a little water. When the can or pail is full, it is taken to the fowls. This operation can only be successfully performed between sunset and dark, when the insects are stupid. If disturbed when the sun is shining, the greater part of them fly away. This naturally prescribes the time available for this work; but, as it was raining heavily and blowing hard nearly all the time they were here, I found myself at a very great disadvantage in attempting to catch them.

We had not been rid of these creatures more than a fortnight before our friends the leeches arrived in full force. These loathsome vermin, if I may call them so, also come in millions, and devote their attention, principally, to the pear and cherry trees, but are not above having a feed on quince and plum trees, too. They are called the leech or dolphin, and are said to be the larva of the sawfly. From this fact, I gather that the said fly has no natural enemy here to restrain his increase. We are so helpless against the ravages of these things, that I know of orchardists who are cutting down their pear trees in despair. In other places, where smaller trees only are grown, the proprietors find that sprinkling the tree with a solution of white hellebore, two ounces to a gallon of water, has a beneficial effect. Sprinkling the tree, or rather the larva, with air-slacked lime and ashes will also kill the pests, but it is not always easily done. I have growled and expatiated on our troubles enough for one time, and you will think there is no one so discontented.

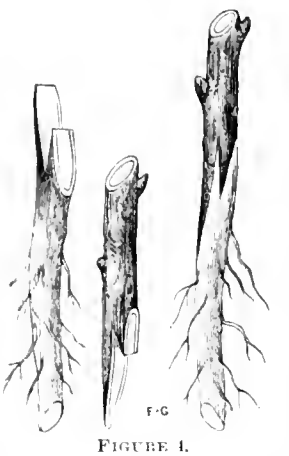


FIGURE 4.

FRUIT NOTES.

D. S. Marvin, in the *Rural New Yorker*, writes very highly of the Emmelan seedlings and crosses. He believes there is a great future for the crosses and hybrids of that variety.

Dig up all old, worthless trees in the orchard for fire wood. When a poor variety is healthy and in full vigor, you can top-graft it and make it a valuable tree. Only the most vigorous trees pay to top-graft. Old trees are worthless.

If you have blackberries that winter-kill, do not dig them up; but rather cultivate them well, and we will tell you in the fall how to layer them and protect them from the winter. It is easily done. Save your blackberries.

Manure your gooseberries with well-rotted manure. Dig up the grass around them. Make the ground mellow. Cut out the old moss covered canes and let the finest grow, and you will laugh at mildew. Starvation of the soil and mildew are fast friends. Good culture is profit. So it is with all small fruits.

George P. Peffer, of Pewaukee, Wis., a fruit grower of large experience, recommends to us for planting, in Wisconsin, the following apples: Pewaukee E, Golden Russett, Tolman's Sweet, Westfield, Seek-no-further, Gloria Mundi, Blue Pearmain, Walbridge, Bellflower and Wolf River, which we illustrate in our present number.

The Wolf River apple is sometimes claimed to be identical with the Alexander. It is a seedling that resembles the Alexander in some respects, but not at all in others, and must be regarded as a new and distinct variety. It is desirable only for the North-west on account of its hardiness, fine size, and appearance; but its quality is against it in Central and Southern States.

The apple of which we give a cut, was from a plate that took $25.00 in premiums at the New Orleans Exposition. First premium of $10.00 for best apple of any variety for the Northern District, latitude 42°–49°. First premium for the largest and handsomest variety for that district—$10.00; and $5.00 for best plate of Wolf River. Our cut is the only correct cut of Wolf River that is published.

This month we give an excellent article on Peach culture, from the pen of J. T. Lovett, Little Silver, N. J. It is well written and valuable; worth many times the cost of our paper for a whole year. Mr. Lovett has a thorough practical knowledge of the subject, and his advice can be fearlessly followed. We shall give the balance of his article next month, and every peach grower should read both this and the next number.

David Goodrich, of Tioga County, N. Y., says ducks are one of the best protectors against the plum curculio, he has found in an experience of five years. He also recommends German salts to be spread around the tree. We presume he means German potash salts, if so, they must be well worked into the soil before the ducks are allowed to run in the plum orchard, for the salts will kill the ducks if they eat much of them.

MODES FOR APPLE TRIMMING.—Prune close and smooth. Cut off limbs long, with an axe, and saw the stub left with a sharp saw, as near the tree as possible. Cut straggling, spreading growers back. Head open growers back. Prune out all dead limbs. Trim all suckers from the roots and branches, and leave the tree clean. Leave no dead wood in the trees. Thin out all small, weak inside branches, and cut off as few large limbs as possible. Never use an axe to prune off limbs. Never leave a tree half pruned and call it well done. Too much pruning is as bad as too little.

L. E. Ambrose, Minier, Ill., asks, 1.–If gooseberries and blackberries will grow in the shade, 2.–How to start grape vines. 3.–Which is best, the Snyder or Wachussett blackberry. 4.–Best tree for shade on a small lot. Answer: 1.–Yes, if not too shady and dry. 2.–Take cuttings, a foot or so long, and cut the bottom end off just below the bud, and set in a warm, moist soil. Some varieties root more readily than others. 3.–Snyder is best for you. 4.—The European linden makes a good shade, and does not grow too large. Sugar maple makes a fine tree. The maples, as a rule, grow so rapidly that they soon cover a small lot.

Our thanks are due Mr. P. J. Breckman, the well-known Southern pomologist and nurseryman, for civilities extended to us on a visit to him at his home in Augusta, Georgia. Mr. Breckman's grounds and nurseries are large, and contain an extensive collection of fruits especially adapted to the Southern States, as well as many long keeping apples well suited for Northern culture. We are trying many of them, and during the year will describe our success. Mr. Breckman succeeds well in growing early peaches, wild goose plums, and early fruits for Northern markets, as well as carrying on one of the most extensive nurseries and greenhouses in the South.

According to the *American Farmer*, B. G. Buell, a well known orchardist of Michigan, finds top-grafted trees on such hardy stocks as Northern Spy and Duchess of Oldenburg to withstand the effects of intensely cold winters much better than root-grafted trees; and the Red Canada top-grafted on the Northern Spy, nearly escaped in the unprecedented cold of 1873 and 1875, when others, such as the Baldwins, were killed outright. Thompkins County King was much injured by this intensely cold winter, and the trunks were split and many of the larger branches killed, Wherever the trees thus injured were severely pruned and shortened in, the trees were saved; those not pruned died in a few years, thus showing the injury a tree suffers from neglect in removing dead limbs.

Potash salts are divided into three kinds or classes. The muriate consist of the se potash salts that contain 80 per cent. of muriate of potash. The sulphate consists of high grade sulphate or 80 per cent. of potash sulphate. Low grades of potash salts, that contain from 20 to 30 per cent. of potash salts, are called kainit. The potash salts are all valuable in fruit growing. The kainit, especially so, for the sulphate and muriate of magnesia it contains, usually 30 per cent., is a valuable fertilizer for the peach and and apple. Soils that are derived from magnesian limestone are the best apple lands. Sections of Arkansas, whose exhibits of beautiful fruit at New Orleans were the wonder of all who saw them, exceeding in color and size even those of Kansas and Missouri, have land of this derivation. Potash salts are valuable in all soils that are sandy, and all soils derived from limestone, but are not valuable in soils that are derived from granite, or which are full of mica. The farmer must study soils as well as fertilizers.

We begin a new departure from the usual plan of figuring and describing fruits which we feel sure will please our readers. We make all our cuts from perfect specimens only, and of the exact size of the apple when well grown. We give neither a cut of extra-sized specimens or those of under size, and the reader will be able at a glance to see how large the fruit may be expected in good cultivation. Our cuts are made on wood, at an extra expense, to enable us to give our readers a perfect representation of the fruit we describe. They are all made by A. Blanc, of Philadelphia, and are true to life in every particular. We intend to make the FARM AND GARDEN the standard authority in both accuracy of cuts and descriptions of all new varieties of fruits. This will entail on us much extra labor and expense, often requiring a personal visit to see the fruit in bearing, and unusual care in full and thorough investigations. We intend that the appearance of a cut of a fruit in the FARM AND GARDEN shall be an evidence of merit, and the accuracy of description will at once enable the reader to tell the value of the fruit we describe. We shall always give, when it is possible to obtain it, the kind of soil in which the variety originated, as they usually do best in soils like the one where they originated. We also give the number of bearing and all the facts the nurseryman and fruit-grower is desirous of learning. For accuracy and completeness of detail the FARM AND GARDEN can always be relied on, and it will also be the first to give a new fruit the fullest investigation, and will in all cases recommend a fruit of real practical value and merit. We know our plan will meet the confidence and approval of our readers.

A good grafting-wax is made of equal parts tallow, resin, and beeswax, melted together and well stirred; then poured into cold water, and when cool enough, worked well with the hands. A little more tallow will make the wax softer and work easier, but will, perhaps, be too soft for a hot sun, and may melt from the tree in summer.

ROOT-GRAFTING.—Root-grafting is only whip-grafting, where a piece of root is taken for the stock, and is grafted as is shown in figure 1. The root-grafts are then set in rows about four or five feet apart, and a foot to sixteen inches in the rows, and are cultivated for two years; they are then ready to transplant. Set them so that only a bud of the graft is above ground, and pack the earth solidly around them. If loosely set, they will not grow. The string that is used in tying the graft need not be cut, as it will rot off in the soil.

You want a practical paper. We know it, and you shall have it. As long as THE FARM AND GARDEN *is published you will have a practical paper. Our editors are farmers and know what farmers want. They want the best, and deserve it too.*

Live Stock.

When crops are cheap and meat dear, feed the grain and sell meat. When meat is dear, sell grain. Fat cattle and hard times are parallel. Business will be dull and money low as long as good hay, oat straw, and lenient landlords can be had for the asking. Come, let us cheer up and pitch ahead.

WOOL OR MUTTON?

The low price of wool, for some time past, has led many farmers to ask: "Shall we grow wool or mutton?" At the price of wool, there is no profit in it, and there must be higher rates, or the production must diminish. The question, shall we grow mutton, is not an easy one to answer. The market for mutton is increasing, and when we grow as good an article as our English cousins we shall find a largely increased demand for it. We trust the sheep-grower will look into the mutton breeds of sheep to see if he cannot find more profit, to change from all wool to wool and mutton. If he does, he must look over the list of the Downs, and he will find some excellent breeds for wool and mutton among them.

SMALL YORKSHIRES

The breed of small Yorkshires, although not of large size, is one of the most valuable to cross with the ordinary stock in farmers pens. The cross will be far more quiet than the common hog and fatten far younger, more easily, and cheaply. For a pig to make a dressed weight of 300 pounds of good, fine pork at the age of eight or ten months, we know of no better than a Yorkshire cross, which will make a thrifty pig, and one very easily kept. They require less than one-half of the feed usually required for the common grade-stock. The white color of the Yorkshire is not esteemed by many, and the breed is, by some, not deemed hardy. We find them not bony, but still very hardy and valuable for the purpose we name. Our readers will find it will be a good investment to buy a Yorkshire pig for use in breeding a cheaper pork, and one taking but little grain to fatten.

APRIL PIGS.

This is the best month during the year for pigs to come in. They should be kept in the pens, in a warm and dry place, until the middle of May, when they may be allowed to go into the fields of grass. Pigs that come in during this month, will have about nine months for growth, and should weigh, in January, at least 200 pounds, though they often reach heavier weights. They do best when they receive the most care at first. The first six weeks of a pig's existence, is the most important period. If kept in good condition, and not suffering from cold, it gets a good start, which is every thing, as all farmers know that a stunted pig makes but little growth until late in the season. As the weather usually opens favorably in May, no time is lost, and when the pigs are farrowed in April, they will reach an age in May that permits them to be partially weaned. It is not best to take them from the sow too early. If they are injuring her, the better plan to pursue is to feed them skimmed milk, allowing them to have access to her twice a day, morning and night—and the weaker ones may be allowed to remain two weeks longer than the others. By good management from now to the first of June, the spring pigs may be made to overtake the fall pigs, especially if the latter have been exposed during the winter.

EXPERIENCE WITH STEAMED FOOD.

In conversation with a dairyman, who has given steamed food to stock during the season, we are informed that in comparison with dry food there was a saving of one-third the quantity of the food required, while the yield of milk was nearly double. In addition to the saving in food and increase in yield, the cows average a gain in flesh of 175 pounds, the herd numbering fifty. This refutes the claim on the part of many, that it does not pay to steam the food owing to the cost of labor and fuel. The food was not thoroughly cooked, but heated by the steam until the mass of cut hay was softened and thoroughly warmed. The bran, meal and other concentrated material was mixed with the hay, and the whole steamed at one operation. The extra cost was about $25 for fuel, and $50 for labor, the cost per cow being about $1.50. The increase in weight of the animals, (175 pounds each) was 8750 pounds, which at only five cents a pound, is $437.50, or six times as much as the cost of labor and fuel, while the saving of one-third of the food, and largely increasing the yield, carries the profit to a considerable sum. Only one extra help was necessary, and the boiler to warm the quarters also, it being at one end of the building. The gain is attributed to the food being rendered more easily digested, and being fed warm the animals do not suffer at any time from cold, or lack of comfort.

STOCK NOTES.

Does your wife, daughter, or hired girl do the milking? If so, we say keep the barn-yard well littered and clean. Have a good gate at the yard, and a nice, clean walk to it.

Lambs.—Feed them well from the start and market them as soon as possible. April is rather late for lambs, and we would remind our readers that as the early lambs make the early mothers, there is no advantage in retaining any that are dropped this month. Let them go to market—ewes and rams—thereby gradually increasing, not only the profitcacy of the flock, but also inducing early maturity.

Keep young pigs dry and warm. Clean pens and dry beds are very desirable. Dampness makes mange, which stops the growth, and, as Paddy said, "There will be more age than pig."

Salt.—Stock will need salt at this season, more than during the winter, and it is a matter which should be looked after. Many cases of hoven in cattle or colic in horses are caused by a deficiency of a supply of salt.

Feeding Bone Meal.—A small quantity of clean bone meal, fed to pregnant animals, will be highly relished. Offer it to your cows, and you may notice that they will eat it readily. It fills a desirable want, and should always be placed where they can have access to it if not given otherwise.

The Water Supply.—If there is no running water, a windmill should be used for filling a large tank, to which connections may be made in such a manner as to conduct water to the barn or even to the fields. This will be found a cheap method, which will keep up the supply of water, if the well is a good one, and save considerable labor.

The Shoes.—Take off the disagreeable rough shoes that have served their purpose during the winter, and replace them with others. For horses that are to work on soft ground, there is no necessity for using heavy shoes, which add weight to the feet without corresponding benefit; but on hard stony roads the shoes should be hard and good, but not too heavy.

Droppings in the Pasture.—It will be a saving to send a cart to the pasture and collect the droppings, especially if you wish to avoid those unsightly tussocks which give an uneven appearance to the pasture. If a pasture is to be manured, it should be done evenly, and for that reason all droppings should be collected and placed in the barn-yard.

Cut Food.—Although we have always recommended passing the long food through a cutter, yet, we do not think it a safe method unless the hay is free from weeds, as the stock will separate the good from that which is bad. When finely cut, however, the whole is eaten. Straw, corn-fodder, and good, clean hay should be cut, but the poorer articles should be fed in an entire condition.

A country editor we know who keeps a fine horse and who is a good judge of horseflesh, gives as his plan of feeding a horse. "Keep all feed-boxes sweet and clean. Cut about ten pounds of hay, free from dust, and put it in a tight, clean box. Pour over it enough hot water to wet it, then put in three or four quarts of finely-ground oats and corn, and stir well; a little salt may be sometimes added. When cool feed.

The Barn-yard.—This should be thoroughly cleaned out every spring, by hauling away every ounce of manure. Before accumulating a new heap, haul plenty of dry dirt into the yard, and spread it thickly as an absorbent. It will not only serve as a disinfectant, but will assist materially in arresting much of the soluble ingredients that are usually lost for want of such material as fine earth. Although the dirt itself may not possess manurial value, yet, every load of it which may be placed in the barn-yard, will become valuable before the season is over by virtue of its absorbent qualities.

Salt is valuable for stock of all kinds. Every farmer should buy a lump of rock salt, which usually costs about 50 cents per hundred pounds, and put it where all stock can have access to it. We have seen cattle stand by such lumps and lick them for hours. They seemed to enjoy it so much, that we were repaid the cost of it in being able to give them so much contented enjoyment. Do not forget when you are in town to get the rock salt.

In keeping a horse fat, there is as much in the driver as in the feed. A horse well curried and rubbed with a woolen rag afterward, is sure to make a sleek-coated horse, and when well groomed is, we may say, half fed. A cross and nervous driver will fill the horse with fear and dread, and will rapidly run him down. Use any animal kindly. Always be firm and make it mind, but never get excited. A cool-headed driver makes a long-headed horse.

Cleaning the Stalls.—Now that the warm season is approaching, there will at times be disagreeable odors in the stables, which should never be allowed where good milk and butter are desired. One of the best safe-guards is to clean the stalls thoroughly every day, and sprinkle the floors with a few handfuls of dry, fine plaster, which will absorb the gases and also increase the value of the manure, as it has a great affinity for ammonia, completely arresting its escape, thereby preventing loss.

The Work Horses.—Stop the corn ration as soon as the season becomes warm, substitute oats, and more work will be performed. Fat is not desirable in a work-horse, but he should have all the muscle-producing food he can eat. Corn is too heating, causing profuse sweating, thereby weakening the animal. If the horses are allowed upon the pasture during a few leisure hours of rest, be careful to add a small quantity of salt to their food when they are taken to the stalls, and do not permit them to eat too much young clover at one time.

The Straw.—The majority of farmers are of the opinion that when using straw for bedding, it assists in making manure when no longer required in the stalls. This is true, but straw is a very tough material and does not easily decompose. Its outer coating is composed of a hard, siliceous substance, insoluble in water, and not acted upon by many chemicals. To get the best results, it is best to use only cut straw as bedding, which renders it fine, thereby more intimately mingling it with the manure, and causing decomposition more readily. Such manure will also be handled with greater facility, while the straw so prepared, makes better bedding and serves as a superior absorbent.

Grinding Corncobs.—There is some dispute as to the value of the cob as food. The cob really possesses a certain proportion of nutritive substance, but in an insoluble or indigestible condition. It is rich in potash, and contains, also, lime, magnesia, soda, and other matter, all of which are appropriated as food. In recent experiments made, it was demonstrated that where the grain and cob were ground together to a *very fine* condition, and the meal so made, mixed with coarse food and steamed, the result was more satisfactory than when the same quantity of corn was fed without the cob. We believe the cob can be made available, and trust our readers will experiment with it.

THE POULTRY YARD.

The Farm and Garden contains more information for the farmer who values meat and eggs above feathers, than any poultry paper costing $1.25 a year. If you agree with this, please send us a club.

APRIL THE BEST MONTH FOR EGGS.

It is natural with birds to begin laying very early in the spring. It is an instinct prompted by the desire to allow as long a time as possible for the young to grow, in order that they may be self-sustaining before the cold season sets in; and, but for domestication, the hens would not only begin to lay early, but also proceed to hatch out the brood after depositing a limited number of eggs in the nest. Domestication, however, has changed the natural habits of the birds, and there is no uniformity in the manner and times of laying. April is a month that fulfils many of the conditions required for laying. The change from very cold weather to warm sunshine, and green food becoming plentiful, the hens take greater exercise, have better appetites, and are in a healthy condition. The season is cool enough, however, to lessen the inclination to sit, to a certain extent, and, as a rule, the hens lay more eggs than when the season is excessively warm, as then the fowls often suffer for shade and water.

There is usually a greater demand for eggs in April than later in the season, owing to the occurrence of several holidays, and prices, therefore, are not very low until May and June, consequently the eggs are more valuable, as well as more easily procurable, from a well managed flock, and instead of having their supply of food lessened, they should receive full attention, in order to induce the hens to lay regularly. It is of no advantage to keep hens that do not begin to lay well in April. Hens that have laid regularly during during the winter, may, perhaps, take a period of rest for a short time, but where the hens or pullets have passed through the winter without laying, they should be laying now, and if they fail in this respect, they are worthless and should be sent to market. Of course, the pullets that were hatched as late as October may be excepted, but no excuse can be made for those that were hatched before the first of June.

In marketing eggs avoid barrels for packing, as the common supposition is that barreled eggs are second-class. Crates or boxes are better, while baskets are indications of fresh articles. Send them to market clean and in nice condition, and endeavor never to allow a rotten egg to leave the farm. A single bad egg in a lot damages the whole, and the sender will find it a difficult matter to regain confidence when once a stale egg is found among his lot, we wish to impress upon all the importance of observing such fact.

KEEPING LARGE FLOCKS.

By P. H. Jacobs, Wayne, Ill.

Before attempting to keep large flocks, it is important that you determine what you wish the flocks to do. Although "chicken farming" and "egg farming" may be combined, yet, the one is a different pursuit from the other, and requires different methods. If eggs, only, are desired, twice the number of eggs may be kept, and the matter of success depends upon when the eggs are marketed.

To explain the difference, we will state that where the eggs are desired for hatching purposes, ten hens and a cock are a sufficient number together. Twenty hens and two cocks cannot be in the same flock, as the stronger cock will intimidate the weaker, and render him unserviceable. If no cocks are used, however, twenty hens may be placed together, instead of ten, while the eggs from the hens not accompanied with cocks will keep twice as long as will eggs that are suitable for hatching purposes. This has been demonstrated many times by placing eggs in incubators, the infertile ones remaining in the egg-drawer for three weeks, under a temperature averaging at least 100 degrees, and remaining in a fit condition for use when taken out, though slightly damaged, while the fertile eggs not hatching, usually decomposed, and became what we term "rotten."

The eggs from unimpregnated hens, should the prices be low, may be packed in salt, oats, bran, ashes or dry earth, in boxes, and turned, (by turning the box), three times a week, when they will keep fresh and in good condition for at least six months. It is not necessary to keep eggs over three months, as prices usually rise in November, and hence, as they are cheap, in July, Aug., and Sept., one is not compelled to wait long for better prices.

The best method, therefore, when keeping hens for eggs, is to allow no cocks to be present, which permits a greater number of hens to be kept, and as the hens will lay just as well (if anything, better), without the cocks, a saving of food will be effected, while the keeping qualities of the eggs are increased. But it may be asked how are chicks to be hatched. Now, the hens will also sit as well as lay, and as the number of hens may be doubled, it will be cheaper to buy the eggs for hatching purposes, care being taken to secure them from neighbors who possess strong, vigorous birds. A good plan to pursue, if you contemplate keeping a large number, is to reserve a few yards for the purpose of securing such eggs; but it will be found a cheap method to hatch out a large number of thoroughbred cockerels,—for instance, Plymouth Rocks—and go among the neighbors and trade such cocks for their mongrel cocks. This may seem at a glance to be expensive, but a second thought is convincing that the mongrels will partially repay the investment, while the quality of the chicks from the eggs will more than do so.

CROSSING BREEDS FOR SPECIAL PURPOSES.

We often receive inquiries asking which breed is the best for laying, which the best for market, and which are best adapted for other purposes. As we have often stated, no breed combines all the different desirable qualities, but the following crosses will be found excellent:—

To produce the best table fowls, cross a strong, full-breasted, pit game cock with dorking hens. This cross makes a table fowl nearly equal to a turkey.

To produce the best layers, with medium size, cross the Brown Leghorn with Partridge Cochin hens, or a White Leghorn with a light Brahma hen.

To produce the best, largest and plumpest Capons, cross a colored Dorking cock with Dark Brahma or Partridge Cochin hens.

To produce the best market chicks, cross the Plymouth Rock cock with Brahma or Cochins.

To produce excellent table fowls, and also combine good laying qualities, cross a Houdan cock with Langshan hens. Dark legs will be the result, but the flesh will dress white.

BLACK-BREASTED RED GAMES.

To produce a breed of good layers, the eggs being extra large in size, cross the Black Spanish cock with Langshan hens.

To produce the best sitting hen, one that will remain on the nest, hatch well, and tenderly care for her chicks, cross a vigorous pit Game cock with partridge Cochin hens. It also produces a good table fowl.

To produce a large market fowl, one that fattens readily, and is easily confined, cross a Brahma cock with Partridge Cochin hens.

To produce the largest and best geese for market, cross the Toulouse gander with the Embden goose.

To produce the plumpest and best ducks for market, cross a colored Muscovy drake with large common ducks, or ducks that are the offsprings of a Rouen drake and the large common kind.

To produce the hardiest and best turkeys, cross a Bronze gobbler with hens produced by crossing the wild turkey on the common hen. If the wild turkey cross cannot be obtained, use the common hens.

To produce early market chicks, cross, in the fall, a Game Bantam cock with small common hens. Such chicks will grow but little, and be about the proper size in spring for broilers.

To have non-sitters, the pure breeds must be used, as *all crossed fowls will sit*, even if the parents are pure bred. For instance, the offsprings of a Leghorn and Hamburg will sit, although both of those breeds are non-sitters. We would recommend the Brown or White Leghorns as the best of all breeds for eggs, but their eggs must be hatched under hens of other breeds.

THE ROOSTS AND NESTS.

At this season the greatest attention should be given the roosts and nests. The accumulated filth decomposes rapidly, should the weather be warm, and lice breed very quickly. The hens must not be crowded on the roosts, and consequently they should all be on a level with each other, and not with the rear roost higher than the front one, as the natural tendency of fowls is to get upon the highest point, thus crowding themselves upon the rear roost, while the lower ones are empty. The roosts should be swabbed with coal-oil at least once a week, and if the hens are large and heavy, the roosts should be as low as possible, or the hens will go in the nests instead of on the roosts. Make the nests of movable boxes, so that they can be taken out and cleaned whenever desirable. A good method is to swab them with coal-oil, set the oil on fire, and allow it to burn for a few moments. The nests, however, should be carried outside for such a purpose. If preferred, a gill of Carbolic acid to a gallon of water may be used for sprinkling, and not only the nests, but the walls should receive an application. Fine tobacco refuse may be mixed with the hay or straw used in the nests. By observing these precautions, there will be but little difficulty with lice.

POULTRY SCRATCHINGS.

CHANGING FOOD.—Do not change from a dry to a green diet too suddenly, or diarrhœa will be the result. Commence gradually, giving only a small quantity at first. Give a few pinches of salt to the fowls in the soft food, and cease feeding corn after the weather becomes mild.

SYMPTOMS OF ROUP.—Sneezing, discharge from the nostrils, swelled head and sore eyes, hoarse breathing, and sore throat accompanied by foul odor. A good remedy is to give half a teaspoonful of coal oil once a day. If the fowl is weak give a pill composed of equal parts of gentain, quinine, (or Peruvian bark) and rhubarb.

Notice our Specification Offer on this page.

KEEP A FEW GUINEAS.—On farms where there is plenty of range, guineas are of great advantage. They do not scratch, or do damage, but destroy large numbers of insects, searching everywhere for them. If hatched under hens, and induced to roost near the house at night, they will give the alarm should intruders put in an appearance, being always on the alert for hawks or owls. The Pearl guinea is the best known, though the Whites are favorites with some.

(Continued on page 18.)

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If you will read and remember the following note it will save you disappointment, and keep us from having to read some complaining letters:—

If we have received a letter from you, a receipt is filled out and mailed immediately after your money is taken from the letter. The next thing done with your letter is to order the premium (if you are entitled to one). Our premiums are ordered from reliable growers or publishers in various sections of the country. In no case will premiums be received until at least Ten days after this has reached you. In cases where bulbs and plants are ordered, they will not be sent until the weather is suitable. If you have ordered a paper with ours, it must be ordered from office of publication, which will occasion a few days' delay. The receipt of a copy of any paper ordered through us is proof that we have correctly turned your money over to the publishers. Should you miss any future numbers, write to office of paper, not to us. Do not complain before you have time to receive the papers or premiums. Be sure to complain if, after a reasonable time has elapsed, you are not correctly served in every particular. We are not in business for a day or year, and do not propose to have the ill-will of any one through neglect or injustice on our part. Remember this.

EDITORIAL COMMENT.

April. "The early bird catches the big worm." The real hard work and the hurry now begins. Satisfactory results of our farming operations can hardly be expected unless the work of the *planting* season is performed thoroughly and in time.

The wise farmer, who is after the big profits, like the bird after the big worm, practices "early to bed and early to rise," at least in this hurrying time.

He feeds his teams early, so as to give them sufficient time to masticate their food before they are hitched up.

He knows their condition and does not exact more work of them than they are able to perform.

He takes and allows sufficient rest at noon, knowing that it does not pay to hurry his men and teams back to the field as soon as they have swallowed a few mouthfuls.

He draws upon the land, every load of manure that he can rake and scrape together.

He knows that early-sown oats, like early birds, have the best chances.

He harrows early and late, and twice, where his less wise neighbor harrows but once.

A sharp plow point makes easy plowing, saves horse-power and often a heap of profane language.

No family can afford to do without strawberries. Either fresh or canned, they are the most delicious sauce; nor do we despise them in the form of strawberry shortcake. The well-to-do farmer can plant a number of different kinds and try all the new sorts. The poor farmer had better plant the old reliable "Wilson," unless he knows—from his own experience—that some other kind will suit him better.

Never discard a variety of small fruit, nor vegetable, nor potato, which gives satisfaction, for an *untried new one*, no matter who says that it is better.

THE FARM AND GARDEN, now more than a year ago, fired off the first shot in the battle, which has been raging ever since, over the question, whether the fruit of a pistillate variety of strawberry is influenced by the variety which furnishes the pollen, or not. The doctors and "wise men of the East" still disagree about it.

The next fruiting season may bring us a settlement of the vexing question. A number of prominent horticulturists propose to test the matter thoroughly and scientifically.

We believe that the majority of growers *for market*, will continue to grow the old Wilson for a main crop, and use it as a fertilizing variety for other sorts like Crescent seedling and others.

A slow but steady pull, often accomplishes more than spasmodic, though exhausting exertions. We know a little hump-backed Irishman, who seems to be the personification of slowness; but he keeps at his work all day long, without looking up, and throws a big shovelful of dirt out of the ditch every time. There is not a man that we know of, whether Irish, Dutch or American, who can dig more ditch, in ten working hours, than this little fellow.

Work steady and *keep your shovel well filled.*

Potatoes will probably be scarce and dear before the new crop comes to market; and the earliest of that crop will be in good demand and *catch the big price*, mind that.

It is just as easy to raise 400 bushels to the acre, as 150, and much more profitable. All you want is to know how. Joseph's new book, "Money in Potatoes," which is advertised in THE FARM AND GARDEN, tells the whole story.

Rich soil, heavy seeding, and close planting, will enable you to raise big crops of Early Ohio, Sunrise, Gem, and all other sorts of the Rose type.

Our vocabulary has no words strong enough to condemn in fit language such "scientific pleasantries" as the one which appeared lately in the New York *Mail and Express*, and has since been going the rounds through the American press. The article is given prominence by the flaring head lines "Human Ingenuity to do away with the Work of the Bees," and describes an imaginary and utterly impossible method of manufacturing comb honey artificially altogether without help of the bees. While American beekeepers have been and are still working earnestly to find a market for their produce, while even now the purest extracted honey goes begging in our city markets on account of the glucose scare, the great city papers try to make all these efforts come to naught and to make the consumer afraid of the most natural, most delicious and most wholesome sweet, in the shape of comb honey.

This so-called scientific pleasantry is nothing but a wilful and malicious lie, and one which strikes a fatal blow at the interests of the American beekeeper. The great newspapers refuse to yield to the demands of interested parties for a proper correction. The damage seems to be well-nigh irreparable, for the agricultural press does not reach the honey consumer in the cities, among whom a press so hostile to agricultural interests chiefly circulates.

Let us say, however, that both inventor and publisher of such infernal lies deserve a good, long term of free board and lodging in the penitentiary.

The New England *Homestead* observes that "less money has been spent on expensive catalogues by the seed trade this year," and that "on the whole, the catalogues are somewhat less exaggerated in their statements than formerly." We were pleased to see that our labors in behalf of such a reform, thanks to the hearty co-operation of the best part of the agricultural papers, have not been in vain. The intelligent farmer demanded the reform and seedsmen had to yield.

We don't intend to stop here. The farmer and seed buyer is entitled to still greater concessions. We want the plain unvarnished truth and without high coloring, either.

Now the wholesale rates of seeds, in general, are very low, and with a saving of expense in the get-up of advertising material, seed dealers should put down their prices correspondingly.

There should be a proper balance between the price of produce and the price of labor. If everything gets cheaper, labor cannot keep its former price. Were it true, that high wages are the necessary consequence of a high tariff, the farmer would be compelled to fight against that tariff. High wages for farm hands, eat up what little margin may be left in the production of cereals. He cannot afford to pay higher wages than are in just proportion to the prices of other things.

Remember that it does not pay to plow land for oats, on which you cannot expect, with some reasonable degree of certainty, at least 30 or 35 bushels per acre. Do not cultivate land that is too poor to grow profitable crops. Such soil needs "doctoring," and the sooner you doctor it, the better. Grow and plow under some green crop, such as buckwheat, peas, or clover. Sow to rye in the fall and seed to clover; not forgetting the application of a few hundred pounds of phosphate. In short, increase its capacity the best way you can.

We call attention to our strawberry articles. We believe you will find they contain more practical ideas than any work on strawberry culture. We do all this for your benefit, hoping you will try the suggestions we recommend, and will be successful. We are always glad to learn that our labors are fruitful to our readers.

We shall be asked where strawberry plants can be had. We have none for sale. We refer you to advertisers whose cards will be found in our columns. They will supply you at reasonable prices. When you see an advertisement in our paper you can send your money to the advertiser without fear of fraud. We keep a paper for honest people, and have no place for frauds. Do not be afraid to send money to any of our advertisers for strawberry plants. Always write your name and address plainly, and you will get an answer from them. They are reliable business men, and have good reputations, well established.

If you see anything in the FARM AND GARDEN you do not understand, write and ask us about it. It is your paper, and we want to keep it so. We believe it our duty to make the paper interesting to you. We answer all inquiries without charge, but we do ask you to send questions, on any subject, on a separate slip of paper. They will then have our immediate attention. If mixed up with business letters, we cannot find time to look for them. We are willing to oblige you. Send your questions along.

Our advertisers are well pleased with the FARM AND GARDEN, and say it pays them well. We are glad of it. We are also glad that our readers say our advertisers do all they promise. We hope all who write to them will say that the FARM AND GARDEN has confidence in them, and that you hope your business acquaintance will prove satisfactory. We want all to do right. We like a square business.

Many ask us if seeds, plants, and other articles can be sent by mail. We answer yes, and cheaply, too. A pound can be sent by mail all over the Union for sixteen cents, or one cent an ounce. No packages heavier than four pounds are allowed to go by mail. By express we can send anything.

Grain is low, and likely to remain so. We say feed the grain to stock. Well-fatted stock sells high, and you will find it pays better to fatten stock at present prices, and sell it, than to sell corn. A wise farmer will sell meat when corn is cheap. One or the other always pays the better.

We think after carefully reading our strawberry number, any person can raise fine berries. The FARM AND GARDEN is the first agricultural journal to give so full a treatise on strawberry growing in a single number, or we may say, in a year, and at so low a cost that all can profit by it. This number is as full of information on strawberry-growing as many books that sell for one dollar. Readers we want, and will publish the best and cheapest paper that can be found. Give us your aid by extending our circulation. Do we not merit and deserve it?

Now is a good time to buy. If you want land, you can have it cheap; if you want to hire labor, labor is plenty. Buy now, if you are able; but do not think of *selling* a good place now. Hold on to it for a while. Prices now have an upward tendency.

The great majority of farmers cling to their respective parties like the bug to the potato vine, no matter, if nothing is left but the bare, dirty stalk. They will have very little influence in the management of the national household, as long as they submit to being led like sheep by their political bosses and flock masters.

Our readers are too intelligent to submit to it; but there are millions of farmers who do, and who read no agricultural paper at all. United action and hearty co-operation will accomplish what single efforts can not.

"We boldly announce that we are in favor of the entire abolition of the Department and the saving of the money now squandered, or of reorganizing it on some common-sense basis, commensurate to the importance of the agricultural interests." So says the *Rural New Yorker* in a recent issue. We have often called our readers' attention to the uselessness of the Governmental seeds-shop, and asked our agricultural contemporaries to help us to lift the nuisance out of existence.

Some of the State experimental Stations have done a hundred-fold more good to the farmer, and at one-tenth the cost, than the Agricultural Department. Let us have "something or nothing;" either a department worthy of the name, or none at all.

If we may believe the *Farm Journal*, "old seed grower and seed planters say that beet and onion seed will grow up to five or seven years old." It is to be hoped that the ingenious editor of the *Farm Journal* will come into possession of that "experimental farm," which he so frequently mentions, before long. After a little practical experience with onion seed, he would hardly put such nonsense about it before his readers.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of the FARM AND GARDEN, *reading them, takes no other paper can feel as if in touch acquainted with all the leading publications.*

Delivered by John T. Lovett before the American Institute Farmers' Club, New York, February 24 1885.

PEACH CULTURE.

So many owners of farms in the vicinity of New York are puzzled to know to what purpose to devote their land that they may realize profitable returns therefrom, it is quite surprising to me that so few engage in peach culture. First, because the returns from a successful peach orchard are so great; secondly, because a peach farm can be managed so easily by the owner, who is perhaps engaged in other pursuits in the city; requiring very little attention or looking after by him, except during the shipping season, when the orchard has arrived at bearing age. Did the owners of gardens, as a rule, know that the same outlay of time and money expended each season in growing their supply of peas, if applied to planting and cultivating peach trees, would assure them an abundant supply of fruit, there would not be such a brisk demand for peaches in the markets. In other words, should the owner of a garden plant twelve peach trees each season, of good varieties, and give them the simple culture required, he and his family could revel in peaches from the time the earliest ripen until the last are gone—a season of three months.

SOIL.—The peach is a native of Persia, hence it is obvious that it requires a warm soil; in fact, it will be useless to plant peach trees upon soil where the water stands near or upon the surface. If not well drained naturally, it must be drained artificially. The best soil for peaches is a sandy loam, not highly charged with vegetable matter.

PLANTING.—In planting peach trees, early spring is much the best season, although they can be planted in the autumn with success, provided proper care is observed, viz.: that the roots do not become frozen before they are placed in the soil, and a mound of earth about a foot in height placed at the base of each tree to prevent swaying. Plant no deeper than the trees stood in the nursery and make the soil very firm. The distance to plant depends somewhat upon the character of the soil. On a light, sandy, porous soil the distance of fifteen feet each way will be far enough; while, on the other hand, should the soil be sandy loam or quite loamy, eighteen or twenty feet apart each way will be none too great. I usually plant eighteen feet apart each way, requiring 134 trees per acre.

(To be Continued in May.)

From "Country Gentleman," Albany, N. Y.

HOW TO MAKE GOOD MILKERS.

No matter what breed you have, says Mr. W. H. White, something further is necessary in order to reach the best success in raising good milkers. Good blood, whether Short-horn, Jersey, Devon, Ayrshire grade or native, is not everything, but lies at the foundation; something cannot come from nothing. Treatment in raising milkers should be somewhat different from that in raising a beef animal or an animal for labor. Begin as soon as the calf is a day old; see that it has sufficient to eat, and is kindly treated and regularly attended to. Never pamper or over-feed, but give it good, generous food to cause a regular, early, and steady growth. Accustom it to be handled, but not to such an extent as to acquire objectionable habits as a cow, but rather to be fond of the presence of the keeper. Kindness helps to create a quiet disposition, so important in a dairy cow, and this education must begin when the calf is young—any habits acquired when young are apt to cling to the cow when grown.

For a milker, I would have the heifer come in at two years old. She is then old enough to become a cow. I would not as a rule allow her to go farrow, but milk her up to within a few weeks of calving, even if I did not obtain but little at a milking. A cow thus trained will give more milk, and be more likely to hold out long in milk if her after care is judicious and liberal, as it should be. Such treatment tends to form the habit of giving milk and, as we know, habit is a sort of second nature. Couple the heifer with an older bull, one, two or three years older than she, is preferable to a yearling and better stock is likely to come from such. After the heifer has come in, her feed should be regular and liberal. Good clover hay is the best of all, but we all may not have this for stall feed; then we must make up for what is lacking in some concentrated feed, such as oat meal, shorts, oil meal, or the like, but great care and good judgment must be used not to over-feed or crowd, as the future cow may be ruined. Undue forcing shortens the useful life of the cow very rapidly.

From "London Provisioner."

WASHING BUTTER.

The only time that all the buttermilk and what it contains can be separated from the butter, is while the butter is yet in a granulated form. If the churning be so far advanced that the butter will be gathered in a large lump, it will have all through the lump more or less buttermilk, in which buttermilk there will of course be membranous or caseous or other solid matter. Not only will the grain of the butter be injured by the kneading required to remove little else than the liquid of the buttermilk, leaving much of its solid matter incorporated with the butter. The kneading of the butter tends only to press and solidify all the solid matter of the mass, squeezing out only liquid. Moreover, when the buttermilk is gathered into a lump of butter, any taint or impurity in the buttermilk, by closer, longer, even permanent contact with the butter, materially injures the quality of the butter. If, on the other hand, the buttermilk and all it contains be drawn away before the butter has advanced beyond the granulated form, a more perfect result is secured. By washing the butter at a low temperature with water and brine the buttermilk and all it contains may be removed from it, and before any taint or impurity has been given to the butter, and the grain be saved from kneading that otherwise would be necessary. In this process butter will be taken out comparatively little affected by defects or taint in cream. Cream may be advanced more or less toward a bitter taste or decay and the butter, because being enclosed in and protected by its pellicle, not yet affected. It is because of this protection that sweet butter may be made from sour cream. Sourness is an advancement toward decay. It is equally true that the cream may be more or less bitter and the butter hidden away in it be yet sweet. When churned, the sourness or bitterness is in the buttermilk and the butter is yet pure. The buttermilk adds its sour or bitter taste to the butter according to the quantity and time of its presence with the butter. The obvious remedy is the quickest and most complete preparation possible.

NECESSITY FOR COMPLETE FEEDING OF TREE AND FRUIT DANGER FROM FORCING OR PARTIAL FERTILIZING—STRAWBERRIES, ETC.

[We extract the following from the excellent pamphlet on "Orange and Fruit Culture," written by Charles V. Mapes, of the Mapes Fertilizing Company, New York. The reference to strawberries will be found especially interesting and the remarks on results of injudicious feeding of the orange tree apply with more or less force to all bearing fruit trees.]

The practical and scientific investigations during the past ten years by fruit growers and scientific experts, both in this country and in France, lead to the one general conclusion, viz.: that it is necessary, not only to make a tree or vine grow, but what is more difficult, to make it grow healthfully, with power to resist disease and insects, continue vigorous and normal in all its functions, with sap fully supplied with *all the elements* of nutrition necessary for producing fruit of the highest quality—rich in saccharine or sugar matter, fine flavored, pulpy, juicy, firm, not inclined to mildew, split or drop, and good keeping and carrying qualities.

With the orange tree as with almost all trees, as before stated, owing to the long period of its growth up to maturity and bearing, the time when the injurious effects of injudicious manuring manifest themselves most strongly, it is difficult to trace the final effects to the proper causes. The tree, if fertilized with any one of a dozen fertilizers rich in nitrogen, but deficient in either phosphoric acid or potash, or in both, as well as in most of the remaining ash elements, may show, particularly on fair, light lands, a rapid and satisfactory growth. The tree, in its struggle for existence and with its wide extending roots and the poorer the soil the further will they extend, will continue to make leaf and wood, but will fail to accumulate stock, strength and vigor necessary to fulfill all the functions of a healthy tree and fail to produce fruit, or if fruit, then of poor quality, and all the time will be liable to disease, insect depredations, etc.

Now, while it is often difficult, with a slow-growing tree like the orange, to trace these results to the true causes, it is on the other hand very easy to note the pernicious results following defective fertilization in the annual and quick-growing fruits and crops like Strawberries, Grape Vines, Sugar Beets, Sorghum, Tobacco, Potatoes, etc.

Strawberries may be grown invariantly so far as the vines go and be made to yield a good supply of fruit, and yet, as before mentioned, owing to the employment of the wrong forms of plant food—excessive nitrogen and a deficiency of ash elements, or an objectionable form of Potash—the quality of the fruit be worthless, poor in color, soft in texture, watery, flavorless, and so much inclined to decay, that, as one grower and experimenter remarked, "they would not keep hours after picking, prove utterly worthless, while the berries from adjacent patches, differently manured, were excellent in quality."

With grapes, the tendency of complete manuring to protect the vines against all attacks of disease and to greatly improve the quality of the fruit by largely increasing the proportion of sugar, has been fully demonstrated by the experiments of Prof. Goessmann and others.

THE HOUSEHOLD.

BRIGHTEN UP.

By J. L. Mc(.

"The Bluebirds are singing,
The brown bees are humming,
The grasses are springing,
The summer is coming,
For April is here."

To see dame nature spreading her bright new carpet over the earth, and freshening up all her old furnishings, is apt to fill the house-wife's mind with longings to do the same. But though carpets are down so low, not every house-wife can spare the money this spring for the new one she covets. The next best thing is to make the very most of those already on hand. A roll of matting for the bed-rooms is a great blessing in any house, as it is so clean and easy to sweep, and costs far less a yard than the weaving of a rag carpet. Indeed, it is cheaper than a bare floor, if the labor of scrubbing counts for anything through the summer.

An old stair carpet which begins to look thin in places, can be made to last for another campaign by lining the middle part with strips of old carpeting, darning down the thin places. The steps should always be covered with something before the carpet is laid down. Strips about a foot wide, cut from an old quilt, are excellent to lay under a stair carpet to prevent wear and deaden sound, and the last is not the least important consideration where there are many little feet to tramp up and down.

A few cents worth of glue, if properly applied, will do wonders in a house a little out of repair. Give your bright boy the contract, and see if he does not set to rights a good many loose pieces that have long been an annoyance. Some day when the sun is so warm that you can throw open your windows, it would brighten your furniture greatly to give it a coat of varnish. Some go so far as to paint everything that will bear painting, but it needs good judgment to keep within bounds, and not make half the family sick while the process goes on. A thorough-going friend painted even her ice box, and for the next week or two her family seemed to eat and drink paint. April is a good month to do many odds and ends of work, like washing counterpanes and bedroom curtains, as there is more time now than when the regular house-cleaning process begins. There is no need, in our day, of the toilsome bleaching of white goods that was practiced by our grandmothers, as we have helps that do the business much quicker and better. It is a saving of money to use them.

RECIPES.

VEAL CUTLETS.—Fry brown, in beef-drippings, covering closely, and giving it plenty of time. Then take out the cutlet and dip it in a batter of egg and flour, mixed with a little milk. Fry again until brown, and serve quickly.

VEAL FRITTERS.—Chop cold veal fine, mixing fat and lean. Add an equal quantity of fine bread crumbs. Season well with a little thyme, parsley, or whatever your family relishes, then add salt, pepper, and a beaten egg. Make into little cakes, and fry quickly.

TOMATO GRAVY.—Fry a cupful of sliced tomatoes brown, stirring them frequently. Salt and pepper to taste; then pour on a pint of milk. Let it just boil, then thicken slightly with flour. It is excellent for buckwheat cakes in the morning. If you try it once, your boys will be sure to call for it a second time.

FOR CHILLS.—When the chill comes on, drink a pint of scalded milk, in which has been stirred a spoonful of ginger. Sweeten, if desired, and drink as hot as possible. I gave these directions to a lad who was shaking by the stove, and his mother told me it broke the chill at once, and in half an hour he was out skating.

ROAST VEAL.—Wash and rub thoroughly with salt and pepper, then roll up the veal and leave it for an hour or two. Prepare a nice dressing of bread crumbs; roll the veal and cover thickly with the dressing, then roll and wind about it a strong cord. Bake from two to three hours, basting often. This is excellent either cold or hot.

WASHING PRINTS.—To wash prints of delicate colors, boil bran in soft water, and when cold, wash the goods in it, and rinse thoroughly several times. It will cleanse them beautifully without hurting the colors.

I have washed delicate lawns of fading colors, in which I had grated two or three large potatoes. It kept them bright and clear for many washings.

For the children's fancy stockings, I find nothing serves so well as a spoonful of nice white turpentine in a pail half full of water. Use no soap, but rinse twice. They will keep their color well as long as one pursues this method.

TRUE OR FALSE ECONOMY.

By Lois.

There is a delusion in the minds of many in regard to the "cheapness" of everything that is "home-made." Many times it costs more and is not half as pretty as an article of the same sort bought at the store. I have known women to toil for weeks, during all the spare time, to tuft with candlewicking a white spread made out of thin, unbleached muslin, feeling that it was a great triumph of art when finished, and a monument to their industry and economy. But the money it cost would have bought a far prettier spread that could have been washed with half the labor. I always doubted the economy of spending anything in upholstering such devices as "barrel chairs," when good easy chairs of pretty devices can be had for but a very little additional outlay. Some of these economies are a good deal like those of a lady who would "save" some little bits that came off from breadths of her parlor carpet. So she had them made into "two lovely ottomans," and the bill came in to her husband of thirteen dollars for the making. The *saving* was not so clear to him.

Fancy-work for recreation is an excellent thing, but to make a business of it, under the impression that one is saving something by working up scraps and odds and ends, is much like "spending labor for that which profiteth not." Far better let the scraps go with the rag bag, and make a clean sweep of them. Where they divert, amuse, and rest the mind, they are most valuable, though the products are worth so little. "Crazes" of all sorts are very catching, and I suppose always have been. Even our crazy-quilts are prettier than our grandmothers' old samplers. One looks forward with curiosity to see what the next craze will be. Another seems about due by this time.

Even the time-honored business of fruit canning is less profitable to the housekeeper than it seems. All the standard goods can be bought so cheaply that it is a great question whether she saves anything by the heating, toilsome process of putting it up herself. Good brands are put up with skill and most scrupulous neatness, and with facilities much superior to those the average housekeepers can command, so they are almost sure to keep. She is a happy housekeeper who can "put up" a dozen cans at a time by just an order to her grocer, and perhaps it will prove one of her best summer savings.

THE SPRING SIEGE.

The semi-annual grumble and growl over "the melancholy days" of house cleaning are now in order. But the grumblers are those who have the easy times in this business, so we can well laugh at their fictitious claims to martyrdom. When a learned doctor tells us that fifty thousand typhus germs can hide in the space of a pin's head, and that scalding water and soap will utterly destroy them, we can see the value of this great housewifery institution. Suppose an edict went forth this spring that no house cleaning was to be done this year, what sort of a summer would we be likely to have, with cholera lying just over the water, waiting for the emigration season to open? Never was there more need of having the work done with double thoroughness, from garret to cellar, so that all these lurking germs of evil may be eliminated, and the chance of sickness reduced.

Take time enough. I would print this in large capitals, and post it up in some conspicuous place all the time the siege lasts. My neighbor will only clean house forenoons, and in the afternoon she and her girl sit down to their sewing. She is a woman whose house is run by clock-work, more exact than most of us can secure, but her practice points in a safe direction. The woman who rushes and "staves through" the business inside of a week is so racked and enfeebled that she is in a poor condition to meet the possibilities of a sickly summer, or to enjoy the fruits of her labors in a good summer. Be saving of yourself, and you will find it the truest economy. The money you pay out hiring stout muscles, good appliances for doing the work in the way of excellent brushes, brooms for scrubbing down panels and window corners, good window cleaners, the nicest of soap powders, chamois skin for cleaning glasses, and the like, is so much money dropped into the savings bank. Nothing pays such interest as health and strength. If only whole households could be made to believe it, and practice the right sort of economy to save it, how many poor doctors would be found to go plowing for a living.

LIVING OUT.

By Olive.

"You don't tell me, Mrs. Lee, that you are going to let Emma live out this summer?"

"Yes; she has engaged to help Mrs. Stanley for four months, and if both are suited, she may stay longer. It was necessary for her to be earning, and house-work is what she understands best."

"But, could she not get a place in a store, or something of that sort instead?"

"She might, but it would not be half so profitable nor pleasant, nor so good for her. Mrs. Stanley is an old friend, and will do right by her. She will earn ten dollars a month besides her board, and few shop girls do that until after long experience. She has a home where she is, and will be protected and cared for. It would be just the reverse in a store in the city."

"But you know there is a general sentiment against working out, and girls feel such things, I can tell you. I wouldn't have my Maria live out for any sum you can name."

"Of course I should be glad to keep my girl at home if I could afford it; but as I cannot, I far prefer this to any other work for women that I know of. I think she will, on the whole, be just as much respected where she is, and as useful to herself and others, as she would to be known as a shop girl. She will have considerable time for reading and sewing, and Mrs. Stanley is glad to loan her books and magazines in the evening. There are places where I would not have her live for anything; but there is little choice of associates for a girl in a store or work-shop. House-work is the one business not over-crowded; yet, it is the best paying, and I think the least uncomfortable for one who understands it. Besides, it is in the line of a woman's work all her life long, which is just the reverse with store and factory work. They rather unfit a girl for good housekeeping when she has a home of her own. I wish the over-taxed mother and wives of our land had each as good a helper for the season as my Emma, and that they had the discretion to make a home with them so comfortable that they would be willing to stay. I am not surprised that a scolding woman can never 'keep help' any length of time before she changes. It is useless to look for a place with no unpleasant things about it. There are duties on both sides, and employers should remember it. I think if they were more considerate, poor girls in this country would not be so opposed to living out."

CORRESPONDENCE.

Seymour Carrier Floyd, N. Y., asks, 1.–If chickens hatched in September and October will moult the following fall. 2.–Will Brahma hens sit when fed heavy on ground oyster shells, meat, bones, etc.? Answer: 1.–Yes. 2.–Yes, but will lay longer and more abundantly and will not sit as early as hens less liberally fed.

E. C. Jacobs, Rochester, N. Y., asks how to use saw dust as a fertilizer. Answer: Use it as bedding in the stable to absorb the urine and then spread on the land. It may be burned and the ashes used, but if spread on the soil alone it is apt to make the soil sour and will be an injury rather than benefit. Lime will remove the sourness.

John H. Hutchenson, Juliaette, Nez Perces Co., Idaho, asks, 1.–What is the matter with his mare. 2.–How to keep grafts from drying. Answer: 1.–Your mare has taken a severe cold which has fastened on the lungs. We would recommend the condition powder, the receipt of which we gave last February, or any other good condition powder. 2.–Pack the root grafts in moss or sand or wet paper and put away in a dark cellar until set in the ground.

A subscriber, no State, asks for the proper proportions of ingredients of egg food and condition powders given last month? Ans: You can vary them to suit your convenience. Absolute proportions of the materials are not required. We should not use over one pound of copperas and five pounds of linseed cake to 100 pounds of the powder. The copperas, if given in larger proportion, will be too caustic if fed freely, and the linseed cake will prove too laxative.

E. Hoffner, Ogden, Utah, asks about concrete houses. Answer: If you have cheap, good lime and plenty of good, clean gravel, concrete houses are cheaply made. The usual proportion of lime is one bushel of lime to eight of sand in the best houses to a bushel of lime to fourteen of sand and gravel. The usual plan is to set two boards the width of the wall, mix the concrete and put in wall, and, as soon as set, raise the boards and fill again. A very good house may be made of concrete. You ask also about the Twomley Knitting Machine. The machine is a good one for the purpose it is designed.

James Kelly, Snow Hill, Indiana, asks, 1.–Can raspberries be raised from seed? 2.–Will they be the same as the berries they were grown from? 3.–When should the seed be planted? Answer: 1.–Yes. 2.–No; will be like Joseph's coat of many colors. 3.–Plant the seed as soon as possible in pots in a warm window or hot-house. Plant shallow. When large enough, plant in open ground and shelter the first winter with straw or brush. You may get some valuable new berries, but probably most all will be of little value. All new raspberries are grown from the seeds, and but a few are valuable. If you have time you should try it.

Mrs. D. B. Rowland, Eau Claire, Wis., asks, 1.–How much feed will be required for 1000 silkworms? 2.–Where to get seed of groundnuts? 1.–Much depends upon the size of the trees, but of the size you mention we think you would need at least a dozen. The worms are voracious feeders and when they are at their most rapid growth consume leaves very rapidly. 2.–You can get them anywhere. Ask for the peanuts unroasted of any one who keeps them for sale and you will get them. They are usually kept at all large towns and are roasted as the trade requires. The groundnut, peanut, pindar, etc., are all considered the same thing.

Mabel Gray, Oakdale, Pa., asks how to make concrete walks for gardens, etc. Answer: The kind best and easiest made is to round up the soil where the walk is to be made and put a layer of clean, coarse sand over it. Then take common coal (gas) tar and heat it hot in a pot and pour it over the gravel and spread while hot. As soon as it is cold spread over it clean sand and use hot tar again, until the sand and tar make a coat two inches thick, and in a few days the walk will be dry and hard. If the walk is well made and the ground previously made very solid, the walk will last many years; but if not, will not last long. You can take long shingling lath, sawed 1 x $2\frac{1}{2}$ inches and nailed on 3 x 4 cross pieces of the width you want the path two feet apart and nail the lath on them an inch apart, will make a cheap, clean walk. Any carpenter can make it.

ODDS AND ENDS

CURIOSITIES TO BE SEEN IN NEW ORLEANS.

Among the novelties we saw in New Orleans were:

A piece of lead pipe with the makers name on it. 1500 years old.

Drum and colored drummer who sounded the long roll at the battle of New Orleans in 1815.

A model of a mammoth 16 feet high, and including the curve of the tusks, 25 feet long.

A beet from California that weighed 84 pounds. A pumpkin that weighed 222 pounds, an Irish potato that weighed 12 pounds, and a pear 2½ pounds.

A rutabega turnip from Oregon that weighed 58 pounds, and was four feet in circumference. A strap-leafed turnip that weighed 39½ pounds; 4 feet, 2 inches in circumference. A 41-pound cabbage head. An 8½ pound Irish potato. carrots 6 inches in diameter and 32 inches long. Oregon also had an apple that weighed 3 pounds 2 ounces, and pears weighing 2 pounds, 9 ounces, weight. Wheat 6 feet, 6 inches high.

A working model of a locomotive engine made by a negro from Tennessee.

Oranges from Florida weighing 2 pounds each. Plum trees one year old 16 feet high. Bartlett pear one year old 10 feet high. Peach trees one year old 10 feet, 6 inches high.

Nebraska, a Chili squash 216¾ pounds.

Arkansas, Red Clover 7 feet high. 100 tons on 25 acres.

Big trees, big corn, big wheat, big oats and big show. Go and see it.

POISON IVY.—This deadly foe to many is the three-fingered variety. The other is harmless.

THE LARGEST ROOM in the world under one roof and unbroken by pillars is in St. Petersburg. It is 620 feet long by 150 broad, and requires 20,000 wax tapers to light it.

FLORIDA GRASSES.—Professor Gunning says that Florida has nearly 300 species of grass, but not a grass that would fatten a sheep. Evidently it was not cut out for a grazing country. What a blessing condensed milk must be to Florida folks. But then the oranges!

A LONG WALK.—A Boston wife slyly attached a pedometer to her husband's coat when he went out after tea, "just to balance his books." The little meter told of fifteen miles on his return. It is a long walk around a billiard table for so many hours. Strange our young men don't wear out.

OCCUPATION.—The great panacea for dullness, world-weariness, and sorrow of all sorts is occupation. If the greater portion of our race were not compelled to work for daily bread, the sum of human misery would be increased ten-fold. And yet we go on all our lives sighing for that blessed far-off time when we shall be rich enough to retire from business. Have you yet met the really happy idler?

A ONE-EGG FEAST.—Dwight Weitin counted the guests who were to dine with him at his ostrich farm in California, and found there were ten.

"One egg will do I guess," and they repaired to the paddock, and soon came back with a fresh ostrich egg, whose contents equaled twenty-eight hens eggs. It was boiled one hour then shelled and carved, and all declared it very good eating. Its appearence and taste was like a ducks egg, and it had a peculiar flavor.

RATHER ANCIENT PEAS.—It was related that Mr. Wilkenson, the learned explorer of Egypt, found a vase hermetically sealed in a mummy pit, which he sent to the British Museum. The vase was accidentally broken, and within were found a few peas dry, wrinkled, and hard as stones. They were planted under glass, and in thirty days sprang up and grew. They may have been buried since the days of Moses. What a wonderful thing is the life-power even in the humbiest seed or plant

The late Cyrus H. M'Cormick may well be called a benefactor of his race. Without his invention, how little of our great wheat belt would be cultivated, and how little wheat exported. The old-time sickle and scythe would be a poor dependence for feeding such a world full of people as we now have to supply. To render vast tracts of land so useful, thus increasing national wealth and cheapening the staff of life all over the world, is a higher achievement than those of most of the famous statesmen, warriors, or scientists of an age or country.

POULTRY.

BLACK-BREASTED RED GAMES.

The beautiful plumage and sprightly carriage, as well as the fine table qualities of the Games, make them general favorites. The Black-breasted Reds are one of the most popular strains, and we give on page 11 a cut of a trio of this much-prized breed. They are very hardy, and will do well where many other breeds fail. For the table or for the use of invalids, they are much valued, as they resemble, in taste and flavor, the natural wild game, and are, for those purposes alone, the best breed. Fanciers who grow them for the pit (a sport—if it be one—for which we have no taste), usually feed them exclusively on wheat, or nearly so, to make the fowl strong in muscle and less fat, and capable of more endurance.

When a few weeks old the cockerels are dubbed, *i. e.*, the comb is cut close to the skull with a pair of sharp scissors, which makes the head look peculiar to those who have never seen Games before. In severely cold climates it is better to dub all Games, and even Leghorns, as the pain it causes is much less than that of frozen combs. Games are so full of fighting qualities that they cannot be bred on the farm to any advantage, as the cockerels, unless kept by themselves, will fight continually, and make a poor place for any other fowl. They are so fearless we have known them to attack a horse with so much vigor as to drive the animal from the stable. They will fiercely fight a hawk, and come off victor. We prefer a more peaceable fowl.

APRIL AND THE ROUP.—This month is an excellent one for hens, but it usually causes roup owing to continued dampness on the ground, as well as moisture in the atmosphere, hence the hens take cold, the result being roup. Roup often occurs when least expected, as the poultryman is deluded with the apparently favorable weather. On cold, rainy days keep the hens confined, feed them warm food in the morning, and add a teaspoonful of tincture of iron to every quart of drinking water.

THE CHOLERA.—Cholera seldom appears where the the houses are kept clean, the droppings removed daily, and the yards spaded frequently. The best known remedy is hyposulphite of soda, given in teaspoon doses, slightly moistened with water. As soon as the medicine has purged the fowl, give a mixture of half a teaspoonful of pargeoric, to which is added two drops tincture of cayenne pepper, and five drops tincture of camphor.

OUR ANNUAL PREMIUM LIST (January number) contains these offers:

One Pound of Golden Beauty Corn and FARM AND GARDEN one year, ... $0.70
One Two-year Gemmine Niagara Grape and FARM AND GARDEN one year, ... 2.10
One One-year Meech's Prolific Quince and FARM AND GARDEN one year, ... 1.50

One Fine Plant Night-blooming Cereus for a club of four subscribers at 25 cents each.

One Pound Parson's Prolific Potatoes and FARM AND GARDEN one year for 76 cents, or free for eight subscribers at 25 cents each.

Atlas of "Low-Cost Houses and How to Build Them" for a club of four subscribers at 25 cents each.

CATALOGUES RECEIVED.

The following Catalogues have been received. They will be sent free to readers of THE FARM AND GARDEN who mention this paper.

V. H. Hallock, Son & Thorpe, Queens, N. Y., Nursery Stock.
A. C. Kendall, 115 Ontario Street, Cleveland, Ohio, Seeds.
J. B. Root, & Co., 607 Seventh Avenue, Rockford, Illinois, Nursery Stock.
S. Adams & Son, Cor. George Street and Erie Canal, Rome, N. Y., Erie Plow.
Johnson & Stokes, Philadelphia, Pa., Seeds
B. F. Avery, Louisville, Ky., Plows and Cultivating Implements.
Edward Gillett, Southwick, Mass., Florist.
J. Jenkins, Winona, Ohio, Grape Seedling Nursery.
A. G. Hull, St. Catherine, Ont., Small Fruits.
Cassell & Co., 739 and 741 Broadway, N. Y., Publishers.
Evart H. Scott, Ann Arbor, Mich., Small Fruits.
S. E. Rogers & Son, Mount Holly, N. J., Nursery Stock.
John Lewis Childs, Queens, N. Y., Florist.
Cole & Bros., Pella, Iowa, Seeds.
A. E. Spaulding, Ainsworth, Iowa, Nursery Stocks.
Henry A. Dreer, Philadelphia, Pa., Seeds.
Wm. Rennie, Toronto Ontario, Seeds.
A. M. Purdy, Palmyra, N. Y., Small Fruits,
Robert J. Halliday, Baltimore, Md., Seeds.
Charles A. Green, Rochester, N. Y., Small Fruits.
James J. H. Gregory, Marblehead, Mass., Seeds
H. S. Anderson, Union Springs, N. Y., Small Fruits.
W. Atlee Burpee & Co., Philadelphia, Pa., Seeds.
A. H. Pomeroy, 216 and 220 Asylum Street, Hartford, Conn., Scroll Saws.
Hale Bros., South Glastonbury Conn., Small Fruits.
Frank Ford & Son, Sunnyside, Ravenna, Ohio, Small Fruits
I. C. Vaughn, 42 La Salle Street, Chicago, Ill., Seeds.
George S. Wales, Rochester, N. Y., Plants.
F. R. Pierson, Tarrytown, N. Y., Florist and Seedsman.
J. A. Everitt & Co., Watsontown, Pa., Seeds.
Edwin Van Allen, Bethlehem Centre, (near Albany), New York, Small Fruits.
Bush, Son & Meissner, Bushberg, Mo., American Grape Vines.
Joel Horner & Son, Merchantville, N. J., Small Fruit
E. Nason & Co., 120 Fulton St., N. Y., Novelty Dealers.
L. W. Gardner, Washington, N. J., Peach Grower.
S. L. Allen & Co., Philadelphia, Pa., Garden Implements.
W. H. Smith, 1018 Market Street, Philadelphia, Pa., Seeds.
D. R. Wood & Co., New Brighton, Pa., Florists.
George S. Josselyn Fredonia, N. Y., Small Fruits.
W. E. Bowditch, 645 Warren Street, Boston, Mass., Florist.
Thomas J. Ward, Mount Mary's, Ind., Small Fruits.
Charles Folsom 106 Chambers Street, N. Y., Fire-arms, &c.
J. A. Ross & Co., 16 and 17 Dock Square, Boston, Mass., Firearms.
Marlin Firearms Co., New Haven, Conn.
Paul Butz & Son, New Castle, Pa., Plants.
F. N. Lang, Baraboo, Wis., Seeds.
Samuel C. Moon, Morrisville, Pa., Trees and Small Fruits.
John Curwen, Villa Nova, Pa., Florist.
W. E. Weld, Ingleside, N. Y., Seeds.
Robert Scott & Son, 13th and Catharine Streets, Philadelphia, Pa., Florists.
Jacob W. Manning, Reading, Mass., Nurseryman.
Hovey & Co., Boston, Mass. (16 S. Market St.), Seeds.
Wm. B. Reed, Chambersburg, Pa., Roses.
Chas. A. Reeser, Springfield Ohio, Florist.
E. Y. Teas Dunreith, Indiana, Small Fruits.
I. & J. L. Leonard, Iona, N. J., Small Fruits.
Lewis Roesch, Fredonia, N. J., Small Fruits.

THE POULTRY YARD.

(Continued from Page 11.)

FEEDING.—Soft food in the morning is sufficient; make the hens scratch during the day for the balance. At night, give them all they can eat; but do not feed too much corn now.

RAISING YOUNG CHICKS.—Chicks of the Dorkings, Polish, Hamburgs, and some of the French breeds are tender when young. The hardiest young chicks are the Plymouth Rocks and Asiatics.

GOSLINGS.—They may be treated in the same manner as we have recommended for ducks; but it is best to give them as much liberty as possible. All aquatic fowls are fond of grass and are excellent foragers.

HATCHING DUCKLINGS.—Either ducks or hens may be used, but keep them away from ponds or streams until feathers take the place of down. A young duck grows much faster than a young chick, and therefore should be fed liberally, on a variety, as they are voracious, and will eat anything placed before them.

THE LANGSHANS.—We advise our readers to give this excellent breed a trial. They are somewhat intermediate between the sitters and non-sitters, are splendid layers, good table fowls, while the chicks grow rapidly and present a fine market appearance. The only objection to them is that they have dark legs, but their good qualities otherwise, more than balance this defect, which, in reality, is an insignificant one.

CHANGING COCKERELS.—In procuring new cockerels, do not use those that were hatched late. A cockerel should be fully grown, strong, active, and well developed. If you are using hens, mate them with a cockerel, but if you have only pullets, use a cock; which should not be less than eighteen months old, nor over two years of age. By following these rules, the chicks will be stronger, while the eggs will hatch a larger percentage.

YOUNG TURKEYS.—It is too soon for young turkeys. Wait until the snow are gone and the ground is dry. Young turkeys will not thrive in confinement, and they easily succumb to dampness. It is best, therefore, not to attempt to hatch them too early, as there will be greater loss. Young turkeys do best when the grass is plentiful and insects numerous. They will then grow fast and give but little trouble after they have passed the first stage of their growth.

EARLY ONIONS FOR POULTRY.—A little space sowed to onions, for chicks, will be found an advantage. Onions can go in very early, and both the tops and the bulbs are excellent for mixing with the food of chicks and young turkeys. Garlic and leek are also good, and such crops may be grown on a small space, without demanding excessive labor for their cultivation, though, if grown for crops, the work must be done more thoroughly.

EARLY GREEN FOOD.—Next month, in some sections, the ground will be warm enough for sowing the seeds of several crops. Grass does not grow everywhere, and when poultry is confined it will be wise to sow a patch of quick-growing vegetables for food. Kale, mustard, radish, and even oats will be found useful. Such crops are not required to mature, but may be fed as soon as high enough to be gathered. It will pay to grow them, as the hens may be induced to lay by having a change of food.

EARLY PULLETS.—If you want your hens to lay next winter, hatch them now. The winter-laying hens, as a rule, are those that have matured, beginning to lay in the fall, and continuing to do so through the winter. It is a great advantage, therefore, to hatch them early, and the first thing to do is to hatch out as many pullets as may be needed for next year, during this month, selling the cockerels as soon as they are large enough. After so doing, send to market all the chicks hatched after securing the early pullets.

APRIL SHOWERS.

Mistress of the house (to recently landed).—"Why, Bridget, where in the world have you been in all this rain?" Bridget (dripping wet)—"Shure an' oive been hangin' out the clothes to dhry, mum.

"What do you think of my mustache?" asked a young man of his girl. "Oh it reminds me of a Western frontier city," was the answer. "In what respect, pray?" "Because the survey is large enough, but the settlers are straggling."

A cynical old bachelor, who firmly believes that all women have something to say on all subjects, recently asked a female friend: "Well, madam, what do you hold on this question of female suffrage?" To him the lady responded, calmly: "Sir, I hold my tongue."

A little girl of seven exhibited much disquiet at hearing of a new exploring expedition. When asked why she should care about it, she said: "If they discover any more countries, they will add to the geography I have to study. There are countries enough in it now."

"Yes I have left my last place," said Mary. 'An' what did you leave for?" "The mistress was too hard-hearted. She had no more sensibilities than an ox." "An' did she abuse you, dearie?" "Indade she did that." "An' what did she do?" "She put an allarum clock right in my room, an' in the mornings it made such a noise I could not sleep another wink."

A farmer who had engaged the services of a son of the Emerald Isle sent him out one morning to harrow a piece of ground. He had not worked long before nearly all the teeth came out of the harrow. Presently the farmer came out into the field to take note of the man's progress, and asked him how he liked the work. "Oh," he replied, "It goes a bit smoother since the pegs have come out."

The other day a darkey rushed into an Austin, Texas, express office, and asked excitedly: "Is dar any express package here for Major Jones?" "Have you got an order?" "No sar." "You can't get anything out of this office without an order." The colored gentleman went two miles and back on the double quick. Once more he stood before the desk, panting and blowing, and fanning himself with his hat. "Hear am de order, sah. Any package here for Major Jones?" "No."

A COLLECTION.

Brought by Uncle Sam's mail and in other ways.

Entered at Philadelphia Post Office as Second Class Matter

CHILD BROS. & CO., Publishers, 727 Filbert St., Philadelphia, Pa.

A SPLENDID DAIRY is one that yields its owner a good profit through the whole season. But he must supply the cows with what they need in order for them to be able to keep up their product. When their butter gets light in color he must make it "gilt edged" by using Wells, Richardson & Co.'s Improved Butter Color. It gives the golden color of June, and adds five cents per pound to the value of the butter.

The Strowbridge Pocket Memoranda and Calendar for 1885 has just been issued from the business office of the Racine Seeder Co., by C. W. Dorr, its business manager, Des Moines, Iowa.

It is one of the neatest and most attractive as well as useful little books of the character we have ever seen. It contains in addition to the several illustrations of the Strowbridge Sower and a description of the same, an erasable memorandum, a cash account, a memorandum and calendar for each day of the year for 1885. United States Land Measure and Homestead laws, simple interest rules, important facts relating to notes, complete tables of weights and measures, a list of the Governors' salaries and terms of office, with each State Capital in the United States, salaries of United States officers, table showing number of bricks required to construct a building, important facts for builders, population of the United States by States and Territories, and numerous testimonials of the Strowbridge Sower. It also shows a cut of the large factory where the Strowbridge is built. The cover is beautifully lithographed in a neat design, and is very attractive. The pocket book is substantial and well made and will last a farmer a year. It is sent free to any farmer who sends his address, with stamp, to C. W. Dorr, Des Moines, Iowa.

When O. Judd failed some time ago for nearly two hundred thousand dollars, and his assets brought but 55½, less auctioneer's fee, people generally supposed that the old standard *American Agriculturist* would be seriously affected. It turned out, however, that O. Judd had disposed of the concern, years before, and that all that remained of him was the name which the Company publishing the *American Agriculturist* had given it when it organized fifteen years ago. It furthermore appeared that the present Managers had cleared off an indebtedness of nearly a quarter of a million of dollars, which they found upon the concern, and that whereas O. Judd was several hundred thousand dollars worse off than nothing, the Company did not owe a dollar when he collapsed. Now the present Managers announce that the *American Agriculturist* began this year with a larger bona-fide circulation than at the beginning of any year for twelve years past. With the old editorial force and fresh blood in every department, this journal, now enlarged, far surpasses any previous issues of its forty-three years' existence. The Publishers, as a special inducement to both old and new readers to now subscribe, present with every subscription, their magnificent Cyclopædia, and two elegant engravings. They likewise give Webster's Practical Dictionary.

Send them six cents in stamps to mail you specimen copies of the American Agriculturist, and specimen pages and full description of Cyclopædia, Dictionary and Engravings presented to subscribers. Address,

PUBLISHERS AMERICAN AGRICULTURIST,
751 Broadway, New York.

POTATOES.

IRISH. SWEET.

Pamphlet prepared by Charles V. Mapes, New York, containing accounts of some interesting experiments showing demand for complete, not partial, fertilization. Among the most striking of these are the following:—

1. When fertilizers exhaust the land.
2. Large yields of potatoes on sixteen acres.
3. 528 bushels on one acre.
4. Continuous growing of potatoes for eight years.
5. How over 1000 bushels of potatoes are grown on an acre.
6. Scab, wire worms, etc., in potatoes.
7. Sweet potatoes, their composition.

These accounts are from the pen of Prof. G. C. Caldwell; Sir J. B. Lawes of England; E. S. Carmen, *Rural New Yorker*; Dr. F. M. Hexamer, *American Garden*, and others.

This valuable pamphlet contains, among other useful information, a table showing the effects of fertilizers supplying only a single element, as compared with complete fertilizers. Sent free to applicants by Mapes Formula and Peruvian Guano Co., 158 Front St. N. Y.

IMPORTANT NOTICE.

A New Seed Warehouse for Messrs. Johnson & Stokes.

Owing to the rapid growth of their business the past few years, Messrs. Johnson & Stokes have been obliged to obtain more room. Their new warehouse at 219 Market Street is a fivestory iron building extending to No. 208 Church Street, a depth of over 200 feet, giving them four times as much room as in their old quarters, constituting one of the largest seed warehouses in Philadelphia. They will conduct business at both their stores, Nos. 219 and 1114 Market Street until July 1st, at which time their entire business will be transferred to their new warehouse, 219 Market Street, as their new headquarters.

By the insertion of a period after the word "Bracket" in the ad. of A. H. Pomeroy, Hartford, Ct., the wrong idea was conveyed. He will send a pattern of the new Curlew Bracket. It is well worth the money. Take our advice and patronize him.

Wm. H. Jones, dealer in Agricultural Implements and Seeds for the last twenty-five years at 1621 Market St., Philadelphia, has been forced by the eminent domain of a large corporation to move. He has secured a new warehouse four square west of the old stand, at 2043 and 2045 Market St.

GROWING ONIONS.—Onions are one of the most profitable of all crops. They require special culture, and it is the special skill and management of a crop which brings the largest yield. It is a peculiarity of this crop that it may be grown repeatedly upon the same soil, and thrives best upon the rich vegetable black mold of reclaimed swamps. For such a crop plowing is not required; the surface only needs working to a depth of four or five inches, and on the rich, mellow onion land this is most perfectly done by the "Acme" Pulverizing Harrow, Clod Crusher and Leveler, by which the soil is turned over equally as well as by a plow, and at one-tenth of the expense, and in one-tenth of the time. Where several acres of onions are grown this implement is indispensable, as indeed it is for every farm and garden crop grown.

J. H. JOHNSTON'S
CHEAP GUNS, REVOLVERS, &c.

The GREAT WESTERN GUN WORKS, J. H. Johnston, Owner and Proprietor, Pittsburg, Pa., was established nearly twenty-five years ago.

Mr. Johnston is a practical Gunsmith, having served his term at the trade with his father at Wrightsboro, Franklin Co., Pa., after which he "went West" and located in Pittsburg. The beginning was small and unpretentious, but his skill as a Gunsmith began to tell "from the word go." Business increased, orders came from all around the country. The works were enlarged from time to time, and, in less than ten years, it was the largest concern of the kind in the West. *Orders are now filled from every State and Territory and from all parts of the world—Egypt, Russia, Sweden, Persia, Australia, and from the far-off Fiji Islands*, and the whole result of this remarkable success is that people who send to the Great Western Gun Works for goods can always depend on getting what they send for, promptly too. *Nothing is ever presented, and every gun fully warranted.*

The following list embraces some of the leading and most popular styles, among which most any one can be suited. Persons ordering any of these, or anything in the gun line, will be suited.

FINE MUZZLE-LOADING RIFLES.

No. 5. Fine wrought-iron barrel, fine steel side action, best steel lock, double or set trigger, with set screw, American black walnut stock, oil finish, barrel splendidly rifled all the way through and finished inside just like any of the fine target guns, correctly sighted with an elevating rear sight for distance from 50 to 500 yards, and a white metal bead sight. The cylinder or drum has a vent screw, so that powder may be inserted from breech to cause a ball to put down without powder, or in case of dirt in the breech it fires to prime. Brass mountings, including patch box on side of butt, a bullet mold casting round bullets, an extension wiper for screw on rod, and a cloth cover sent free. The whole gun is hand made and put together by the best gunsmiths, thoroughly inspected before leaving the factory and fully warranted. The sizes made are 30, 32, 36, and 40-inch barrels; 10, 50, 75, 100, 125, 150, 175, or 200 round balls to the pound. The weight from 6½ to 10 pound. The range from 40 to 500 yards. A good average size for general use is 150 balls, 44-inch 36 pounds weight for large game 30 to 32-inch 6 to 7 pounds. For target use 32 to 36 inch, 50 to 75 bore 7 to 10 pounds. Any other size of this style of rifle will be made exactly to order. Price, with Mold Block Wiper, and Bullet Pouch, **$13.00,** or Express, prepaid **$14.00.**

Fine Muzzle-Loading Double Rifle and Shot-guns Combined.

FOR HUNTING LARGE OR SMALL GAME.

These double rifles and shotguns are all of the *best quality of workmanship* and *material*. Every one is fully warranted for shooting shot and ball with force and precision and to stand hard service in any climate. Bullet mold, wiper and cover, free of charge.

No. 10. Best twist patent breech side by side barrels, 30 or 32 bore rifle barrel, 60 to 100 balls, shot barrels, bore 12 to 16 bore 9 to 11 pounds weight, good locks and mountings **$18.00**

No. 11. Finer best barrels, patent breech lever and under lever, fine stock, best locks and mountings, name plate and escutcheons, 30 to 34 inch rifle 80 to 100 balls, shot barrels 12 to 16 bore 9 to 10½ pounds **$20.00**

No. 15. Very fine laminated steel barrels side by side, patent breech and break off, fine steel back action locks, set trigger for rifle barrel, fine stock, checkered grip, patent box meat, smooth finish, rifle 80 to 100 balls, shot 12 to 16 bore, weight 9 to 11 pounds, 30 to 35 inch barrel, . **$30.00**

SINGLE-BARREL SHOT-GUNS.

No. 4. American single barrel shotgun, made of *Springfield cube barrels* bored perfectly smooth from 16 to 25 bore, 30 to 48 inch barrel, 5 to 6 pounds weight, oiled walnut stock, good lock, blue mounting, a perfectly safe and reliable gun, yet so cheap as to be within the reach of all, range 45 to 60 yards, ... **$5.00**

MUZZLE-LOADING DOUBLE GUNS.

A Powder Flask, Shot Belt, and Wad Cutter *sent free* with each of these guns, and for $1.00 extra sent express paid.

No. 38. Fine London twist barrels, patent breech and break off, English walnut stock, finely oiled or varnished, and checkered swivel barrel on side locks, engraved or blue steel mounting, black or redwood ramrod, bolt loop, German silver escutcheons and name plate. This is a good, solid, well-made gun, suitable for all kinds of small game, 30 to 36-inch barrels 11 to 20 bore, 7 to 9 pounds. No. 38 is in reality the best low price gun in the list for farmers and general use, and we have them of every size. **$13.00**

No. 38, 38 to 40-inch barrel, double bolt loop, 8 to 9 pounds weight 18 to 20 bore, ... **$15.00**

No. 39. Fine English stub-twist barrels, patent breech and long break-off, curled walnut stock, oiled or varnished, steel bar on side locks, neatly engraved steel mountings, name plate and bolt loop, checkered grip. The whole gun finished in good and substantial style, German silver name plate and escutcheons, 30 to 36-inch barrel, 11 to 16 bore, 7 to 9 pounds, is an excellent gun for ducks, squirrel or pigeon shooting, and well adapted for small or large game at long range or on the wing. **$17.00**

No. A 40. Very fine English London twist barrels, patent breech, long strap break-off, good, curled or grained English walnut stock, finely checkered, varnish or oil finish, good steel side locks, platina vents, steel mountings finely ornamented and case-hardened or plated, German silver name plate, escutcheons and fancy extra tube box and extra tubes. Every part finished up in the most desirable manner, 30 to 36-inch barrels, 11 to 18 bore, 7½ to 9 pounds weight, ... **$20.00**

We have these guns, A 40, of all sizes, weights and bores, adapted for every kind of shooting, from light wing guns to heavy buckshot sizes. When longer than 36-inch barrels, 50 cents per inch extra is charged; also $1.00 per pound for more than 9 pounds weight. 10 bores cost, extra, $1.00.

No. B 42. ENGLISH DUCK GUN. London, fine twist barrels, patent breech and long strap break off, fine side back-action locks, polished blue iron mountings, bolt-loop, German silver escutcheons, and name plate, oiled or varished English walnut stock, checkered grip. These guns, when properly loaded, will kill game at 80 to 100 yards, 34 to 40 inch barrel, 11 to 13 bore, 9 to 11 pounds weight. Price, **$20.00**

When cash is sent with order, we will pay the express anywhere within 1,000 miles for $1.00.

DOUBLE-BARREL BREECH LOADERS

No. 888, Our New Great Western.

Double-barrel Breech Loader, made of Springfield Steel Barrels. Every old soldier knows *what they are, what they stand*, and *what they will do.*

Having made arrangements to build a large quantity of these new Breech Loaders, we shall at once put the price so low that a Breech-Loading Double Gun shall be within the reach of all. For our cheapest grade we have adopted the well-known Double Grip Lefaucheaux action, same as used on No. 200, it being the strongest and best for the purpose. Having no heavy royalty to pay for the patent, we can now sell the gun *far below any* of the *patented actions now in the market.*

We will supply these guns with 30, 32, 34, 36, and 38-inch barrels, 10, 12, 14 and 16 bore, 8 to 9 pounds weight. The barrels are plain black, steel finish, oiled walnut stock, checkered grip, steel back-action lock, well-tempered, case hardened mountings, automatic-or self-acting shell ejectors. In fact the whole gun is neat and plain, but substantial. The boring will be done in the very best manner, to insure good shooting at 60 to 70 yards.

Choke boring to order only $2.00. They will be chambered for brass or paper shells.

The price for these guns is $12.00 each for 30 or 32-inch; 34-inch, $12.00; 36-inch, $13.50; 38-inch, $14.00. A complete set of implements for cleaning, loading, recapping, and decapping shells for $2.00, making $14.00 for gun and outfit.

THESE GUNS SENT EXPRESS PAID anywhere within 1,000 miles for $1.00 extra.

LONG RANGE GUNS.

I have for many years made a specialty of *Long Range Muzzle-loaders.* Now that Breech-loaders are coming into general use I have found it necessary to provide many of my old customers with long range Breech-loaders, and to meet their wants I have imported from the best gun makers in Europe (*not the high-priced*) a lot of long barreled, *both light* and *heavy, large, medium,* and *small bore* guns, of *good materials* and plain, but *neat finish*, at such prices as will meet the wants of the average shooting element of this country. I have now on hand the following guns from which almost any one can be suited. The prices are *low* and *quality good.*

No 345. Plain steel barrels, back action locks, plain case hardened steel mountings, double bordered, oiled walnut stock. The Lefaucheaux action, letter in the forend as strong as any made. Central fire, uses reloading brass or paper shells of regular sizes, 10, 12, 14, or 16; 32 to 40-inch barrel, 8 to 9½ pounds weight. Choke bored. Range 60 to 75 yards. Price, ... **$16.00**

No. 346 is made on the same style, but with fine twist barrels finer lock stock and trimmings, and a stronger shooting gun, having finer barrels, admits of better finish, and stands heavier charges. This is a superior farm gun for general use. 32 to 38-inch barrels; 7 to 9 pounds weight 10, 12, 14, or 16 bore. Choke bored. Range 70 to 80 yards. Price, ... **$20.00**

No. 347. Same as No. 346, with laminated steel barrels, and a smoother made gun; 30 to 40-inch barrel; 10, 12, 14, or 16 bore, 7 to 9¼ pounds weight. Range, 80 to 90 yards. Choke bored. Price, ... **$25.00**

No. 348. English twist, dark stained barrels, side lever, with lever on the left side, snap action, center fire, back action locks, polished, blued, and engraved steel mountings, fine oil polished English walnut stock, checkered grip and fore end, automatic shell extractor, a neat and handsome gun, 10, 12, 14, or 16 bore, 32 to 40-inch barrel; 8 to 9½ pounds weight. Choke bored. Range, 75 to 90 yards. Price, ... **$25.00**

No. 348, as above, with pistol grip and rebounding lock. Price, ... **$30.00**

No. 349. Same as 348, but has side-action bar locks, rebounding hammers, and otherwise same quality and style of finish. 10, 12, or 14 bore, 32 to 40-inch barrel; 8 to 10, pounds weight. Choke bored, pistol grip. Range, 85 to 95 yards. Price, with side lever, $36.00; with top lever and patent forend, ... **$35.00**

No. 350. Fine English laminated steel barrels, side action, bar-rebounding locks, spring triggers, fine curled English walnut rose stock, natural crook, finely checkered grip and fore-end, pistol-shape handle, snap action top lever, finely finished mountings; all neatly engraved. In fact, the whole gun is finished in good style. This is a leading gun, and is destined to become very popular. It takes the place of our **No. 45** in the muzzle-loader list, which was a popular favorite among so many Southern and Western sportsmen the past fifteen years. The boring of the gun is perfect, and will kill game from 80 to 100 yards. Good for any kind of shot, and any kind of game. 32 to 40-inch barrels, 8 to 10 pounds weight; 10, 12, or 14 bore. Choke bored. Price, ... **$40.00**

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CAPS or PRIMERS for shells, per box, **35 cents.**

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The Farm and Garden.

Vol. IV. MAY, 1885. No. IX.

INSTRUCTIONS TO CORRESPONDENTS.

Subscriptions may begin with any number, but we prefer to date them from January of each year. Price fifty cents a year, in advance.

Renewals can be sent now no matter when the subscription expires, and the time will be added to that to which the subscriber is already entitled.

Notice is always sent of expiration of subscription. If not renewed it is immediately discontinued. No notice is required to stop the paper, and no bill will be sent for extra numbers.

Remittances may be made at our risk by Post Office Order, Postal Note, Registered Letter. Stamps and Canadian Money are taken, but if sent in ordinary letters are at your risk. We do not advise you to send money or stamps without registering. See instructions on page 12.

Receipts.—We send a receipt for all money sent us. If you do not hear from us in a reasonable time, write again.

Addresses.—No matter how often you have written to us, please always give your full name, post office and State. We have no way to find your name except from the address.

Names cannot be guessed, so write them plainly and in full. If a lady, always write it the same—not Mrs. Samantha Allen one time and Mrs. Josiah Allen next. If you do not write Miss or Mrs. before your signature, do not be offended if we make a mistake on this point.

Errors.—We make them; so do every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us any way. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

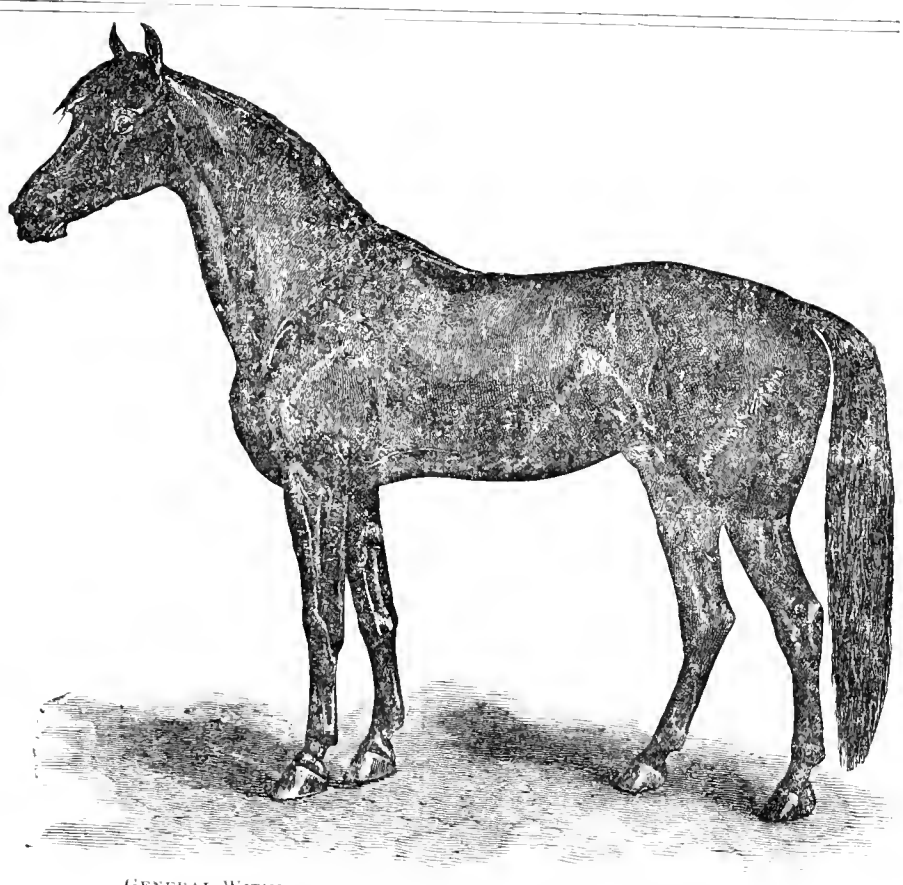
ADVERTISING RATES.—From Issue of January, 1885, to December, 1885, inclusive, 60 cents per Agate line each insertion.

CHILD BROS. & CO., Publishers,
No. 725 Filbert Street, Philadelphia, Penna

Our special numbers hit the mark squarely in the centre. Our busy reader does not have to gather in and remember from month to month the fragments of ideas usually presented in Agricultural papers. Our Strawberry number is a complete book on that subject. Our August number will show in four pages the comparative value of different breeds of sheep, and the sections to which they are suited. The method of care, prices of wool for years (these statistics are of great value and of interest). To a sheep grower this number of our paper will exceed in value many times our subscription price.

Promptly on September 1st our subscribers will receive our "Wheat Number." This issue will be devoted to a review of the value of different varieties of wheat, and a description of methods of planting and cultivating, and a comparison of the value of fertilizers. Illustrations will not be spared. We will be glad to receive articles and suggestions from any of our subscribers on this subject. This number ought to be worth the price of the paper for a year.

Our October issue will be especially devoted to grapes. We have been engaged on this topic for some months, and have in view a large amount of exceedingly reliable matter and illustrations. The culture of the vine in this country is as yet in its infancy, and we propose how it can be largely extended and made of interest to every reader of this paper.



GENERAL WITHERS, OWNED BY G. J. SHAW, HARTLAND, MAINE.

GEN. WITHERS, 1157.

Chestnut horse; no white; 15¼ hands high; weighs 1050 pounds; foaled June 13, 1875. Bred by Col. R. West, Scott County, Kentucky, and purchased by me of Gen. Wm. T. Withers, Fairlawn Stock Farm, Lexington, Kentucky.

Sire, Almont, sire of Westmont (pacer), 2.13¾ and 2.01¾ with running mate; Fanny Witherspoon, 2.16¼; Piedmont, 2.17¼; Aldine, 2.19¼; Early Rose, 2.20¼ and 20 others with records of 2.30 or better.

Dam, bloom, by Hitchcock's Ashland, son of Mambrino Chief, and sire of Highland Wm, 2.26, and Joe Pettit, 2.30, and sire of the dam of Edwin Thorne, record 2.16½.

Second dam, Lady Brant, by Toronto Chief, sire of Thomas Jefferson, record 2.23; Royal Revenge, sire of Lucy, 2.20¼; Fred Hooper, 223, &c.

The season of 1884 was by far the most successful with Gen. Withers of any he has ever made. His wonderful speed, his great courage, and remarkably clever disposition, together with his great breeding, have won for him a reputation second to no stallion owned in Maine: and that he transmits his good qualities in a remarkable degree to his get, is beginning to be quite well demonstrated and believed. Although none of his get have as yet appeared in public races, they command higher prices, and a more ready sale at same age, than do the get of any other stallion in Maine. His oldest colts are now coming five years old, and there are but ten of those, and nearly every one of them were used in 1883 and 1884 for breeding purposes, as was also a large per cent. of his foals of 1881. In 1884 many of his yearlings and two year olds were shown some remarkable trials. One three year old was shown a full mile in 2.49½, without training, and kept for service. Several others have shown better than three minutes, and a four year old a full mile in 2.40, and his foals of 1884 I think promise better than any of his previous get.

General Withers was awarded first prize at Maine State Fair in 1884 for standard bred stallions, and he, with five others from Cream Brook Farm, was awarded first premium on studs of horses, and many others of his get from weanlings up were winners of first premiums at same fair.—G. J. SHAW, *Hartland, Me.*

SPRING TABLE-FARE.

By Edith May.

Now that spring is again here, the system is apt to rebel against the winter diet, while as yet there are no fruits of the earth to vary it. Yet the daily food is our dependence for health and strength, and it is very important to have it appetizing. Now is the time for the good housekeeper to display her skill. One new dish at a meal will be very acceptable, and with careful study may usually be compassed. When oranges are cheap, an ample orange short-cake will induce all the family to pass lightly by the dinner, and make a meal of the dessert. Make a short-cake, split it in two, and cover one buttered half with sliced oranges sugared, being careful to take out all the seeds, lay over the other half, and serve with sugar and milk, or any pudding sauce. Sugared oranges are very refreshing at this season, and an excellent change from canned fruits.

The system is apt, also, to crave acids, and nature's suggestions are worthy of attention. Cabbage made into cold slaw is often relished by those who would turn with aversion from a plate of boiled cabbage. Indeed this vegetable has the property of growing more indigestible the longer you boil it. A very easy thing to believe with many of us, yet raw cabbage tends to promote digestion, and agrees with many who can not eat it cooked.

Dr. William Hall wrote a book on "Health by Good Living," and it was full of good hints which he had gathered in a long professional life. He was a strong believer in "food cure," in a large number of cases. "Often when a person thought himself in need of a bottle of medicine, his real need was a good chicken dinner." There is no question which would be the pleasanter to take. Do not grudge yourself or your family the best you have when you need it. Do not sell the chicken and buy a bottle of patent medicine with the money. When you feel "just like having something good for dinner," have it.

FARMER'S HOME GARDEN.

By Joseph.

Competition is the soul of business. It acts as a healthy stimulant to the often dormant energies of the leading grocer. Wherever we see, among the members of our neighborhood, the ardent desire to "beat" in the production of vegetables, we generally find good gardens. I like to see a trifle of this kind of jealousy between neighbors.

Pride is another powerful stimulant. Let the work be well begun, the land richly manured and responding with luxuriant growth, the rows straight, the seed coming up even and in good season, and—my word for it—the fortunate farmer will say to every visitor "come and see my garden!" The beautiful appeals unresistingly to the farmer's nature, and he will willingly furnish what time and labor is needed to keep up a work which was so well begun. I therefore say:—"My dear farmer's wife, insist upon having this gardening business started in right, and use good seeds." Well begun is half succeeded.

✢

I have no cause to eulogize female village gossips. They may have personal charms; they may be dressed in silk and satins, and in the latest styles, but the beauty of the parrot—what does it amount to? When I say, however, that the farmer's wife, as a rule, is God's noblest and best creation, I am fortunate enough to speak from my own personal experience. Blessed the man, who agrees with me in these sentiments. Many mechanics, luckily, can justly include their wives, when they speak of this noble "femininity."

✢

A farmer who has plenty of land, must be a brute indeed, if he expects his wife to cook pork and potatoes and beans every day in the year, and to do without vegetables unless she produces them with her own hands; and without berries, unless she hunts them up along the hillsides and fence corners. Do not put too much on her shoulders, yet never stint her with kindness and appreciation.

✢

No doubt, that little woman of yours wants a few nice plants, a bed of geraniums or Pelargoniums, a handsome primrose, a few ever-blooming roses. By all that is great and good, make her a present. She deserves such things. How it will brighten her care-worn face.

Good, well-rooted rose plants can now be bought for a very few cents each. Ask the advertisers of FARM AND GARDEN.

✢

Sometime in the latter part of winter, I took an acquaintance down in our cellar to show him a big heap of mangels stored there.

"How shall I plant mangel wurtzel seed?" he asks. "I have had no luck thus far. Could never get the seed to sprout." This matter is of great importance, and I must answer at length.

We generally use the garden drill in sowing; but I confess that I consider it a handy and quick, but also a *shiftless* way, and the one recommended for onions in April number is much better, as it saves a great deal of labor in cultivating and particularly in *weeding*, and insures a quick and sure germination.

Soak the seed in tepid water. In fact, all root crop seeds, carrots, beets, turnips, etc., should be thus treated. Then dry the *surface*, either by exposure to sun and air for a short time, or better by mixing the seed with dry sand or plaster.

Now plant by hand, as you would corn. Mark the land, so the rows will be the desired distance—from two and one-half to three feet apart, then provide yourself with the prepared seed and a hoe. Drop a pinch of seed—from three to five in the row, cover lightly, and *step on it*, then drop a few more seeds about one foot apart from the first hill, and so on, *never neglecting to step upon the seed after covering it.*

If the seed is good, it will germinate and break ground within four or five days after planting. If it does not appear within a week of reasonably clear weather, buy *new seed* and replant.

Where silos are not in use, mangels must be considered a necessity for winter feeding. Many small farmers and mechanics in country towns keep only one cow for family use. If these people knew how easily an abundant supply of roots can be grown, and how the flow of milk can thereby be increased, they would never try to get along without them in the winter.

It is not at all difficult to raise forty-five tons of mangel or carrots to the acre, or about 1500 bushels. One-twentieth of an acre, therefore, or a piece of land containing eight square rods, would give you more than one ton, perhaps nearly seventy bushels of mangels, sufficient to feed one-half bushel per day through almost five months. Just think of this! Seventy bushels can be grown in a few rows across your garden! Why not do it?

Only bear in mind that the manure has to be put on *thick*, and this should never be neglected in any garden. To grow mangels in this way pays *well* on a small scale, and it pays still better on a large scale.

✢

The seed of carrots, parsnips and vegetable oyster, of course, has to be evenly distributed over the rows, and these latter may be quite close, say fifteen or eighteen inches apart. Carrots and parsnips may be sown with the garden drill, salsify must be sown by hand. Always *firm the seed bed after planting.* Parsnips are excellent for stock in early spring, and may be left in the ground over winter, until wanted.

KILLING THE CABBAGE WORM.

From report of C. V. Riley, Entomologist for Dr. A. or Agriculture.

One of our most valued correspondents, Dr. A. Oemler, of Wilmington Island, near Savannah, Ga., has long fought cut-worms by trapping them under leaves and grass. To make use of his own words:—

"My method of dealing with cut-worms of late years has been to remove them from the field before the crop to be jeopardized is up or the plants are put out. By placing cabbage leaves and bundles of grass along the rows of watermelon hills, four years ago, I caught, by hunting them daily, 1538 worms on about one-fourth of an acre, before the seed came up, and lost but a single melon plant. On one occasion I captured, one morning, 58 of all sizes, under a single turnip leaf, and my son found 15 at the root of a single small cabbage plant."

A year or so ago we wrote to Dr. Oemler that his remedy would be much improved in point of economy of labor, if he poisoned his traps before setting them, or, in other words, if he sprinkled his cabbage leaves, grass, or other forage used for this purpose, with a solution of Paris green or London purple, in order to save himself the trouble of hunting for the worms in the morning.

We again quote from Dr. Oemler concerning the practical working of this plan:

"After the land is prepared for cabbages or any other crop needing protection, I place cabbage or turnip leaves in rows 15 or 20 feet apart all over the field, and about the same distance apart in the rows. The leaves are first dipped in a well-stirred mixture of a table spoonful of Paris green to a bucket of water; or they may be first moistened, then dusted with a mixture of one part of Paris green to twenty of flour, and placed carefully with the dusted surface next to the ground. Two such applications, particularly in cloudy weather, at intervals of three or four days, will suffice to allow the cut-worms to make way with themselves, which they generally do with perfect success. This plan first recommended by Professor Riley, is the best I have found. Whoever adopts it will rid himself of the pest at least cost and trouble, and will not be compelled to replant constantly or to sow his seed thickly."

THE SOUTHERN FEVER.

By [illegible]

The craze for going South increases as time passes, particularly among farmers. I have seen, to my sorrow, well-to-do farmers in New England leave good farms, friends, schools, and social advantages to "get rich" in the South. They go South, settle in the wilderness, and after years spent in clearing and getting the land ready for cultivation, they have, perhaps, as good a farm as that which they left behind them in the North. A farmer, with children, who has been seized with the "Southern fever" should consider well the step he would take. We all know that the educational advantages in the South are very poor—next to nothing, in fact, though somewhat better than they were ten years ago. A residence in the South for the farmer means, in most cases, isolation from all society and the deprivation of even a common-school education for the children.

Wages in the South are low. Negro labor is so plenty that new comers find it almost useless to compete with it. I can name mechanics who were getting three dollars a day at their homes who went South to "get rich." They went, but did not find the country as promising as the lying land agents had pictured it. They are now working for fifty cents per day and though they are first class workmen, find it hard to get work all the time.

Malaria is the worst disease with which settlers of new land have to deal. Rarely do you meet the man who has not suffered from it more or less. I have in my mind at this moment a young man who went to Florida last winter for his health. He was troubled with malaria, and his physcian advised him to spend the winter in the South. He went; but the Southern climate only aggravated his trouble and he came back worse off than before.

I have had this desire to go South myself, but from what I have seen and heard from friends, I have concluded that cold New England is far healthier and more invigorating than the debilitating climate of the South; while in a money point of view the former is far superior to the latter for the working-man. I should advise farmers and working-men who are comfortably fixed to remain where they are. For capitalists, the South offers great inducements, but as a permanent residence for Northerners I very much doubt its advantages.

CUTTING THE SEED.*

Single Eye. Drs. Stuttevant and Terry. Yields resulting from different amounts of seed. Reliable Tests.

Thus far we have dealt with theory only. How is this supported by the results of tests and stubborn facts?

In Bulletin 12 of the Missouri Agricultural College (1881), Professor J. W. Sanborn, in summarizing the experiments which he has conducted personally during nine years, with the Early Rose, says:

"The following table will give the average returns for seven years from measured ground and weighed potatoes, the product of two farms, and in agreement with the unrecorded results on a third farm:

PRODUCT PER ACRE.

From seed of whole potatoes, large,	227	bushels.
From seed of whole potatoes, small,	177	"
From seed of stem end of potato,	148	"
From seed of seed end of potato,	168	"
From one eye to hill,	81	"
From two eyes to hill,	104	"
From three eyes to hill,	160	"

Of the season of 1881, he reports a complete failure as to the one, two, and three-eye-to-a-piece system of planting. The yield of the one-eye seed was but five bushels to the acre, against 176 bushels from whole large potatoes.

"Not over one-half of the seed broke the ground in germination, and a part of these were so small and weak, compared with fuller seeding, that a few slightly covered died. The balance, under a very wet season here, did not thrive. This result is given to show how great a variation may occur under unfavorable conditions, between ample seeding and deficient seeding. * * * * Since beginning these trials, I have seen two foreign tests, covering about seven years each, wherein the effect of cutting on the future vigor of the plant was studied, with results against fine cutting. One eye and small potatoes gave less favorable results at the Ohio Experimental Station, last year, than whole large potatoes."

Let us now look at the tests conducted by the generally very careful *Rural New Yorker*, and reported in the issue of March 15th, 1881.

"Test 46, A. The seed potatoes were selected all of the same size, and peeled, all eyes being cut off, except the strongest near the middle, that is, whole potatoes were peeled so that but one eye was left with a ring of skin about it. * * * * The variety was the *Peerless:* the amount of chemical fertilizers used, 1000 pounds to the acre. * * * * * Yield, 806.66 bushels to the acre.

Fig. 4.

"Test 47, A. The pieces were cut as shown by figure 4, and of that size. Planted three inches deep. So many of the pieces either failed to sprout or died after sprouting, that no estimate could be made of the yield per acre.

"Test 48, A. In this test, cylindrical pieces were cut through the potato, as shown in figure 5, with a strong eye on one end * * * * * Yield, 211.75 bushels to the acre."

Fig. 5.

"'Enough is as good as a feast,' concludes the *Rural*. But what would be enough in a wet spring, might prove too little in a dry one; what might serve in a rich soil, might prove insufficient in a poor soil. The quantity of flesh which should go with each piece is, theoretically, that which, without unnecessary waste, will best support the eyes, until by the growth of roots, support is no longer required."

* From new book by "Joseph," entitled, "Money in Potatoes."

GAROEN NOTES.

Sowing garden seeds is an easy enough task, when you have the use of a garden drill. Parsnips and salsify, however, must be sown by hand. Nor is it advisable to plant peas with the garden drill, which leaves them too near the surface and partly uncovered. It is best to scatter the peas in plowed-out or hoed-out furrows, about three or four inches deep, and cover.

✢

When neither garden drill nor hand cultivator is to be used, try the following plan with onions. Mark out the rows of proper width, then plant six or eight seeds every eight inches apart in the row. The onions growing in bunches will do just as well as singly, and the weeding be much easier.

✢

It is a good plan to mix a few radish seeds with onions, celery, parsnips, and all other seeds which do not germinate quickly. The radishes germinate in a few days, and indicate the exact location of the rows, thus enabling you to hoe or cultivate even before the other vegetables can be seen above ground.

✢

Now remember that lettuce, peas, onions, radishes, etc., can be sown just as early as the ground is ready. If you have a good hand cultivator (Gem of the Garden, or Ruhlman's Wheel Hoe), which every farmer who works more than one-quarter acre of garden ought to have, you may plant these vegetables in long drills, fourteen to sixteen inches apart; otherwise make the rows far enough apart that you can cultivate by horse power.

✢

Celery for plants must be sown as early as possible in a moist (if possible a little shady) place and soil as free from weeds as is to be found. Always sow in rows far enough apart for you to hoe between them. Sow thinly and thin the plants. Good plants cannot be grown thickly together. There is little difference between different varieties. The half-dwarfs are good. Do not risk too much on the White Plume.

✢

Cabbages are easily grown with good commercial phosphate and no other manure. Five hundred pounds per acre will make good cabbage; but 1000 pounds will produce more valuable returns for the outlay, as the cabbages will grow more rapidly and be safer from the cabbage worm. Early planted cabbage is usually more safe from the worms than later. We advise early planting, the use of phosphate, well spread in the hill, and good culture, and you will have fine cabbage. The most successful cabbage growers we know, practice our plan of growing.

ACCOUNTS WITH CROPS.

By John E. Read.

It is generally considered very desirable that the farmer should grow large crops. Indeed, this sentiment is so strong that the rank which any individual cultivator holds in the community in which he lives, is very largely determined by the rate of production which he is able to secure. Unless their is some serious defect elsewhere in his business arrangements, the man who produces large crops will be a far more successful farmer than the one who obtains but a small return from the land which he cultivates.

To be benefitted by his crops, the farmer should, in some manner, dispose of them after they have been secured. And in order to dispose of them intelligently and profitably he must know what they have cost him. The manufacturer is obliged to know just how much it costs him to produce the article which he sells. In no other way can he know the price at which he can afford to furnish his wares. Neither can he tell when a sale has been made, whether the transaction has yielded him a fair percentage of profit, or involved him in a direct loss. To this it may be said that the farmer has little or nothing to do in determining the selling price of his crops, but that he is obliged to sell them at market rates or not sell them at all.

The knowledge obtained by keeping account will aid him in making a wise selection of the crops which he will cultivate. Thus, the man who keeps a record of the cost of his crops will be prosperous, because he will grow those which more than pay the expense of cultivation.

Unless there are valuable compensations, no farmer can afford to grow crops which cost him more than the cash price for which they can be sold.

In the expenses of growing a crop should be included the rent of the land, cost of seed, value of fertilizers applied, of labor performed, and everything involved in its production. Credit should be given for the crop as a whole, not only for what is sold, but for every portion used on the farm, and for such proportion of the fertilizers as probably remains in the land, and will be available for the use of succeeding crops.

Valuable as is the principle which has been set forth, it must not be carried to an extreme. While the farmer should choose crops that are worth more than they cost, he should not devote all his attention to the production of any single one, even though careful accounts should prove it to be more profitable than any other that he is able to grow. He cannot afford to risk all his time and labor upon any single crop, for, if it prove a failure, he might thus lose all his work for the season, and also, the best results can only be secured by growing several different crops upon the same farm. Under ordinary circumstances, a rotation of crops is an absolute necessity. A diversified system is certainly safer than the cultivation of only a single crop, it utilizes labor to much better advantage, and is far less injurious to the soil, consequently, each farmer should grow several crops. He should keep a careful account with each, in order that he may know just what it costs, and that he may thus be able to choose in an intelligent manner, the ones to which he will give the most careful attention. It is probable that an account of the expenses involved, and the receipts obtained, would prove to many farmers that the land they have been devoting to certain crops which they have grown for sale, might be more profitable given to other plants, and that some crops which are now lightly esteemed, are really more profitable than the ones which are considered the most valuable.

GRAINS OF CORN.

By John M. Stahl, St. Louis, Mo.

I have found it of doubtful propriety to use the roller upon corn ground before the corn is planted. I may say that upon prairie soils, there is no doubt about the matter, for all my experience and observation condemns the use of the roller before planting. In the spring the ground is saturated with water, and the object is not to retain moisture, as in the fall, but to hasten its evaporation. The roller is an excellent implement to use when it is desired to retain moisture, for it packs down the ground, preventing the ready entrance of the sun and air, hence it is advisable to use it in the preparation of ground for winter wheat; but this very fact condemns its use upon ground for corn in the spring. Again, upon the prairie, and other, soils, there is always imminent danger of packing by heavy rains; and this danger is greatly increased, if not reduced to an unpleasant certainty, by the use of the roller. In the fall, heavy rains are infrequent, and such is the condition of the soil, that they do not solidify broken ground; but heavy rains are frequent in the spring, and such is the condition of a majority of soils that the rain will convert them into an amalgam if the roller has been used. The field is in a sad condition—often in worse condition than before work is begun; the saturated ground will dry slowly, and be in a condition totally unfit to receive the seed; while the work required to put the seed-bed in condition again, will be delayed by the wet condition of the ground. I would strongly recommend that the corn be first planted, and then it is absolutely essential to use the roller, put it upon the ground just before the plants reach the surface, or when they are three or four inches in height, when the passage of the roller over them will not occasion any serious injury. By this time the soils will have become dryer, and the frequency of rains will have decreased.

The germination of the corn can be hastened three days by soaking it in warm water for twenty-four hours before planting. This matter assumes an important phase when for any reason the work of planting is delayed until late in the season. It is not possible to use soaked corn in a two-horse or a hand planter; but when the season is late, it will pay to go to the extra trouble of dropping by hand, and covering with a hoe or with some device for the purpose, in order to be able to use soaked seeds. I attach great importance to the early planting of corn. All farm work should be done at the earliest seasonable moment, but the neglect of some is attended with greater loss than the neglect of others; and there are few operations, the delay of which, beyond the proper season, reduces the profits to a greater extent than the planting of corn. The reason is this: corn is a semi-tropical plant. In the latitude in which the bulk of the corn is produced, the season at its best is barely long enough for the normal development of the plant. Its growth may be cut short by drought or some other circumstances, and then the season may be apparently too long for its complete development. But if conditions were favorable, the longest season would be none too long for the life and fruition of the plant. Hence the wisdom of lengthening the season by beginning planting at the earliest seasonable moment. Doubtless, my readers have noticed, as I have, that in nearly every case the earlier planted corn grew the stockier, showed a better color throughout the season, and made the larger yield of the better quality. It had a longer season in which to grow and mature. There is another circumstance which makes it desirable to plant early. The weather in July, August, and perhaps in September, is apt to be droughty, and it is best to have corn well advanced by the time this season of drought is reached; otherwise, the corn will be checked when it is bending all its energies to the production of the grain, and the result will be a light harvest of ears from stalks which promise much more.

From the above it must not be understood that I would have corn planted before the ground is fitted for it. By so doing, nothing is gained, and frequently, much is lost. If the ground is cold or too wet, the seed will fail to germinate in many instances, and the result will be an imperfect stand. I do not believe in replanting a hill here and a hill there; the replant will be a week later than the other, and if cultivation is suited to one it will be unsuited to the other. Hence, I would advise that when one-third of the seed fails to germinate the whole be replanted, unless the season is far advanced. And because I dislike a partial stand, I say do not plant *until* the seasonable moment, but be sure to plant *at* the earliest seasonable moment. Corn planted on warm, mellow, well-prepared ground will, in one month after planting, be ahead of that planted two weeks earlier, when the ground was cold and wet and could not be properly prepared. I remember of planting corn, in Illinois, one season on the 19th of June, because the ground was not in condition earlier; and I raised a crop that averaged fifty bushels shelled per acre, while those who planted corn in mud, labored for weeks at the peril of their health, and did not have half the yield that I did. Plant at the *earliest* seasonable moment. Plant at the earliest *seasonable* moment.

Often we attempt to raise too many ears, and sacrifice quantity and quality yet more. We must acknowledge that our land is not so fertile as it was; and even when it had its virgin productiveness, four grains in the hill were too many. I am sure that two stalks per hill will produce a greater quantity of ears, and certainly of better quality, than four stalks per hill. I would rather have one good ear than six nubbins. Though the nubbins may make the more bulk, the ear will produce more beef or pork. The ear is always of a better quality than is the nubbin; and I am inclined to think that we pay altogether too little attention to the *quality* of corn. We are careful about the quality of many products, because the buyer makes a difference; but we feed our corn, and because the hog or steer does not talk, we are careless about quality.

MAKING A HOT BED.

By E. B. Ransom, Kahoka, Mo.

The manure should be fresh—right out of the stable if possible—and about half straw, leaves, or something of the kind, for making on top of ground. The frame should be about two and a half feet at the back and the front, and when you have forked the manure over twice, it may be put in to the depth of one to one and a half feet, pressing down thoroughly. If the dirt is dry, wait a day or two until the vile heat passes off, but if it is frozen put it on to thaw out. The heat will rise for the first two or three days to 120°, but when it subsides to 90°, the seed may be sown. Cover with boards and keep covered when the weather is at all severe, but open on warm days, the soil for the bed should be composed of fine manure, sand, or dirt,—in equal parts.

THE ORCHARD.

THE SHANNON APPLE.

We give a cut of the Shannon, the prize-taking apple for the southern division, between 28° and 35° This apple received twenty-five dollars at New Orleans in three first premiums; one of ten dollars for the finest and best apple; one of ten dollars for the best new apple for that section, and five dollars for the best plate of Shannon. The apple from which the cut was taken was one of the smallest of the premium plate. We got it ourselves in New Orleans for the purpose of making an accurate cut.

The Shannon originated in Arkansas, not far from Little Rock. It loves a soil full of lime, and does best on a clay loam. The tree is a rapid grower, and has the habit somewhat of the Rhode Island Greening, but does not spread as much as that. The tree is a moderate, regular bearer; bearing evenly through the tree, and a few on the ends of the branches. The fruit is of a golden yellow color, and resembles the Huntsman's favorite, of excellent quality, and a good keeper. The specimen for our illustration was sound when cut on March 2d, and would have kept much longer. We found them to keep well on the tables at New Orleans. The form can be seen in our perfect cut, and can be relied on in every particular, as a Shannon will appear when cut. The cavity often russetted. The good quality of the Shannon will make it popular where the best fruit is desired. We do not think it will be popular in a cold climate. The variety needs a warm sun to bring it to perfection.

The *Rural New Yorker* raises the query "whether the Shannon is not the Ohio Pippin, grown under a favorable soil and climate. We have two trees in our experimental orchard of the Shannon, and find that the young wood is a dark, reddish-brown, as dark as the Ben Davis or darker; buds very prominent, and the young wood as woody and downy as the Ben Davis." Downing says of the Ohio Pippin: "Fruit yellow, with mottled red in the sun." Says also of its flavor; "A sharp, sub-acid, quality good." We find no mottled red in all the specimens we saw in New Orleans, nor is it sharp, sub-acid in flavor and the quality we find to be very good, and belongs to the class of apples of which the Huntsman may be taken as a type.

Faye's Prolific currant has the reputation of being as good as recommended. The currant seems to grow in popularity.

Pear orchards set in grass are much less liable to blight than when cultivated and freely manured. The trees that are the freest growing are the first to blight.

Remember to keep all the suckers that start from the roots of trees removed. They not only make the tree very unsightly, but will injure its growth. Remove them early and often.

We dug all the earth away from our apple trees to prevent injury from mice, and have had none harmed at all, while last year, by banking up the dirt, we had serious injury. The shrew mice are the ones that injure our trees.

J. T. Lovett says that unleached wood ashes can be considered a specific fertilizer for the Strawberry, and pure ground bone a specific fertilizer for the Raspberry; having never known an instance on any kind of soil when they did not produce large returns in the fruits as named.

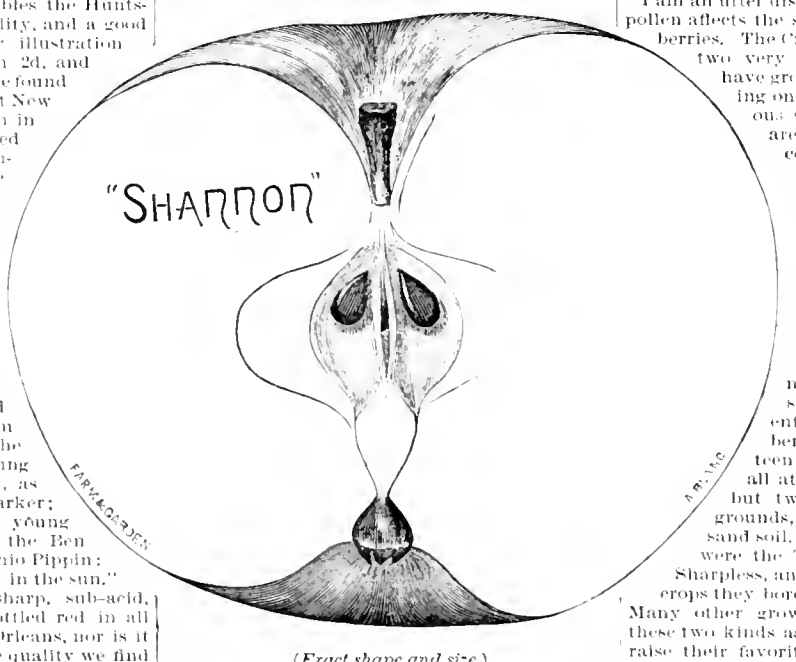
The cold and unusually dry winter has caused a serious damage to the apple trees in Indiana and Illinois, and perhaps other States. Dry winters are as bad for the vitality of trees as the cold. It will rob a tree of its strength very quickly. Unless trees are very hardy the present winter will injure many of them.

There is the usual statement now being circulated that the peach crop is to be a failure, that the cold weather has killed all the fruit buds. These statements are made so often there is little dependence to be placed in them. The peach crop is not safe until the peaches are as large in diameter as one's finger. The dry weather in spring will often cause the crop to be very light from continued dropping, caused by dry weather. It is too soon to tell what the peach crop may be.

We call attention to our article on Geometrids that injure the apple. The word "geometrid" is from two Greek words, which mean "earth measurers," as they have the habit in crawling of looping themselves, then lengthening out, as if they were measuring the distance they traverse, rather than creeping. They are very destructive.

It is not too late to graft apple trees, even in blossom, although it is better to graft earlier. When the trees are in blossom the bark parts from the wood very easily, and care must be taken in grafting to cut off the limbs so that the bark will not peel from the wood, or the grafting will be a failure. We gave much valuable information on grafting in our last number.

Mr. J. R. McHeite, Winthrop, Dakota, asks for a list of fruits suitable for him in Dakota. We saw some fine apples at the New Orleans Exposition from Dakota, but we dare not, as yet, recommend a list. We will do so as soon as possible. The FARM AND GARDEN is always sure it is right before it advises. We hope to be able to give a list in season for next year's planting.



(Exact shape and size.)

We again advise, as we did last year, the use of potash in the peach orchard. Another year's experience only confirms what we said last year. Our peach orchards need potash, and the yellows will not be any longer a serious drawback to peach growing. Potash will not restore a tree that is injured by the yellows, but will prevent it in all orchards if applied when the trees are set, or better still, before setting.

In answer to the question put by the *Rural New Yorker* to many of the leading grape growers and horticulturists of the country, "What two each of black, red, and white grapes, are the best for home use, and what two of each for market?" The vote was, the best black for home use, Concord 18, Worden 17, Moore's Early 8. Reds—Brighton 17, Delaware 14. White—Niagara 18, Lady 8. For market, blacks, Concord 17, Worden 13, Moore's Early 9. Reds—Brighton 11, Delaware 9. White—Niagara 17, Pocklington 6. The reader can learn much from the vote.

W. W. Jones, in *The Farmer and Fruit Grower*, claims that varieties of apples having large, thick leaves are the hardiest and freest from mildew, and those that are cottony and wooly on the underside, the most hardy. Those varieties with thin leaves are the least vigorous and hardy in Indiana, and are liable to mildew. Of the thick, large leaved, he names as hardy the Minkler, Wallbridge, Missouri Pippin, Red Astrachan Duchess, Snow, Rome Beauty, Ben Davis, Wealthy, &c. Of the thin leaved kinds he mentions Milam, Winesap, Rawle's Genat, &c. He also claims that the roots of the thin leaved varieties are not as sound and healthy as the other kinds.

COMMENTS ON OUR STRAWBERRY ISSUE.

I am an utter disbeliever in the *theory* that the pollen affects the size, shape, or flower of strawberries. The Crescent and Green Prolific are two very peculiarly shaped berries. I have grown them and seen them growing on different soils, and with various staminate varieties, and they are always the same. The Crescent always looked as if the end had been cut off, and the Green Prolific always had a very large neck.—W. C. STEELE, *Switzerland, Fla.*

The notes on raising strawberries in April number, by Joseph, have set me agoing; for the thirty past years I have been engaged in growing strawberries, and it took me years to find out that the same berries grown on different soils were not the same berries at all. I have had thirteen different kinds of bragberries all at one time, and threw away all but two kinds as worthless on my grounds, which was a damp, quicksand soil. The only kinds that did well were the Triumph de Garnet and the Sharpless, and it was wonderful to see the crops they bore, and the size they attained. Many other growers have entirely discarded these two kinds as worthless, while I could not raise their favorites to any profit. I therefore advise strawberry lovers to keep trying until they find the kind of berries that fit their soil.

J. J. Read, Hannibal Centre, Oswego Co., N. Y.

We call attention to our article on Geometrids. It is full and practical; worth a year's subscription, any way. We want to be always ahead, on time, and in season.

Arenious Acid, common white arsenic, will do well to spray trees for canker worms. It mixes better with water, and will, in time, be largely used. We do not feel prepared to give the proportions, but believe it will be safe to use one pound to 1200 pounds of water. Where the trees are but lightly sprayed, they will bear more of the arsenic, but if done by heavy drenchings the adhering arsenic will injure the foliage. Will some of our readers, who have used the white arsenic, write us how they like it, and the proper proportions to use?

APPLE GEOMETRIDS.

We receive many inquiries about the canker worm on the apple trees, and we deem it best to give an article upon the worms, that to the common observer, appear like canker worms, of which there are four kinds that appear similar. They are called geometrids, from two Greek words, meaning earth-measurers, from their habit of walking, which is to loop themselves up and then reach out their entire length, and then loop up again, as if measuring the distance they traverse.

The most common of these geometrids is the true canker worm (*Paleacrita vernata*, Peck), or Spring Canker Worm, named from the eggs being laid in the spring, to distinguish it from the Fall Canker Worm, which is much less widely distributed, but equally as destructive.

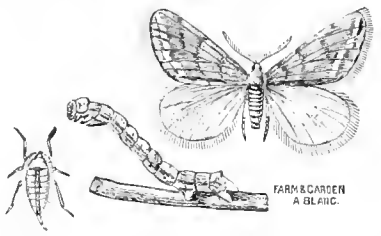


Figure 1.

The cut, figure 1, shows at the left-hand lower corner the female, which is wingless, the winged male at the upper right-hand corner, and the worm is shown between them. The female lays the eggs in early spring in the branches of the tree, usually in irregular masses of from one hundred to one hundred and fifty in a place, and in any spot in the tree where convenient. As soon as hatched they attack the young leaves, and often in backward springs will devour the buds before the leaves appear. They rapidly increase in size, and are usually full grown in May or June. They are then about three-fourths of an inch to a full inch in length. They are usually dark olive-green or a brownish-green in color, although it varies so much that there are grey, and even yellow ones among them. They consume the leaves of the apple when numerous, and allow only the skeleton of the leaf to remain. They make the orchard appear as if fire had been through it.

The worms, when alarmed by jarring or a heavy wind, will let themselves down by a silken thread and hang suspended from it. When very numerous the tree will be a mass of these webs, and be stripped entirely of foliage. In June the worms enter the ground at the depth of three or four inches and form a cocoon. They appear again in the form as we see in figure 1, perfect insects, and begin the destruction.

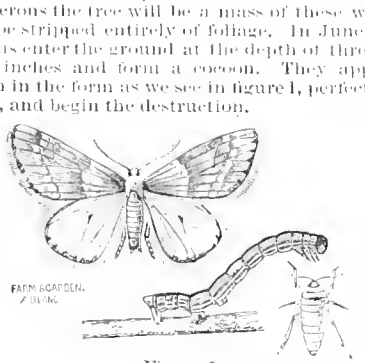


Figure 2.

We give in figure 2 the Fall Canker Worm (*Anisopteryx punctaria*, Harr.) It is very similar in all respects to the Spring Canker Worm, except that the eggs are laid in the fall, and the worm has two short pro-legs on the eighth joint. Their cocoons are made of strong, spun silk, and will not be destroyed by fall plowings and freezing, as the spring species will be, which shows that they are of a more fragile character.

The question will be asked, "How can they spread so rapidly?" From the habit of suspending themselves by silken webs from the trees, they are carried by passing vehicles, or even trains, birds, or animals to distant points, where they find a lodgment, and will soon multiply.

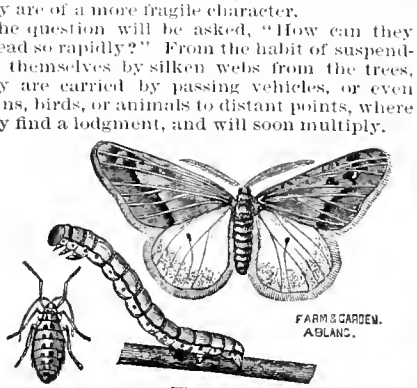


Figure 3.

Figure 3 gives the appearance of the Lime-tree Winter Moth (*Hybernia tiliaria*, Harr.), another larger worm of the same character as the other geometrids we have described. The worms when full grown are an inch and a quarter long. They are only of a yellow color, with many narrow black bands running the length of the body. The underside of the worm is of a paler color. The head is of a dull red color. The female, as shown in the lower left-hand corner of figure 3, is wingless, while the male has large, delicate wings. They are like their class when grown; form their cocoons in the ground, and appear as perfect insects according to the season, both fall and spring.

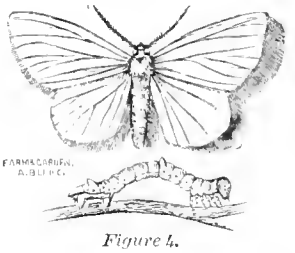


Figure 4.

We illustrate the White Engonia (*Engonia subsignaria*, Hubn.) in figure 4, giving the male and the worm in the cut. The female is also winged, and is very similar to the male in form and color. The Engonia is very troublesome in Georgia. The caterpillar, in color, is a dark brown; head large and red, as is also the terminal segment. These worms, when numerous, will devour the leaves of any species of tree. The worm will change to a chrysalis, and in a few days the perfect moth appears. The Engonias are not, as the canker worms, single-brooded, but the broods are often double and overlapping each other.

Enemies of all these worms are birds, among which is the despised English sparrow. There are also large numbers of insect enemies. The Microgasters, Tachna flies, Platygaster flies, Potter wasps, and ground beetles devour many of them. So will hogs, if allowed to run in the orchard, root up the cocoons and devour the chrysalides. Fall or winter plowing, with freezing, will burst the earthy cocoons of the Spring species and destroy them, as they are not as strong and silky as those of the Fall species.

The most powerful remedy is arsenical poison. Bands of tin or muslin coated with tar or printer's ink, placed around the tree to stop the ascent of the wingless female, are used, but as practiced by the ordinary farmer, will be of little use, as they require daily attention the entire fall and winter until May, the bands are troublesome. If they are neglected they are useless, so much so that we only advise a sure and easy remedy,—that of spraying the trees, at once, upon appearance of the worms. Use one pound of Paris green, well stirred, with one hundred gallons of water. London purple will also be useful when used in the same way, but will injure the foliage more than the Paris green. Use any force-pump and a fine rose sprinkler attached to a long pole and supplied with the water by a small hose leading to the force pump. The cost is small when you have the pump and hose. You can spray a large orchard for less than five cents per tree. Once will generally be sufficient, though sometimes it will be required twice. Late frosts often kill the entire brood of worms and exterminate them so completely as to be hardly observable for years.

Last year the worms appeared to be very widespread, and if no late frosts occur, will this year be a scourge to the apple orchards if not destroyed. Do not pasture stock in the orchards you Paris green, for the grass will be poisoned by it. We have tried to give all the main facts in regard to these worms as fully as space will allow.

COMMENTS FROM THE PEOPLE.

George Pindar, Cobleskill, N.Y.: "I could not get along without THE FARM AND GARDEN."

Mrs. H. S. Scott, Lonemont, Col.: "I, like so many others, cannot see how you can give so much for so little."

A. F. Swank, Davidsville, Pa.: "I tried to do without your valuable paper, but I found I was without my best companion."

Charles Campbell, Holly, Orleans County, N. Y.: "I like THE FARM AND GARDEN very much. I think it is a bright little paper."

Mrs. J. C. Wilson, Pine Plains, Duchess County, N. Y.: "I received a sample copy of THE FARM AND GARDEN, with which I am well pleased."

Albert N. Gary, Mt. Pleasant, Mich.: "I think THE FARM AND GARDEN is the best paper I have ever taken. It is both handsome and instructive."

William E. Hammond, Sweet Air, Md.: "Your valuable little paper came to hand, and I can only say I never enjoyed a paper more than I did it."

C. P. Johnson, Thurman, Kan.: "I have taken your paper one year, and would not be without it. I am very glad to be able to send you my renewal."

I. H. McClung, Morrilton, Ark.: "I highly appreciate THE FARM AND GARDEN, and would not do without it for $5.00, if I could raise the money to get it."

Jno. Blue, Duart, Ontario, Can.: "The paper gives splendid satisfaction. I do not see, for the life of me, why any person wants to be asked more than once to take it."

Mrs. S. M. Mason, Ord, Neb.: "I am delighted with your spicy, instructive little paper, and have determined that my friends shall have the privilege of enjoying the reading of it."

Jno. P. Cupp, Helena, Mont.: "I have taken your paper for over a year, and I like it the best of any paper I take. It has paid for itself a hundred times by telling me how to keep chickens."

Mrs. Sarah Butterfield, Steven's Point, Wis.: "I have this day received my premium roses, and have just set them out. They look as fresh as though they had never been disturbed. Many thanks."

Colin C. Thomas, Jamestown, Dak.: "Your sample copy and premium list both received; many thanks for them. I take several agricultural publications, but the FARM AND GARDEN fills a vacant place."

Wendell D. Willsie, South West Oswego, N. Y.: "The February and March numbers of papers received, also package of seeds from Maule. When I raise the 111-pound watermelon I will invite you to a picnic on the shore of Lake Ontario."

M. A. Darling, Vicksburg, Mich.: "We take THE FARM AND GARDEN, and I saw a notice of packing egg mashes. Now I have found to my cost that it will not do to put eggs in wood ashes. I tried it, packed them dry in crocks in September and October, and at the holiday season, when they were twenty-four cents per dozen, they were all made into soap.

C. D. Lander, Corn Hill P. O.: "I must, in justice to my own feelings here state that I have subscribed to papers of one kind or another for the last 30 years, and have never met with more thorough satisfaction as to punctuality and valuable reading matter, cost considered, than I have received from the publishers of the FARM AND GARDEN. I wish you much success."

Our Flower Garden.

CLEMATIS LANEGUINOSA CANDIDA.

Our cut of this beautiful climbing vine, was taken from a photograph of a plant three to four years planted. This is one of the very best of the new, large, ever-blooming Clematis. The flowers are borne, as shown by the cut, in the greatest profusion, and every individual flower measures from six to nine inches across. It is a very rapid grower and very hardy, standing the severity of our cold Northern winters in the most exposed situation, without any protection whatever. Its season for blooming is from June to October. The flowers, when opening, are of a pale lavender, changing to pure white when fully expanded. They are suitable for almost any location where a handsome climbing vine is effective. They are not subject to insects of any kind, which is an important item for consideration. They are a comparatively new plant, and should be seen in bloom to be appreciated. We predict for the large flowering class of Clematis a brilliant future, as each year seems to bring forth new and improved varieties.

The late spring will enable many who have delayed sowing seeds and setting out plants to do so now. No time has been lost, for the weather has been too cold to enable any but the hardiest plants to make any growth. Summer blooming annuals should, of course, be sown at once; or, if you have taken our advice and started them in boxes, you may set them out now when there is no more danger from frost. Bear in mind to press the soil firmly, and to spread out the roots in a natural manner, not all bunched together. Water the plants well as soon as in the ground, and if the sun is strong, it will be advisable to protect them by covering with tissue or, in fact, any other kind of paper, at least for the first two or three days. Do not crowd too many things in a small bed. Give each specimen plenty of room, so that the light can reach it all around. Slender-growing subjects should be staked as soon as they require it; otherwise, the first strong wind or rain will break them off and spoil them. Low-growing plants, the flowers of which are easily soiled by rain, will be benefitted by a mulching of green moss. This will prevent the splashing of the soil, and besides, keep the earth cool during the hot summer months. We remember visiting a garden where almost every plant was surrounded by a square frame, like the four sides of a box, not more than an inch and a half deep. These frames were pressed into the ground to the depth of about three-quarters of an inch, and were filled with nice, clean, green moss, leaving only a small open space around the stem of the plant. It did not look badly, even if not artistic. The effect could be varied by altering the shapes of the frames to triangles, diamonds, circles, etc., and surrounding with small growing Echeverias or succulents. The edgings can be made gay by using the now justly popular yellow Pyrethrum. To have a liberal supply of these plants is half the battle. A dozen pots should be filled with fine soil, and watered, of course, being previously well drained with broken oyster shells, charcoal, etc. An hour after watering, sow the seeds very carefully, evenly, and thinly. Cover merely with a dusting of light soil, sufficient to hide the seeds. These should be kept moist with tepid water, and while on the hot beds, will, if covered with boards, germinate quickly, and the young plants appear in about nine days. When large enough to handle, say half an inch high, they should be placed in shallow boxes, in fine soil, and again returned to the bed. Though hardy, that is to say those plants of mature growth, the seedlings should be gradually hardened off until planting-out time arrives, which is about the second or third week in May. As before mentioned, this bed might also be used for striking cuttings of variegated Geraniums for foliage effect. That known under the name of Silver Nosegay is worth a place, with many others of variegated foliage, such as Mrs. Pollock, Mrs. Rundle, and more recent kinds. Mesembryanthemum Cordifolium Variegatum might also be increased by placing cuttings in sandy soil and giving a little bottom heat. This plant has always succeeded with us and sends up its minute lilac bloom in quantity. It combines well in effect with Pyrethrum, producing a most brilliant edging. They may be replanted pretty close together. For edging beds, Echeveria Retusa is a most desirable plant, it is more familiarly known under the name of Houseleek. It produces a good effect, sending up spikes of delicious orange and scarlet bloom, which form a decided contrast to the blue-ish tone of the plant. They can be increased by side-shoots, which soon appear in good soil.

Some Good Annuals.

From the multitude of varieties offered in the various catalogues, it is difficult for the inexperienced to select those which are the best and most suitable for beds and borders. In large gardens, a great variety can be grown; but where space is limited, a severe selection has to be made. Among dwarf plants, we might mention Leptosiphon Roseus, a beautiful shell pink, free flowering plant, requiring to be sown early. Silene Pendula Compacta, and Compacta Alba, well-known neat plants, best sown in autumn. Saponaria Calabrica, very neat in light soils. Kaulfussia Amelloides, a pretty blue daisy. Nolana, a plant with blue and white flowers that creep along the ground; good for rockeries. Whitlavia Gloxinioides, a neat plant with bell flowers, blue, with white throats. Bartonea Aurea, a very showy yellow annual. Yellow, sweet Sultan best sown in autumn. Viscaria of several kinds, pretty annuals with white and pink flowers. Erysimum Arkansam, a good yellow annual, and Erysimum Perofskianum, orange. There are, of course, many other desirable kinds, but the above will make a nice collection.

Among the taller kinds we may mention the White Rocket Candytuft, which has fine, massive spikes of flowers. Crimson Flax is very showy. Lupins are fine if well grown; all are good, especially Hartwegi, Medneezi, and Hybridus Atro-Coeruleus.

Godetias are among the most satisfactory of annuals of medium height. Duchess of Albany, Lady Albemarle, Princess of Wales, and Lady Satin Rose, are all good. The Bride is also a useful kind.

Clarkias flower quickly, and are useful annuals. There are two distinct races—Clarkia Elegans, and C. Pulchella. There are pure white and double varieties of both.

Convolvulus Minor is a good blue annual for clumps.

Chrysanthemums (annual), single and double, are indispensable.

Coreopsis is a useful annual for all positions, the stem and foliage are so inconspicuous that the flowers seem to wave in the air.

Centaurea Cyanus (the common blue Corn-Flower) is one of the best of annuals, and deserves a place in almost any garden.

Poppies are showy things for large borders. The Opium Poppies are very showy, but are soon over.

Papaver Umbrosum, and its varieties, Danebrog, Victoria Cross, and Mephisto deserve mention also.

Larkspurs are a fine series, the stock-flowered variety being especially good.

Sweet Peas are favorites with everybody, they should be sown early, when they produce a long series of blooms if prevented from seeding.

Tropæolums

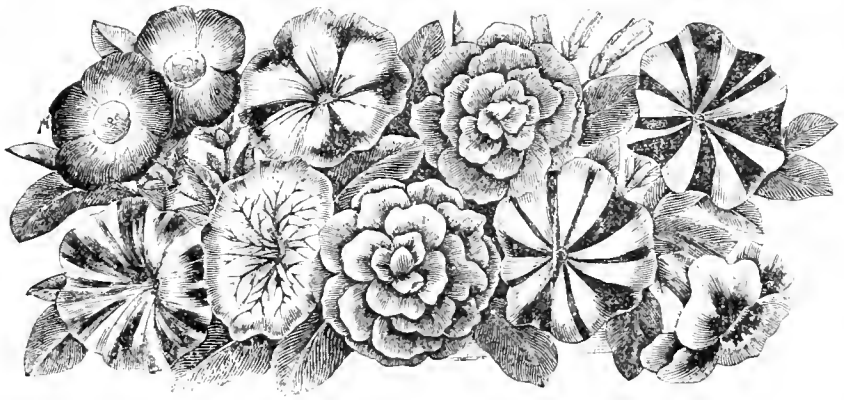
Are good for poor soils and hot positions. The Tom Thumb King varieties, of which there are many, are very showy, they are short-lived, but a succession can be started in small pots, and planted out when large enough. This is the best way to grow them, as they have weak stems at the surface of the soil, and break off there in windy weather. Planting out from the pots, with the balls rather deep, takes them down to a stronger part of the stem. The new Compactum section last much longer in bloom, especially Empress of India.

The soil for annuals should be good, but is better without manure; any kinds that require better feeding can have liquid manure or surface dressings. Failures with seeds are generally owing to the soil in which the seeds are sown not being sufficiently fine in texture. Early sowing is an advantage, but it is better not to sow when the soil is damp, or still cold from frost. Sowing in small pots is a good way when the trouble is not objected to. Thinning out is also important. Every plant should have room for full development. Crowded annuals produce small blooms, and are soon over. The great thing is to get a good sized plant before blooming

begins. If a plant begins blooming in too small a state it is a good plan to pinch out the bloom buds as they appear, and give good feeding and water, if dry, so as to encourage the production of leaves instead of flowers. This postponement of the blooming season generally insures a better bloom when the plants are large enough. All flowers should be picked off as soon as faded.

PETUNIAS.

The comparative ease with which Petunias can be raised, should tend to make them more largely grown than they are. When it is constantly declared that seed of these and other plants must be raised in heat, thousands of lovers of flowers are hindered from sowing them. Heat is, of course, an advantage where it is at command. In planting out seedlings of Petunias for the making of a mass of growth and bloom, it is well to have the plants strong enough to admit of pinching at once, so that all over the bed the growth is the more dense and compact. It is a pity that they are now used so little, yet they are the easiest grown of specimen plants, and certainly when in bloom, among the gayest. That we have now so many kinds, both single and double, and fringed, renders this apparent neglect all the more inexplicable. No doubt plants produced by cuttings yield the best pot specimens. Still, seedling plants will do the same, being grown in three inch pots first, then shifted until eight or nine-inch pots are filled. If during all the period of growth



PETUNIA VARIETIES.

NEW SINGLE FRINGED PETUNIAS.

and shifting the plants have been well pinched, well exposed to the air and freely watered, they should then be at liberty to grow away freely, and make noble specimens, some three feet across, and literally masses of bloom. They would also continue to flower in rich proportion for a long time, and will repay for the labor involved in their cultivation. We illustrate herewith the ordinary Petunias, as well as the new fringed, both single and double.

VASES AND BASKETS.

In their proper place, and in due proportion, vases and baskets are indispensible in the flower garden, but not unfrequently they are used out of all proportion to the style of the garden and its surroundings, in which case they become objectionable. Perhaps the tendency to over-decorate in this way must be credited to the severely geometrical plan of many gardens. A pair of vases on the pedestal of steps, and others on the turf at the angles of the most formal divisions of the garden, to break the line somewhat, are about all that are ever required. The many plants used for these are so well known that no description of them is required; still to refresh your memory, we will mention Ivies, Periwinkles, Fradescantia, Tropæolum, Honeysuckles, Lobelias Kenilworth Ivy, Coleus, Geraniums, Fuchsias, etc.

CLEMATIS CRISPA.

Our friends, Hallock, Son & Thorpe, have awakened an immense interest in Clematis since the introduction of "Jackmanii" and "Coccinea" (which are now growing in all well-kept gardens). We have seen nothing prettier than the new "Clematis Crispa," which is a beautiful and distinct species. The flowers resemble in shape some of the elegant bell-shaped Lilies. The color is of the most beautiful lavender-blue tint on the surface and margin of petals. The centres of the petals are an opaque white. The flowers are of a thick, leathery texture, perfumed with a delicious, piquant, bergamot flavor. It is of remarkably free growth, robust, quite hardy, and very free flowering, continuing from June until frost. It must become as popular a plant as the kinds previously mentioned. Among other new Clematis we may mention the White Jackmanii, not yet introduced in this country. We understand the stock of it is offered for sale for the small sum of $5000.

For the article on the "New Double Mignonette," which appeared in our March issue, we are indebted to Henry A. Dreer, of Philadelphia.

CALADIUMS.

No conservatory can be complete without a good assortment of the fancy leaved kinds. Nothing can surpass them as exhibition plants during the summer and fall. For Wardian cases, as well as window boxes, they are also capital subjects, while for bedding out in shady places no other ornamental leaved plant can compete with them. Few amateurs, except those living in large cities, have ever seen Caladiums grown to perfection. In the first place the bulbs of fine varieties are rather expensive, and it takes quite a number to form a good specimen. We have seen them grown in fifteen-inch pots that were grand, indeed; some of the leaves measuring as much as eighteen inches in length. If you have never tried them, buy at least a dozen varieties, the prices vary from two to three dollars per dozen, and there are, perhaps, a dozen varieties to choose from. H. A. Dreer, of this city, catalogues nearly seventy-five different kinds. Our illustration will convey a faint idea of the various shades. If you get the dry bulbs, the best way to start them is to fill a shallow box with sphagnum moss, and place roots in it, covering them well. Keep the box in a warm place, and when the roots are well started they may be planted in pots in peaty, sandy soil, mixed charcoal; a liberal addition of well decomposed manure will be beneficial. As the roots start from the upper part of the bulbs, it is important that the latter should be covered with about one inch of soil.

NEW DOUBLE FRINGED PETUNIAS.

LIVE STOCK.

BUTTER-MAKING.

By Mahala B. Chaddock, Vermont, Fulton Co., Ill.

The three fundamental rules for the "gilt-edged-butter-maker," are:—Good cows, good food, and eternal vigilance. On these three rules hang all the laws and by-laws of butter-making; and the greatest of these three is *eternal vigilance*.

We may take a third-class cow, and with eternal vigilance may make a fair article of butter; while the best cow in the world, fed on the best food to be found, will not produce good butter without it.

Eternal vigilance must watch over the heifer calf from the day it is born until it becomes a cow; must see that it is not over-fed, and that its food is of the right quality; that it is not fed too often, nor fasted too long; that it is handled enough to make it gentle, but not in a way to make it "horny."

When she is a mother, eternal vigilance must be there to see that she is kindly treated,—many a good cow is ruined at her first milking—and all through her journey of life, eternal vigilance must have watch and ward over her; must see that her food is of the best; that her hay is as sweet as dried clover blossoms can be; that no soft, sour mubbins are given her; that her oats and bran are the freshest and sweetest; that her drink is the purest water that the bowels of the earth contain, and that she wanders all day long in summer time, in pastures green, placid, calm, content, with no shotguns firing off near her ears, and no dogs to chase and make her afraid.

When at eventide she comes slowly home, looking as if she would rather be milked than not, and when the milk is strained and set away, eternal vigilance, instead of having a play-spell, must do double duty; must have no rest night or day. For now the greatest foe that eternal vigilance has to fight is temperature. I read yesterday that in the Mammoth Cave in Kentucky, the temperature is always 55 degrees, never more, never less, summer and winter it stands just the same; and the thought came to me that if we butter-makers could have a steady temperature like that (only of course it would need to be a lower one), what a paradise it would be. Those fortunate souls who have a natural spring, can have almost the same thing. But there are not enough natural springs to go round. The few lucky ones have them, and the rest of us must manufacture our own temperature; and in my experience the water-tank and deep setting seems to come nearest to the old spring house methods of our young days.

TESTING THE MILK AT CREAMERIES.

The plan of testing the milk received from customers at the creameries is the only fair method of doing business, and yet, although it is a protection to the dairyman, they are the parties who raise the greatest objection to testing. The man who keeps Jersey cows, and whose milk contains a larger percentage of cream than that of his neighbor, is entitled to a larger sum of money for his milk, for the reason that it is worth more. It stimulates improvement of stock, encourages better management of the milk, and induces high feeding in order to increase both the quality and quantity. It is the careless dairyman who objects to a test of the milk. He bases his calculations upon quantity, and mixes the milk indiscriminately, without regard to its age, or the condition of the different cows. It is a well-known fact that no two cows give milk of the same quality, but the milk from a selected number may be somewhat uniform if they are fed alike, but to compel the careful, clean dairyman to accept the same price for good milk that is allowed for that of a poorer quality, is not justice. It must not be forgotten that the cows that do not have clean water to drink cannot produce healthy milk, and the butter is also affected. Some dairymen are inclined to impart tyranny to the creamery operators on account of the stringent rules, but the faults ascribed to the creamery managers really belong to the careless dairymen who do not pay attention to the quality of the milk from their cows. It may be stated, also, that even the cream will not always produce the same amount of butter. It varies according to the pasture and concentrated food given, which is another reason why a test should always be made, and when the dairymen begin to realize that they cannot receive justice unless the milk is *all tested*, they will find that dairying is profitable according to the skill of the dairyman, and the management of his herd.

BARN-YARD MANAGEMENT.

As the summer comes on the manure must be plentifully supplied with absorbent material, or it will overheat. The liquid should be saved and added to the solid. Sanitary regulations are as necessary in the barn-yard as anywhere else, for animals succumb to impure air and imperfectly ventilated and damp quarters as well as human beings. Unless the barn-yard is so managed as to enable the farmer to save all the waste material, and to afford proper conveniences for attending to the stock, and preserving the manure, there will be loss, with the excessive heat of the day, which causes manure to "fire-fang." By sudden showers at night the loss of material which is unprotected will be greater than can be replaced, except at much expense.

KEEP A FEW PIGS.

There is an old prejudice on the part of some against keeping pigs, under the plea that it does not pay to do so. The claim is not true, but admitting its correctness in some respects, there are several reasons to be presented in their favor. When the pork is raised at home you know what it is. The quality of the food given, freedom from disease, and care of the meat from the moment the hog is slaughtered until it is cured, depends upon the owner, and who in this is given by the consumer he is able to provide himself with a better article than he can purchase. So far as relates to the actual expense that may be incurred, the outlay is only temporary, for a small sum is stored away in the carcass, which is returned at the end of the year. Leaving out the matter of profit altogether, therefore, the pigs enable their owners to save a great amount of material that would be lost without their assistance, and, even if only the expense is returned, with some it is doubtful if they would be any richer at the end of the year without the pigs than with them, but in the latter case they will at least have a quantity of pork on hand.

BREAKING AND TRAINING STEERS.

I. How to Break. II. How to Train.

Whatever may be the practice in other parts of the country, in the hill towns of New England oxen will always be a necessity. The soil is so full of rocks and stones that horses will not answer. A few thoughts in regard to breaking and training steers may be in order. Anyone who has a likely pair of Devon or Hereford steers, and wishes to break them to work, should adopt a plan something like this: 1. Get acquainted with the steers, do not attempt to yoke them until this is done. 2. Put the yoke on them, but be very careful not to frighten them in any way. After this is done yoke them as often as convenient, the offener the better, always remembering to be very careful not to frighten them. When they learn not to be afraid of the yoke or their driver they may be driven around the barn-yard. Always make them stop at the word "whoa." A yoke of steady going old oxen to guide the new ones are a great convenience the first few times on the road. Treat the oxen kindly, and they will have few or no bad tricks. Misuse them in any way and they will always remember it, and act accordingly. A well-broken pair of oxen need very little talking to, and almost no punishment.

STOCK NOTES.

FARM HORSES.—In raising colts for farm purposes the heavy draft stallions should be used, for the reason that the farmers have no time nor advantages for training road-sters, and unless trained, no estimate of their value can be made. A quick draft colt is valuable according to his performances, which must be developed, but a heavy draft colt can be easily broken for general farm work, and will always command a fair value in the market.

To make a stone floor for hog-pens, take large, flat stones and lay them flat side down on the floor, then fill up all small places between the stones with smaller ones, and cement all tight.

UTILIZING GARDEN WASTE.—The tops of vegetables sometimes contain as much nutrition as the desirable portion, and if carefully saved for the pig and hens will be found of great advantage. They provide early green food, and promote health.

Equal parts of oats and corn, and one-twentieth part of linseed cake, ground with them, make a good feed for horses. It will give a fine, sleek, good coat, and will make a horse at the same time very healthy. It will also keep horses from contracting colds and diseases.

INDIGESTION IN HOGS.—If they refuse food give half a teaspoonful of copperas in the slop in the morning, if they can be induced to eat, and at night give half a pound of freshly burned charcoal, placed where the hog can eat all that it desires. It is important that the charcoal be fresh, and not be allowed to remain in the pen.

OATS AND PEAS FOR COWS.—Where the family has a single cow, and a limited area of ground, an economical method of providing green food is to sow oats and peas together, and cut the same for the cow. Sprinkle with a little meal, and add a small quantity of salt, and it will be highly relished. On the farm the oats and peas will be found excellent for sheep.

HOGS, BUTTER AND CHEESE.—Stringent laws are being enacted in the different States to prohibit the manufacture of butterine, but while the law may benefit some, it cannot stamp out the evil entirely. Hogs cheese has killed itself, the quality being so poor that it could not be sold, and hundreds of tons are being used as fertilizer. Good butter is always salable, and the demand is greater than the supply.

BREAST STRAPS ON HORSES.—Never use a breast strap in place of a collar, whether the horse is worked to a wagon or a buggy. With a good, nicely-fitting collar a horse can draw nearly twice as much, and feel more comfortable than with a breast strap, which often inflicts cruelty upon him, owing to the fact that many persons make no discriminations between the breast strap and collar, expecting the horse to do the same work under all conditions.

A CONDITION POWDER.—When cows and horses lose appetite, and refuse food altogether, unless signs of injury or other causes of depression are discernable, they may receive, twice a day, a table spoonful of the following mixture, which may be given in corn meal. One pound gentian, one pound fenugreek, one ounce sulphur, one ounce copperas, one pound black antimony, 8 ounces rosin, and 8 ounces bi-carbonate of soda. The ingredients are cheap, and are found in nearly all condition powders.

MUTTON SHEEP.—In some markets the carcasses of sheep and lambs are hung up and displayed on the stalls in order that they may be inspected. The English system of allowing the black feet to remain on the quarters is being adopted, as the presence indicates Southdown mutton, which is always distinctive. As Southdowns and other mutton breeds are thus endorsed by purchaser the farmer should endeavor to secure the best prices by using rams of the several "Downs" breeds with their common flocks.

A WORD FOR THE MULE.—This much abused animal is valuable on a farm, and for certain kinds of work is especially so, as no better plow team, or one for the harrow, can be found. Some of the best single teams we find are mules, and are as readily guided as a horse. They stand hot weather far better than any other draft animal. A team of mules is easily raised, free from diseases, brings large prices, and is of ready sale. We wonder why farmers do not raise more of them. Farmers you can make more clear money in raising mules than in any other kind of stock. We want you to look into it.

The Poultry Yard.

OPERATING INCUBATORS.

By P. H. Jacobs, Wayne, Ill.

During the past two months I have had thirteen incubators in operation, including different makes, and so far not a single failure has occurred. It is not intended here to give any *theories* as to what should be done, but to lay before the readers of the FARM AND GARDEN a few *facts* that have come under my observation during the time I have been working them.

One discovery I have made is that nearly all the incubators now manufactured will hatch and do all that is claimed for them if the operator will do his duty, but that an incubator will work itself because it is self-regulating is not always a certainty. The operator will be compelled to take at least a look at them several times a day, and perhaps at night also, especially at this season, owing to the fact that the temperature of the atmosphere fluctuates so often. The regulators will, perhaps, work splendidly, but the lamps are liable to heat the incubators too much during the middle of the day, despite the guardianship of the regulators. With the use of the hatchers, and *care* on the part of the operator, there should be no difficulty in hatching at all seasons.

Very often success happens where failure was expected. For instance, one incubator, seemingly contrary, would in the morning be at a temperature ranging between 95 and 100 degrees, while during the day it would reach from 100 to 105 degrees. It gave an excellent result, however, about seventy-five per cent., while another incubator, which had neither fallen below 100°, or gone above 104°, did not give over thirty per cent. But little information could be gained by the comparison, as the weather was very severe, and the difficulty may have been with the eggs. I am satisfied of one thing, however, which is that the majority of failures arise from lack of moisture, and not from want of fresh air, as many suppose. I have stopped up all the air passages, except to admit a very limited supply, with the drawer full of chicks, without injuring them, and yet the air passages of most incubators are sufficient to ventilate a coop full of adult fowls, the result being that a constant current of air cannot easily be saturated with water vapor, and the chicks *die in the shell*. Where the air is admitted, and partially confined, it saturates itself with moisture. The eggs do not want moisture at all; nature provides for that. All that is necessary is to supply the *air* with moisture, so that it will not absorb it from the eggs, especially after the chick has "pipped" through. The lower the heat the easier the air is saturated, which accounts for the chicks hatching at a low temperature at times, and dying in the shell when the heat is fully up to the standard requirement. Provided plenty of moisture is allowed, the heat should be fully 101 the first week, and 103° the second week. The third week the temperature should not be over 102°, for the chicks will come out at a lower temperature stronger than when the heat is well up. When the chicks are hatching, and the exposed membrane of the eggs, after being "pipped," begins to show signs of dryness, it indicates lack of moisture, and water should be supplied in a warm condition. No sprinkling is required where moisture is plentiful, and an important matter is to allow the eggs to *cool down well* at least once a day, while two turnings, night and morning—are sufficient. I will keep the readers of the FARM AND GARDEN thoroughly posted in regard to many other matters connected with my experiments from time to time. The causes of *failures*, if any occur, should be made known as well as the successes.

MEAT FOR FOWLS.

It is not always convenient to procure a supply, but it has never occurred to some, however, that the carcasses of dogs, cats, horses, etc., that are destroyed by reason of running at large, or old age, could be utilized and used as food for poultry by being boiled and prepared for that purpose. One of the cheapest articles is the "lights" or "plucks" of sheep, and it may be mentioned also the well-known "meat puddings" frequently seen on the stalls of butchers, which are seldom fit for any other purpose in reality. Fresh bullock's blood thickened with ground grain will keep for quite a length of time if cooked in the shape of bread, while the scraps from the butcher can be cooked as a soup and thickened with potatoes and meal to advantage. It is not necessary to feed expensive meat to poultry, though it pays to use meat, even when a good price must be given for it, especially when eggs are high and scarce. In the country rabbits should furnish a large proportion, and every rat or mink caught should be served up to the hens.

GROWING SHADE.

Every one who keeps poultry does not have shade for the hens in summer. The poultryman cannot sit down and wait for trees to grow, nor can he always select a shady location. The best method in such cases is to grow something that will answer the purpose. If the climbing plants can be protected while young, and until they get out of reach of the hens, a few strong strings will lead morning-glories, lima beans, or Virginia creepers, to any conceivable shape, or they may be planted four or five feet from the bottom of the fence, and the strings inclined upward to the top of the fence and fastened, and the hens will resort to the space between the plants and the fence for shade. Among the bush plants nothing equals the squash, which grows very rapidly, covers a large space, has broad leaves, and will not be molested when young by the hens. A circle of tomato vines, fastened together at the ends of some of the branches, answers well, and if the hens eat the fruit no harm is done, as the owner would be no richer without the vines. Sorghum and corn, grown in circles, and fastened together at the tops, also give good shade, but the hens will destroy them when very young, while they will not molest tomato or squash plants. A few tobacco plants in the yards are excellent, as they can be placed in them while young without being liable to molestation, and if the yards are changeable, a circle of some tall-growing variety of pea may be trained with strings and made to do service, but must be protected when young. Of trees, use the peach, plum, or mulberry, should you decide to set out young trees, and of vines use the grape, which can be trained with strings to grow in any direction.

POULTRY YARDS.

One of the problems in poultry keeping is the matter of so confining the hens as to keep the largest number on the smallest possible space with the best results. The questions is, "Does the size of the yard have anything to do with the laying qualities of the hens?" It is well known that some breeds, such as the Leghorns, Houdans, and Hamburgs, begin to pull feathers if not given a full range, which is a sure indication that the conditions are not favorable. If we coop up a lot of fowls to be fatted, and especially turkeys, which delight in foraging, they will gain rapidly in flesh for about ten days, when they will begin to fall off, and no amount of food given will cause them to increase in weight. The conditions of confinement in the yard are very similar. No matter how well their wants are supplied, the hens will not lay as well as other hens equally cared for and given liberty. Confinement consequently affects the disposition of the hens, and causes them to become discontented and unhappy. How can this be remedied without requiring a large area for a number of flocks, is a natural inquiry. We know of no method but that of having changeable yards to the houses, one in the front of the poultry-house, and one at the rear, the fowls being changed from one yard to another as fast as green stuff can be grown to the height of two inches, which will keep them busy and occupy their time. This calls for frequent spading of the unoccupied yards, which of course turns under the filth, and keeps off disease. To keep hens in confinement means to keep them at *work*, either foraging or scratching, and the floors of the poultry-houses, and portions of the yard, should always be littered with cut straw, leaves, dirt, or some other suitable material, into which the grain food should be thrown, and the hens made to hunt for it. Space may be gained in those yards that are no wider than the poultry-houses, by extending them in depth, and too many hens should not be together. The temptation is to economize by utilizing the space with a large number of hens, but such a system does not pay, as the smaller the number of hens in one lot, the greater the number of eggs, in proportion.

POULTRY SCRATCHINGS.

LETTUCE.—Sow a crop of lettuce and feed it, while young, to the chicks. It will soon be out of the way for some other crop.

A GOOD TONIC.—Spirits camphor, extract of ginger, and extract of gentain, equal parts. Put a teaspoonful in a half pint of the drinking water.

PURCHASING FOWLS.—Always be careful that you do not introduce disease when purchasing. Select hens with red combs, bright eyes, clean nostrils and legs, and that appear active.

MAY WORK.—Young chicks will not bring the best prices it hatched this month, but they will return a fair profit, however, while the care and labor will be lessened. If eggs are low, set them, or consume them on the table.

CHOLERA.—Look out for it. If it appears, clean up the place and thoroughly disinfect with Carbolic acid. The best remedy is four parts hyposulphite of soda, and one part Boracic acid. Dose—a tablespoonful, moistened with water and poured down the throat.

THE COCKS.—If your hens do not hatch well this month, provided the hens are not in poor condition, make a change of cocks, as they are sometimes impotent. At this season the Leghorns are best, as they require a shorter time for maturity than the larger breeds.

USING GROUND BONE.—It may be well to state to those who are compelled to purchase ground bone, that it should be as free from odor as possible. The best place for purchasing such, is from the seed stores, or from those who make a specialty of selling ground bone for poultry. The hens will not eat the ground bone if it is tainted, but, should your misfortune be to get no other, mix in the soft food a tablespoonful for every five hens, and add a tablespoonful of ginger to disguise it.

(Continued on page 12.)

THE HOUSEHOLD.

"The music of laughter, a footfall of mirth
Floats joyfully out o'er the fair, sunny earth.
'Tis the Queen of the Spring,
The child of the flowers,
Crowned with a ring
Of glad, golden hours.
Oh, the little birds sing,
And the dowerets say
The Queen of the Spring
Is the sun-bright May."

AIR AND SUN BATH.

By Aunt Eva.

Now that the days grow long and warm, it is an excellent time to spread out on the line our heavy blankets and quilts, which may not need washing, and give them a long day's air and sun bath in a good strong breeze. Sleep is so sweet and refreshing in a well-aired bed, and so many neglect it, beyond throwing open a window for an hour or two in the morning before making up. That is important, but it is not enough. Thick bed-coverings are great absorbents, and though they may not look as soiled as your delicate pieced quilt does, they need an air bath as much as that does a washing.

Will the day ever come when the ancient feather-beds of our grandmothers will be utterly banished from our homes, when it will be counted no prize for the little granddaughter to have handed down to her "grandma's best feather-bed," and all its belongings. I know a house that holds a baker's dozen of these valuable relics of the dark ages, and I am confident that some of the geese from whose breasts those feathers were plucked, quacked at the close of the last century. It is a most remarkable house for funerals.

A thousand times healthier and sweeter, is a good straw bed, which you can change often and wash clean every spring. A comfortable mattress over it is luxurious enough for a king.

When it comes quilt-washing time, hire the best muscles you can command, and spare yourself as much as possible. Few women in our day are equal to such heavy drafts unless they are specially trained to them. Every man to his profession seems to be the rule for our times, and it is, perhaps, as well to fall into line according to the age in which we live. It would be foolish for our housewives to do their own spinning and weaving, or even knitting, though their grandmothers did all this and more. The same rule will apply to many other kinds of work.

AS BEAUTIFUL AS YOU CAN.

By J. E. McC.

Now in the pleasant springtime, when so much is done in the way of repairing and refreshing our homes, it is a good time to study well the effect of color upon our minds and feelings. These are subtle influences which act upon us all unconsciously, but very steadily and surely.

A manufacturer who employed many operators, found that the occupants of one room were healthy and cheerful, while those of another, engaged in the same business, and apparently with all the advantages possessed by those in the other part, were melancholy, moping, and often complained of headache and other ills. The only difference he could see was that the walls of the healthy room were white and the other stained with yellow ochre. He had the latter changed to white, and a marked improvement took place almost at once. The girls became more cheerful, and consequently more healthy.

To live in a room stained with yellow ochre is enough to cast a gloom over any one's spirits. There may be callous natures that can stand it without being depressed, but that proves nothing with regard to the rule. Few people have iron-clad sensibilities, for which we may well be thankful.

Treat yourself to a pretty wall-paper while you are buying, and let it rejoice your eyes every day as you look upon it. I knew a lady who had such a paper. Her son brought it home from the city, but she objected to putting it on because it was "too pretty" for her living-room. I asked her if it was too light or too expensive. "No," the only objection was its beauty. She had always had homely paper on her walls, and felt that she must. So she laid aside the pretty rolls which would have brought sunshine into her home, and chose some striped sort that she felt was good enough for every day.

The dear children especially are greatly influenced by these little home appointments. A child brought up in a sunny, tasteful home will show it, as well as the lad who comes from a home of disorder and squalor. Even an infant's eye catches an impression from all its surroundings, and we can never know how lasting and important the impressions are, or how much they do toward forming the future character.

A BIT OF OUT-DOOR LIFE IN THE SICK-ROOM.

By Ved.

A very pretty device for an invalid's room, was one which a lady saw in Jacksonville, Florida. In a shadowy corner there was a shelf covered with a large quantity of dried mosses and grasses, arranged as much like nature as possible. Overhead were fastened a few dry branches, to which were clinging long festoons of Florida moss, which almost touched the tops of the grasses. Within, all looked as dreary and dark as a bit of forest or swamp. To make the picture perfect, within the shadow stood a beautiful white heron, nicely prepared and gracefully poised, as if just startled in his native marsh, and ready to take flight.

One can imagine how restful to the eyes of a weary invalid would be such a life-like picture, and how many pleasant thoughts could cluster about it. Something similar, though of a different sort, is quite within the reach of many of our bright boys and girls, and would make prettier "pieces" for home adornment, or to "take to the fair next fall," than so much crazy work or scroll-sawing.

A friend who was recovering from a long illness, told me of a peculiar amusement her brother invented for her, which did her more good than any tonic.

Every morning he cut out a nice square piece of turf and brought it to her on a tray, and let her sit by the table and explore it and analyze it with such simple implements as she chose. A microscope was at one hand to examine any curious insects or plants she might discover, and a plate on the other, received the most peculiar specimens, until she had time to talk them over with her student brother in the evening. It is surprising how much one who has "learned to see," can find in a foot of good, grassy earth.

Clara grew rosy, strong and happy over this odd tonic, and folks thought it was working over the fresh earth that helped her so fast. No doubt it did help; but, probably, the awakened interest and mental stimulus did much more. When you have induced an invalid to think of something besides herself, and to really be happy over it, you have taken a long step towards her restoration.

SAVING MOTHER.

By Lou.

Mother had run over to a neighbor's to see a little sick girl, and only "Aunt 'Liza" and the boys were left around the evening lamp. But Aunt 'Liza was good company, so they never felt alone when she was about.

"Who of you boys would like to try and save mother a little this coming spring and summer?" she asked. "She needs it, and she's worth saving."

"I guess she is," said Charley, warmly. "How do you mean, Aunt 'Liza? Just tell us, and we'll save her all we can."

Auntie stepped to the window-casing and took down a nice, soft, bright pin-cushion she had made that day. The boys eyed her rather curiously but she went on to remark. "You see this needle, threaded with black thread, and this one with white?"

"Yes, auntie."

"Now, who knows how to sew on a button?"

"I do; everybody does," said Jamie, "if they have any sense."

"I think so too," said Aunt 'Liza. "Now, how many of you ever sewed on a button?"

There was a silence. "I thought as much," said auntie, solemnly shaking her head, "yet all boys are famous for pulling them off unless they are sewed on with wire. It is a great saving of mothers when boys learn to sew on their own buttons the first minute they can, after losing them. And now, I come back to the needles. They will be always handy if you will put them back when through with them, and it takes but a minute to thread a needle when the cotton is out. Who will try this spring to do so much toward keeping himself in repair?"

"I will, and I, and I," said all of the three.

Good boys! and when you come to think of it, there will be many another little thing of a similar kind that you can do to help mother. Thoughtlessness wastes more mothers every year than you can count. How easy for a boy to throw open his window in the morning and lay off his bedclothes carefully on chairs to air, and all that saves mother. Three lads like you could clear mother's supper table in five minutes, and set things all orderly in their places. Charley might pile the dirty dishes and take them to the kitchen, Jamie take down the food to the hanging shelf, and Roy set into the pantry what goes there. How many steps that would save for mother's tired feet at night. She would wash up the dishes with a happy heart, thinking how kind and helpful her dear boys had grown."

"You shall see, after this," said Roy, nodding his head decidedly. "Mother won't have to look up her kindlings another morning soon."

Auntie smiled, and was glad to see that her little talk had been effectual in waking up the conscience of her little audience, and she was more pleased still, to find that the effect was lasting.

RECIPES.

REMEDY FOR SORE THROAT.—Take 1 tablespoonful of flaxseed, boil fifteen minutes, with 2 cups of water, then strain, add 1 tablespoonful of molasses, and the juice of 1 lemon (vinegar will answer). This mixture will form a soft jelly. Should be taken when cold, one tablespoonful every ten minutes.

FOR COLD IN HEAD AND LUNGS.—Take hops, sage, wormwood, and catnip, one good handful of each, put them in a deep basin, pour on 3 qts. of boiling water, and place on back of stove, where it should simmer for one-half hour. The patient should place his face over the mouth of vessel, and inhale the steam.

A VERY NICE DESERT.—Soak 2 cups of bread or crackers in water, squeeze dry; add the yolks of 3 well-beaten eggs, one-half cup of sugar, cinnamon to taste; stir well, then add the whites of 3 eggs. Fry in small cakes in hot lard or butter. Should be served hot with stewed prunes.

CELERY SALAD.—Stir briskly the yolk of 1 egg and sweet oil, by drops, until the consistency becomes stiff. Add 2 tablespoonfuls of prepared mustard, a pinch of salt and pepper, 3 tablespoonfuls of vinegar. Have ready 3 bunches of celery chopped fine, washed, and well drained, then pour the above sauce over the celery.

STRAWBERRY WATER.—To every pound of strawberries take 1 pound of sugar; place in an earthen dish; stir occasionally until well dissolved; strain, bottle, and cork well. This keeps many years, and makes a good drink for warm weather.

BOILED SALMON WITH SAUCE.—Slice 1 onion in boiling water, add a little salt, put in 3 pounds of salmon, with whole cloves, allspice, pepper, and let them simmer for three-quarters of an hour; keep well covered. When done take up with great care on a platter; let drain well. For sauce, put butter size of an egg in a frying pan, with 1 tablespoonful of flour; when light-brown add part of the water which the fish has been boiled in until it forms a nice gravy; this should boil up a few minutes, then remove from the fire; stir in briskly a well-beaten egg, pour the gravy over the fish; set away to cool. This dish should be eaten cold. A little cream added to the gravy gives it a nice flavor.

C. B., Oregon City, Oregon.

BROWN BREAD.—4 large cups sweet skimmed milk (scalding improves it), 1 cup sour milk, 1 teaspoonful soda, 1 teaspoonful salt, equal quantities Indian and Rye meal; bake one hour and a half in a stove oven, then steam two hours.

PRESSED BEEF.—Take a knuckle bone of beef from just below the round steak. After it is sawed, put into the stew pan, cover with cold water, and set on the back of the stove. Let it stew a day or two until the bones all come out. The water will have dried away a great deal. Chop the meat, not very fine. Season with pepper and salt. Return it to the gravy left in the kettle, and when sufficiently dried away put in a deep dish. When cold it can be cut into nice slices for the table.

FRESH PORK AND POTATOES.—Take a roast of pork, sprinkle it with sage and salt, and put into the oven to roast. Two hours before dinner have prepared enough potatoes for the family; put them in the dripping pan under the pork; when done they should be nicely browned.

BAKED APPLE PUDDING.—Fill an earthen pudding-dish with pared and quartered apples. Prepare a crust of sweet cream, a very little soda and salt. Cover the apples, and put them in to bake one hour before dinner. It can be eaten with sugar or any kind of pudding-sauce.

BREAKFAST CAKES. 1 cup sour milk, 1 cup sour cream, one-half cup sugar, 2 small teaspoonfuls soda, one-half cup currants, well washed, a little salt, flour enough to roll thin. Cut with the biscuit-cutter, and bake in a quick oven. To be eaten cold.

ENGLISH MUFFINS.—Take yeast-bread dough that has risen over night, roll into thin, round cakes, as large as a small breakfast plate. Bake on a hot griddle, turning them over once. When done split them open and butter.

MRS. E. M. F. B., Waterville, Me.

ODDS AND ENDS

Mr. Beecher says that religion that is not mixed with politics and the business of life, is about as useful as yeast that is never mixed with flour.

FRITTERS.—For frittering away time, nothing can surpass novel reading, silly conversation, late rising, and making a business of fancy work.

A GOOD BUILDING SPOT.—A Connecticut farmer who had set out an elaborate scare-crow in his strawberry-patch, was disgusted to find a pair of robins raising a brood under its hat brim.

How high "a license" would a man need to pay for the privilege of keeping his back-yard well stocked with rattlesnakes, or for keeping a few tigers for pets there?

GOOD WORDS FOR ACTING CHARADES.—Arrow-root. Bonfire. Book-worm. Belfry. Earrings. Handsome. Indolent. Necklace. Sentinel. Tennyson. Watchman.

Midas, in ancient fable, was able by his touch to turn anything into gold. Times are changed now; touch a man with gold and he turns into anything.

WELL KNOWN WOMEN.—Allie Bama, Callie Fornia, Flori Day, Ida Hoe, Louise Siana, Mary Land, Minnie Sota, Mis Souri, Mrs. Sippi, Tennie See.

WISDOM AND HAPPINESS.—There is this difference between wisdom and happiness. He who thinks himself the happiest man, really is; but he who thinks himself the wisest, is generally the greatest fool.

FOR REPAIRING FAMILY JARS.—Mutual love, well stirred with forbearance, mixed with readiness to forgive and general good temper, is an admirable cement. It is well to set the family jars on the shelf at once.

ONE WAY TO PAY A DEBT.—"Yes," said Deacon Lee, "let us vote to have a supper and eat ourselves rich. First we will buy some food and give it to the church. Then we will buy it back again. Then we will eat it up and the church debt will be paid.

The smallest post office in the world is kept in a barrel, fastened by an iron chain to the outermost rock overhanging the Straits of Magellan. It is opened by every ship that passes through the Straits; either to deposit letters, or to take them out and speed them on their way. It keeps itself, and asks no salary.

WEATHER WISDOM.

When the weather is wet, we must not fret;
When the weather is dry, we must not cry;
When the weather is cold, we must not scold;
When the weather is warm, we must not storm;
But be thankful together, whatever the weather.

It is a mistake to expect to recieve welcome, hospitality, words of cheer, and help over hard places in life, in return for cold selfishness, which cares for nothing but self. It is painful not to meet with the kindness and affection that you think is yours by right. But you cannot extort friendship with a cocked pistol.

A JOLLY LIFE.—What a jolly life insects must generally lead! Think what it must be to lodge in a lily! Fancy the fun of tucking yourself up for the night in the folds of a rose, rocked to sleep by the summer wind, and when you awake, nothing to do but wash yourself in a perfumed dew-drop, and fall to and eat your bed-clothes!

PROVIDED FOR.—I have always noticed that when a poor, shiftless, good-for-nothing man is sent into the world, some active, go-ahead, little woman is usually fastened to him, to tow him along, and keep his head above water. It is for the best, of course. What would the fellow do without her? At the same time, she sometimes finds it a little hard.

A NEGLECTED HAMMER.—The cause of a leak in a relief light-boat, was found to have been a hammer, which was probably left in the bottom when the vessel was built, thirteen years before. It had, by the continual motion, worn through planking and keel to the copper plating, which alone kept the vessel from sinking. Neglected hammers on a farmer's premises, cause a good many leaks.

TRIMMED BOX.—A florist in New York, has on exhibition some fine specimens of boxes trimmed in many fanciful forms; one representing a cow, another a dog, and one old Bruin himself. It is easily done, he says, when one knows how. The plant is enclosed in a wire "coop," so to speak, shaped like the object, and as it grows, all the outside twigs are closely clipped away, until it just fills its cage, then the wire frame is removed, and there is your bear, dog, or cow.

A NARROW ESCAPE.—One day a little lad in New London fell down an embankment into a mill stream and was hurried along like a chip on the water, straight to the old mill wheel. It was thought his brains would surely be dashed out, but he shot under it like a fish, and continued his perilous journey, going under a bridge and on into a long wooden trough which supplied an organ factory. Half way down the trough he caught at a joist and hung on until rescued. His first words, after being put in a place of safety, were, "where's my top?"

BISMARCK'S BLACK DOG.—Prince Bismarck has a large, lank, black dog, which is his almost constant companion. When he goes to the Emperor, the dog knows it by the clothes he wears, and never attempts to accompany him. When he goes to the Reichstag, the Prince usually walks, and the dog accompanies him to the park gate. There the statesman turns, and raising his hat, politely says, "Reichstag," and the dog drops his head and tail, and turns back reluctantly. Who shall accuse Prince Bismarck of a want of politeness?

A farmer cut down a boundary tree which a neighbor claimed. The neighbor prosecuted him, and the case was carried on from court to court and year to year, until finally it was decided for the prosecutor. The same day he made over a deed of his place to his lawyer to settle up his costs. Houseless and homeless, his sole consolation was the cold comfort to be got from feeling "I've beat him!"

PRESENCE OF MIND.—A builder one day ascended to the top of a tall church spire in Auburn to do some work. Suddenly he grew sick and giddy. He was alone one hundred and fifty feet from the ground, on a narrow scaffolding. He had the presence of mind to lie flat on his back on the narrow board, and there he lay for a half-hour, as near as he could judge, swinging in boundless ether. Gradually the nausea passed away, and he was able to arise. After growing again steady in nerve he finished the work.

NOT CONTENT.—An old lady whose son was sentenced to ten years imprisonment was greatly surprised and distressed over the sentence. She felt called upon to expostulate, and stepped up before the judge and said, pathetically, "Why, Judge I've known John a sight longer than you have, and I know he won't be contented there a week." But John had to serve ten years with no body to ask what degree of contentment he was able to enjoy.

A COLT IN THE WELL.—Two lads were left alone at home one day, when a favorite colt fell into an open well about twelve feet deep. It was large enough to allow him cramped standing-room, but how to lift him out was the puzzle. There was a quantity of straw near, and the nine-year-old boy suggested that they throw it in by the armful until the colt could reach the top. They tried this plan, and the straw was tramped down as fast as supplied, and at length their pet walked out on straw bail.

Vast beds of phosphatic rock have been discovered in Mississippi, and the discovery will be a boon to the agricultural interests of the South and West. Farming lands are becoming rapidly exhausted of their phosphates, and they are the most expensive part of all manures to replace. The supply of bones, which once constituted alone the supply, is now wholly inadequate to the demand, and recourse must be had to mineral phosphates, such as are found in South Carolina, and are now reported to be discovered in Mississippi. The discovery will be an important one to the vast agricultural interest of the United States.

NIGHT ON THE FARM.

Now all clucked home to their feather beds,
Are the velvety chicks of the downy heads,
In the old Dutch style with the beds above,
All under the wings of a hovering love,
But a few chinked in, as plump as wrens,
Around the edge of the ruffled hens.

With nose in the grass the dog keeps guard,
With long-drawn breaths in the old farm yard,
The cattle stand on the scattered straw,
And cease the swing of the under jaw.

* * * * *

And everywhere the pillows fair,
Are printed with heads of tumbled hair,
Time walks the house with a clock-tick tread,
Without and within the farm is abed!

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CONTENTS OF THIS NUMBER.

EDITORIAL COMMENT.

May. A new impulse is given to the land. New life springs up everywhere. All of nature's forces that have been dormant for a long time, are active. The skies are cloudless, and the fields are green. It is a time of love, of good will, of cheerfulness, of bright hopes. Here nature sets an example that is worth imitating. Let the farmer stop grumbling about hard times, low prices, the weather, and other things. He has every reason to look hopefully and cheerfully into the future. With steady hand he holds the plow and turns over the soil just the way he wants it, and the way that will prove the most profitable for him and his purposes.

Let him show the same steadiness in other matters. The great American farm has a wonderously fertile soil, and prosperity cannot fail to grow thereon, though it may periodically be covered up by a few inches of soil, which must be reversed. Grumbling only serves to make a bad matter worse; while with steady work you can soon prepare a mellow seed bed, and prosperity will be the result.

May, for the more Northern States, is the chief month of planting. A thorough preparation of the soil is an essential factor. This, in particular, is the case with potatoes. Plant them on well pulverized land, four inches deep, and using a sufficiency of seed, which varies with the variety planted, with the condition of soil, and the cost of seed.

Corn should be planted as soon as the ground has become warm and danger from late frosts is past. We strongly advise planting deep enough, say three inches, or more, so the field can be harrowed in eight or ten days after planting, without fear of damaging the young plants by the operation.

The garden should not be neglected at this time.

Some early kind of sweet corn may be planted long before it would be safe to plant field corn. Should a late frost injure it, but little is lost, and the patch can be replanted at once.

There is no better variety of sweet corn than Black Mexican. None can compare with it in tenderness; try it. Repeated plantings of this may be made. The best variety for late use is Stowell's Evergreen.

Also make repeated plantings of lettuce, radish, peas, cabbage, etc.

Young boys and colts should not be put to very hard work. We know many young men suffering with some of the infirmities of old age in consequence of having been forced to exert all their strength in pulling and lifting in early youth. Be careful with your boys. They need employment, but it must be of a light nature, else they break down before reaching manhood. And thus it is also with young colts.

Pasture time has come again. Prepare your stock for the change in their food gradually. Do not turn out to pasture as long as the grass is short. Do not turn stock into new and rank clover, when wet with dew. Do not leave them in such clover fields too long for the first few days. Working horses should not be turned out into the pasture. Keep and feed them in the stable. Then they will not waste their strength in useless frolic, and you can find them when their services are needed.

If, however, you *must* pasture them, take some oats, meal, or salt with you into the field, and teach your horses to come to you when you call them. Kindness is cheap and effective. Your horses will not come to you if you lose your temper and throw stones and sticks, and—worst of all—profane language at them. Keep working horses as quiet as possible, and never pasture them with colts in the same field, nor is it profitable to pasture fattening stock together with any other which might disturb their quietude. Milch cows also do better when pasturing by themselves.

Before you pasture look at the fences in the pasture lot. You will find it just as easy now as later, when the cattle have broken out and gotten into mischief. Besides, the cattle soon learn how to tear down a poor fence, and afterward, if you build a good one, they continue to practice on it.

Now, while we think of it, do not forget that the farmer's wife has faithfully discharged her domestic duties during a long winter. The days were short, and you have had an easy time of it, comparatively speaking. But there was not much of a let-up on your wife's work. The daily routine of her life is nearly the same throughout the year—cooking, washing, mending, sewing, cleaning house, etc. She has walked the floor with the baby, sat up nights with the sick children, perhaps with you, sit.

Now you have one or two extra hands during the planting season, in haying and harvesting, she needs some efficient help also. Hire the washing and ironing done, if nothing more. You buy all the labor-saving contrivances for your own benefit. Is she provided with a washing machine, clothes wringer, etc.? Do you compel her to do the milking and churning? The self-sacrificing creature is so ready to help and overexert herself. Will you let her do it?

She needs fresh air after the long confinement indoors. It is so beautiful everywhere, with the trees in blossom and the birds singing. Give her a chance to enjoy it.

Nor should the farmer's wife be deprived of the enjoyments that flowers can give. She appreciates the beautiful. It cheers her and keeps up her spirits in the dry routine of kitchen life. She wants flowers. Her nature demands them. Help her to fix up a nice bed of Geraniums, or Phlox, or Verbenas, or Coleus in the front yard. It makes home attractive and helps to make the children appreciate farm-life.

Semper semblans. The beautiful for the beautiful; and a faithful wife, no matter how plain she may be, as long as she does her duty as well as the average farmer's wife, is a beautiful creature, and deserves appreciation.

What splendid orchards and what abundance of fine fruit the Southern farmer might have if he but knew how to treat his trees! It is very seldom that we have seen a Southern orchard that was not covered with a growth of weeds three or four feet high. Part of the lower branches of the trees, peach as well as apple, lay upon the ground, and are hidden by the weed growth. Trees have never—or hardly ever—been trimmed. Many of the branches were broken, and left where they fell. It is a perfect chaos. Many farmers do not wish to take off the superfluous limbs, for fear of losing the fruit that will grow on them. Inferior fruit must be the result of this false economy.

The neglect to trim the young trees, and the lack of the knowledge, "how to do it," which is *very* general, is at the bottom of all this mischief. If you have young trees, one or two years from the setting, do not fail to trim them judiciously, and in such manner, that they will develop into a desirable shape. Not more than three or four branches should be left on the body, and these higher or lower, according as you wish the tops of your trees high or low.

Always cultivate a young orchard. Afterwards seed to clover or other grasses, and pasture with sheep or hogs.

We find another thing in the Middle Atlantic States, which strikes us as very curious. In spite of all the climatic advantages that these States have over more Northern States, the average hen has, at this writing, (April), laid but few eggs. Northern people have commenced setting hens and raising chicks. No preparations are made to do so further South. Why not?

Chickens, for instance in Virginia, might now be large enough to be shipped to the Washington and Philadelphia markets.

The practice of applying nitrogenous manures to mucky soils is like carrying owls to Athens, like sweetening honey with sugar, or like stimulating a drunken person with alcoholol. The homeopathic principle, *similia similibus*, does not hold good in this case. All soils which consist largely of decayed vegetable matter—after thorough drainage—are benefitted after manuring with lime, ashes, kainit, sand, and phosphoric acid. These ingredients will pay better than farm-yard manures.

Verbenas are easily grown from the seed, and much more vigorous than plants from cuttings. A ten-cent paper of seed will give you all the plants you want for quite a large bed. It may be best to start the plants in a box or pan, or they may be sown right where you want them. We find a bed of seedlings much more satisfactory than one of such plants as are generally bought of the florists. Let the good woman remember this.

Mrs. Lizzie Cotton, whose acquaintance has proved to be *very dear* to many of our bee-keepers, has found means to escape the vigilance of "farmer" Atkinson's watch-dog. We see her "ads," in one or the other of the more careless agricultural papers, but as for an editorial endorsement we had thought that a thing of impossibility.

"Lizzie" has been exposed as an old fraud. Her high-priced model bee-hive is a very *small* model, and *a full-sized hive, made after this pattern*, is no better than any common, movable comb hive. She has for many years swindled the gullible bee-keepers so persistently that even her sex was questioned. Has she now turned over a new leaf? Has she become honest? The change is almost too sudden. Let our friends steer clear of her.

To manufacture by hand the envelopes which are used in this country would require the labor of a quarter of a million of men. The last census shows that but 1204 persons were employed in the manufacture of that article. We see herein the superiority of ingenuity over mere mechanical labor, and the reason why America and her inventive skill can successfully compete with the "pauper labor" of Europe, and why the American manufacturer can afford to pay better wages than his foreign rival.

Thorough preparation of the soil and liberal feeding, together with good seed, will insure success in growing cereals, every time. Bear this in mind.

Have you given due attention to that question of "cooperation" in the dairy business? Would it not pay the farmers of your neighborhood to establish a central gilt-edged butter manufactory? Will you not consider the advantages of that proposition, and confer with your neighbors about it?

A number of our correspondents have been so well pleased with our "First Annual Strawberry Number," that we have been obliged to print a number of extra copies of that issue. We can now furnish them for 5 cents each to all who are interested in this fruit.

We have been so well pleased with the success of our special number devoted to strawberries, and so surprised at the interest it has excited, that we have planned a series of special issues. The first three of these which we now announce are August, Sheep—the breeds, methods of care, clippings, with a review of the prices of wool, etc. It will be illustrated with a number of fine cuts, and contain more useful information than many books devoted entirely to the subject.

We are asked to name a good fertilizer for roses. Soot is to be recommended as a top-dressing. For roses in flower-pots, we know of nothing better than a mulch of moss, which was sprinkled with Food for Flowers (Bowker's) or bone-dust. A few drops of ammonia mixed with the water used for them is also good. Watch the aphis on roses and verbenas. Exposure to tobacco smoke will kill the pest.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of the FARM AND GARDEN, *even though he takes no other paper can feel in a measure acquainted with all the leading publications.*

From "Farmers' Review," Chicago, Ill.

From March 1st, 1884, to March 1st, 1885, the number of hogs packed in Chicago was 4,228,205, being 316,000 more than in the previous year. We have not at hand the figures showing, in addition to these, the number received here and shipped to the eastern markets or consumed in the city retail trade. Taking the number packed as given above, the following calculations will be of interest: If formed in double lines, allowing five hogs to the rod in each, they would form in double column, 1321 miles in length, or nearly equal to the distance from Omaha to New York. Allowing an average of 250 pounds, their total weight would be 528,520 tons. This would freight 52,852 cars at ten tons each. Allowing 33 feet to each car, this would make a continuous string of over 82½ miles in length. At an average price of $4.50 per 100 pounds, live weight, their value amounts to the sum of $45,566,306.25. Corn is king, but the hog is, at least, one of his prime ministers.

From "Florida Despatch."

CONCRETE WALKS.

An engineer tells how to make a cement or concrete walk requiring no great skill in preparing materials. These are water, lime, and gravel or ashes, or both. The gravel and ashes are put in a heap and wetted. One barrel of the water lime is mixed with sharp, clean, dry sand, being shoveled over back and forth several times to get a thorough mixture. A portion is then mixed with water into a thin, soft mortar, and five parts of the wet gravel or ashes are well mixed with it, so that every fragment is coated with the combining mortar. This is important for obvious reasons. This concrete is spread on the graded walk and beaten down with a rammer until the moisture gathers on the surface. Some of the dry sand or cement is then scattered over the surface to absorb the moisture and the surface is smoothed over with a plank rubber having a sloping handle to work it back and forth. In a few days this is hard and becomes harder with time. By making divisions of thin strips of wood or tarred paper, the cement may be laid down in blocks, squares, or diamond-shaped, and for extra good walks the blocks may be colored by mixing the finish coat with brown or gray or other colors alternately.

From "Chicago Express."

HOW DYNAMITE IS MADE.

The most powerful engine of destruction ever discovered is prepared in a manner so marvelously easy that the wonder is mankind have not availed themselves of it long ago. Dynamite, from the Greek word *dunamis*, meaning power, is simply nitro-glycerine. The glycerine is a product of animal fat, usually of hog's lard. Take one pound of nitric and two pounds of sulphuric acid, and mix thoroughly. The acids must be of full strength and purity. The mixture will cost 3½ cents a pound. Put seven pounds of it into an earthen jar, and pour upon it, drop by drop, one pound of common crude glycerine, which can be got for twelve cents. Stir with a glass rod, and keep the jar in ice or salt and ice, or the thing will "go off" before you are ready for it. The sulphuric acid does not enter as a constituent into the explosive, but serves to facilitate the chemical union of the other ingredients. When the chemical combination is complete, the nitro-glycerine will be found settled to the bottom, while water and oil of vitriol float on top. These are poured off, and the nitro-glycerine is thoroughly washed, to free it from any remaining acids. It is then complete, a yellowish, sticky, oily mass, which will "go off" almost for the looking at it. It must be toned down before it can be used. This is done by mixing with it a rough powder as an absorbent—either dried sawdust or old tanbark, or pulverized silica. The substance most commonly used for this purpose, however, is a vegetable earth from Germany, which absorbs and holds three times its weight of the explosive. The dynamite of commerce is not full strength, as it would be too dangerous. Commonly it contains forty per cent. nitro-glycerine to sixty of the earth. In this state, as an explosive, it is four and one-half times as powerful as gunpowder.

Prof. Burrill, in "Prairie Farmer."

POTATO SCAB.

THE CAUSE OF THIS AFFECTION OF THE POTATO NOT WELL DEFINED.

The cause of the injury called "scab" upon the potato has not been well worked out, and it cannot be asserted as certainly known. Probably several diseases are included under this common name. But a negative point, which may be considered thoroughly settled, is that insects are not the authors of the mischief. There is, to be sure, an appearance of insect work, but nothing whatever has been observed to prove that they have anything to do with the malady, while many facts disprove it. The disease has been attributed to earth-worms, but in this again we have only guess-work, and the negative evidence is quite strong. One or more species of fungi have been accredited with destructive work, yet little is really known about these as agents rather than results. A fungus named Rhizoctonia Solani is found on potatoes, leaving either singly or in groups, little pustules in the skin, making a peculiar roughness, which is called a scab by many. This, however, is certainly different from the corroded spots to which the name is more appropriately applied

If any one will take the trouble to look at the year-old twigs of most trees and shrubs, he will readily find in the bark little light-colored, rough specks. These are known to botanists as lenticles, and consist of cork-like formations, the cells of which soon lose the power of absorbing water, and of course die. They are, however, normal growths, and cannot be classed as disease products. They likewise occur on the potato tuber, which it is worth the while to remember, is a true branch of the stem, and in this respect is like ordinary aerial branches. But it is claimed that under some circumstances these lenticles are beginning points of rupture and decay in the skin, and that the final result of this is the scab, without the intervention of any living external agent. Too much water and too much nitrogenous manure are the principal causes given for the cork-like development. The disease is certainly worse on rich and wet land. In answer to the question I will say that, so far as known, the depressed, rough spots on potato tubers, usually called scab, are the result of normal growths carried to an excessive and destructive development through surroundings adverse to the potato, and that there is nothing of a contagious character in the malady. The scab on the seed cannot, in this view, affect the next crop. The difference in the structure of the skin of different varieties, is quite enough to account for the facts noted in the letter of inquiry.

From "Journal of Progress."

ABOUT FILES.

How many of our readers know that the file is first mentioned in the Bible (see 1 Samuel, xiii, 21), nearly eleven hundred years before Christ? The file is also spoken of by Homer in his Odyssey, eight hundred years before Christ.

The blanks from which files are made are first formed by blacksmiths, quickly. They are then made very soft and ground to shape. In this shape they are given to the cutter, who sits astride a wooden bench and has before him an anvil, or block of stone, iron, or wood, upon which is laid a strip of pewter; on this strip of pewter is placed the blank, with the tang or tail toward the cutter.

Over the blank, and passing under the feet of the operator, is a stout leather strap, for the purpose of holding the blank in position. In the hand of the cutter is a short, stout chisel, which he places in position on the point of the blank, the top leaning from him at an angle of twelve to fourteen degrees. With a heavy hammer the first blow is struck, and the first burr formed on the blank. The chisel is now drawn forward and again pushed back and rests against the burr just formed, which serves as a guide for the next cut, and so on until the whole length of file is cut.

The object of holding the chisel at an angle from you is to form the burr in the shape of a saw tooth, and not like a V, which would be the shape if held perpendicularly.

The distance between the teeth is owing to the force of the blow. Thus, a hard blow makes a coarse file and a light blow makes a fine one.

Double cut files are made by making a second cut, similar to the first, only the blow is lighter and the position of the chisel is changed to cut across the first row.

To harden, they are coated with a mixture of flour, salt brine, and charcoal dust, to prevent the teeth from burning.

They are then placed in a bath of melted lead, one at a time, until they become red-hot. They are then withdrawn and a blow struck with a lead hammer, the file being laid on a pewter block to straighten it, if bent.

The object of striking it is to free it of burnt scales. It is now plunged into cold salt brine to temper.

The tangs now have to be drawn and the file scoured by brushing with fine sand, after which they are washed in lime water and then thoroughly washed and dried, rubbed with turpentine and oil, and are considered finished.

From "Joseph's" book.

MONEY IN POTATOES.

LESSON 15.—*A sufficiency of seed is the basis, the* conditio sine qua non *of our 400 bushel crop on common farm soil.*

The amount of seed influences the yield fully as much, if not more, than any other single thing or circumstance, degree of fertility not excepted.

Let us look at the theoretical side of the question. The chief function of the foliage is of a digestive character. The storage of a considerable amount of pulp in tubers, like the accumulation of flesh and fat in animals, is utterly impossible, even with an abundance of food, unless the digestive organs are fully developed and in perfect working order. You might make light of the absorptive powers of the foliage—as feeders in the air—or of the benefits derived from their services as mulch (which are not to be despised in a dry season), yet, you cannot dispute away the fact, that a diminution of the product in flesh or tuber, must be the inevitable consequence of every mutilation, crippling, or retarded and imperfect development of the digestive machinery. This influence of the amount of foliage upon the yield, is fully established by the comparative yields of early and late, that is of dwarf (low top) and tall varieties, the latter out-yielding the former, generally, in about the proportion of their tops.

LESSON 16.—*The larger the seed piece, the earlier and more thrifty will be the growth of the tops.*

How is the desired luxuriance of the foliage, and particularly its *early* development to be obtained? By accepting Nature's method of seeding. If we want to raise a fine calf we let him suck all the fresh milk he wants. No substitute will fill the place of that diet; and without it, great care is required in bringing him up. Nor is there any food that agrees with a new born babe as well as the food which Nature intended for it—a healthy mother's milk. The analogy between these instances and the case of the potato plant is unmistakable. The mother-tuber contains the natural food for the plant in sufficient quantity to support the young growth, to supply it with a large number of roots, and thus to make it strong and able to look for its food supply elsewhere. If the infant-food in the tuber is materially shortened or divided among a great number of mouths, by close cutting, the plantlet is thrown on its own resources before having gained sufficient strength, and forced to partake of food little suited for its weak digestion. Retarded growth of foliage, if not a weakly condition throughout the season, with decreased yield of tubers as a natural consequence, is the almost sure penalty of this common error. The single eye system is the root-hog-or-die plan. Repeated applications of liquid manure in the early stages of growth, or frequent rains soaking through a manure-filled soil, may sometimes counterbalance the ill effects of light seeding, but heavy seeding is the only method applicable to general field culture.

T. F. Baker in "Weekly Press."

MY CELERY HOUSE.

I have used this house for three years for storing and blanching. It will hold 30,000 stools, and I have not lost five dollars' worth from rot or other causes. The plants have been well blanched, crisp, and without rust or earthy flavor. I have no trenches to dig, no banking for winter, and less earthing during growth. My stock can be inspected any time, taken out in cold or rain or at night, cleaned, washed, and packed for market in the same place. Celery once handled can here be blanched in three weeks, and the temperature can be kept cool and damp, to ensure the best quality.

The cellar, sixteen by forty feet, and three feet deep, has a wall eighteen inches thick, and rising a foot above ground, upon which plates for rafters are bolted to keep the roof from spreading. Inside the house is four feet high at the eaves and eleven at the peak. The ends are weather-boarded on both sides of six-inch studs, and filled in with sawdust, which is also packed between the roof and a lining of rough boards nailed on the lower side of the rafters. This is frost-proof, and protects against sudden changes. A ventilator, ten inches wide, which extends the entire length of the roof at the peak, with lifting lid, worked by a lever inside, admits air when needed, and allows the escape of any heat that may generate from the celery. A door at each end, lined and packed, a small window over each to admit light, and steps to get down with, complete the house, costing about $200.

In putting away the celery, posts are set in the ground ten inches apart, beginning at each side of the end of the house and coming toward the centre which gives seven to the side, leaving a passage-way two feet wide through the entire length of the building. Three sets of posts on one side and four on the other will just suit sixteen-feet boards, two and one-half lengths on one side and two lengths on the other, with a space eight feet square for a washing-tank and room to prepare for market. Beginning next to the wall, we nail a board one foot wide to the posts, so that the tops of the celery are even with the top of the board, leaving a space of from four to six inches between the bottom of the board and the ground, through which one hand can be thrust to pack the roots, while the other holds the tops of the celery above. We have some loose, rich soil to throw over the roots, but not on the stalks. After the trench or box is full from end to end, with a hose throwing a small stream, we wet and settle the soil around the roots, which form new rootlets in a few days. We never handle when wet or damp from any cause, neither allow the stalks to be wet when watering the soil around the roots.

After the house has been filled about five days, care must be taken to give proper ventilation at the top, as there will be a violent heat created by the mass of celery so packed, and unless that heat is allowed vent, rot will follow. After this heat subsides there will be no further trouble or danger though it is best to ventilate freely in warm weather, but always from the top.

CORRESPONDENCE.

GROWTH AND COST OF SPRING CHICKENS.

WHAT THE EXPENSES ARE.

We append below a letter from Mr. H. Blanchard, Fresno Flats, Fresno Co., California, in which he gives some figures in feeding to which we invite attention:

"In answer to your article on Growth and Value of three-months Birds, let me say right here that the correspondent who wrote that article for the FARM AND GARDEN must have laid and hatched his own chicks, and fed them on wind.

Last year I kept 100 hens. I fed 2 tons barley, $40; 2 tons middlings, $40; 2 tons shorts, besides stuff from the garden, $40; total, $120. Sold 400 dozen eggs at 25 cents per dozen, $100; set 4000 eggs, hatched 75 per cent.; lost in rearing 10 per cent.; balance at 3 months old, $2600. Sold in San Francisco at 30 cents per bird; commission and freight off 5 per cent., 15 cents for raising, net 10 cents, or $260. You will notice that old hens paid for their food for the year, leaving $260 as profit. These fowls were confined. I used no incubator, but kept 30 head of turkeys that hatched out three broods without leaving the nest—9 weeks. I fed a fraction over one and one-fifth pounds per head, a day. Those, $75, $100, and $150 prices belong to the middle-men, not to the producer."

We think the above a good showing, and Mr. Blanchard was correct in making incubators of his turkeys.—*Poultry Keeper.*

Editor FARM AND GARDEN:

Mr. H. Blanchard, of California, in his letter published in the *Poultry Keeper*, probably refers to me and my list of weights of growing chicks, when he asserts "that the correspondent who wrote that article for the FARM AND GARDEN must have laid and hatched his own chicks, and fed them on wind."

My list of weights, as well as the reported amount of feed, being ascertained by me personally and with great care, given in one of the issues of FARM AND GARDEN, were doubtless correct, and I fail to see anything very remarkable about them.

I know very well how to make my hens do the laying at the very trifling cost of one-half cent per egg, but if I could not coax them to lay more than eighty-eight eggs a piece per annum, like Mr. B., I would be tempted to quit the business, or have him teach me how to do my own laying.

The hatching part, also, was consigned to the faithful hens, who deserved and needed a resting spell. The incubation and rearing of the chicks, therefore, was not connected with any loss or great expense.

The chicks, if I remember rightly, were weighing about two pounds when two months old, and worth at the time not less than fifty cents a piece in the Philadelphia market. The total amount of feed given them (three times a day, all they would eat) was certainly small enough, but I have no means of knowing how much they picked up on their hunting expeditions over an unlimited range.

I still hold that the farmer—and particularly in the more Southern states—has all the facilities for producing spring chickens in reasonable numbers (hatched and reared with hens) without much trouble and expense, and at a time when they command very paying prices in the city markets. Let him teach his children how to do it, and give them a share in the proceeds. He will soon see gratifying results. JOSEPH.

✢

Ella Wilson, of Pettis County, Mo., a little girl 10 years of age, sends us a well written letter, and a club of 30 subscribers. This is the kind of a young lady we like. We wish we had more of them. Young ladies do not let her beat you. We have room for more, and shall always be glad to hear from our young friends.

✢

J. R. Walthour, Jackson, Tennessee, asks for the best cement for cisterns, cost, and how to use it, proportion of sand, etc. Answer—The English Portland cement is best, but that of Rome & Rosendale, New York, is nearly as good, and much cheaper. The cost varies with the freight. In New York it is very low, but is increased by the freight when transported to remote points. We gave full particulars for use in February number.

✢

A subscriber, Marthaville, La., asks: Can machinery suitable for mill for ginning cotton be purchased on time? Answer—We think it can, if good security is given. It would be better to get a man with capital to set up a gin near you, and give him all the cotton in your vicinity.

✢

G. W. Stein, M. D., Alhambra Springs, Montana, asks where to get the genuine Wealthy apple. Answer: Write to Peter M. Gideon, Excelsior, Minn., who is the originator of the apple.

E. R. Pennington, Baskingridge, N. J., asks, will White Leghorns and Plymouth Rocks make a good cross for market and winter layers? Answer: We prefer White Leghorns crossed on Light Brahmas. They make a larger fowl for market, mature early, and are also fine layers. The cross with the Plymouth Rocks we do not think will be as profitable as the one we recommend.

✢

A subscriber from Butler County, Pa., says the recipe we gave for the condition powder on page 15 of February number, contains too much antimony. She is told by her druggist that there is enough black antimony in it to kill twenty cows. The FARM AND GARDEN is right and the druggist wrong. The condition powder we gave the recipe for was a tablespoonful at a dose, which is safe and valuable. Subscriber can always depend on the FARM AND GARDEN being right.

✢

A. Booth, Boston, Erie Co., N. Y., asks for a little light on the Le Conte Pear, Russian Apricot, and Russian Mulberry. Answer: We gave a description of Le Conte Pear in February number. The Russian apricot, we fear, has need of a further trial before we can recommend it. The Russian mulberry is valuable only for a very cold climate where our native kinds will not grow.

✢

Subscriber, no State, asks what will make an apple tree bear that blooms very profusely every spring, but when the apples are as large as peas, they fall off. Answer: It often happens in young trees that the rapid growth of wood takes the sap from the fruit, and being deprived of nourishment, dies and falls off. When this is the case, it will in time produce, and when once in bearing, will be checked in growth and will be productive. But if it arises from the tree being a worthless bearer naturally, it will never be of any value, and will not produce. If the tree is of the latter class we should top-graft it to a good-bearing variety. We have no patience with a poor-bearing tree, we always dig up or top-graft them.

✢

LONG CUTTINGS OF GRAPES.

A few years ago I planted a lot of grape cuttings about a yard long. I dug holes one foot deep and one and one-half feet across, put surface soil in the bottom of the holes, and then curling round the cuttings in these holes, brought the tops of the cuttings to the surface, filling the holes with good soil. They grew about four feet the first year, and blossomed the second year. I have a number of those vines now bearing regularly and doing well. The short cuttings failed at the same time. W. W. MEECH, *Vineland, N. J.*

J. W. Ferguson, Langworthy, Ia., asks how to sow mulberry seed. Answer: Sow in a warm place; cover lightly, and when started keep them well watered and shaded from the hot sun. Plant in a well drained place, where the water does not stand. In winter it is best to protect them while very young; they will soon be very hardy. We have never heard of a case of twin colts like yours.

✢

T. E. Bondenot, Davenport, Ia., asks how to get land into grass and meadow early and profitably. Answer: Manure heavy with stable manure at once, and in spring sow oats, with one bushel of clover and one of timothy to six acres, and roll hard. We believe in heavy seeding to grass. There are so many causes for failure in grass making, we are always inclined to seed heavy, even more than we have recommended.

✢

Charles R. Glassen, Sylvania, O., asks who makes hand threshing machines. Who can tell him?

✢

E. D. E. Long, Pine, Neb., asks: 1.–For best varieties of grapes, raspberries and blackberries for Nebraska. 2.–The modes of root grafting. 3.–Which is the best incubator. Answer: 1.–The American Pomological Society gives two stars, the highest recommendation, to the Concord, and Delaware, and one star for Catawba, Clinton, Crevling, Diana, Goethe, Hartford, Iona, Isabella, Ives, Martha, Norton's Virginia, and Salem for Nebraska. Raspberries, two stars for McCormick, one star for Franconia, Gregg, Hudson River, Antwerp, and Philadelphia. Blackberries, two stars for Snyder, and one star for Kittatinny and Wilson's Early. Nebraska is a large state, and there is a difference of climate in different sections. Look well to see if you are making a selection just suited to your locality. 2.–Answered in the April number. 3.–Hard to tell. Some fail with any of them; some succeed with all. It is more with the person's skill who uses them than with the incubator. All require care and attention, and also experience to prove successful.

✢

John Stepshon, Lancaster, Pa., asks how to drive away or catch hawks. Answer: We prefer to catch them, which is easily done by setting a post in any part of the farm where hawks are most likely to watch for birds. There are always such places on the farm where they are sure to frequent more than others. Fix upon the top of the post a common steel-trap, using no bait, and the hawks will settle on the trap and be caught. We have caught in one trap set on a post, six by six inches square and about eight feet high, over *seventy-five* hawks in the last three years, and the post is still doing duty. Set your post and trap along some fence in a secluded part of the farm, and begin a regular hawk crusade.

THE POULTRY YARD.

(Continued from page 2.)

GROWTH OF YOUNG CHICKS.

It is not worth the trouble to discuss at great length the cost of production of spring chicks. This is merely or mostly a question of price for cereals and of management. If we depend mainly on grain for production of chicken meat, it will make a difference of one half, whether wheat sells for $1.50 and corn for $1.00 per bushel, or for 75 cents and 50 cents respectively.

The same variation in the cost may be a result of different management. Some people may need 6 pounds of grain or meal to make a single pound of chicken, while we have shown in the table of weights, given in a previous issue, that we obtained two pounds from the same amount of feed.

On the other hand, when grasshoppers are plentiful and with unlimited range, a few hundred chickens or turkeys can often be produced at less than one cent a pound. In such a case, the raw material is composed chiefly of insects, weed seeds, grains shelled out in harvesting, etc., in short, of articles which are very valuable as flesh-giving substances, but which would be lost and wasted unless thus utilized in chicken growth.

For this same season the farmer can raise his one or two hundred chickens at much less expense per pound than the professional "chicken growers" who raise thousand with the help of incubators.

We have thus far wholly ignored the expense of the production of a newly-hatched chick weighing 1¼ ounces. The "professional," who often has to *buy* eggs for hatching, without knowing *what* he is buying, and who by the use of high-priced incubators hatches thousands of chicks at once, may have to put the price of a single newly-hatched chick at 10 cents, while the farmer, who pays little attention to this branch of business, and lets his hens do the laying and the hatching during a natural resting spell, will hardly admit the little things cost him 2 cents a piece, when they first emerge from the shell.

We still believe, and our experiments justify us in proclaiming that a pound of chick, under judicious management, can be produced at an expense not exceeding 5 cents (at least with the present price of cereals), Mr. Blanchard to the contrary notwithstanding.

POULTRY SCRATCHINGS.

THE DAMP DAYS.—Look out for the chicks on damp occasions, as dampness is more fatal to them than cold.

MILK.—Sour milk, buttermilk, refuse from cheese factories, and even whey, may be mixed in the soft food with advantage.

GUINEAS.—Hatch them under hens, and keep them dry. Feed the same as for young turkeys, at first, but after they are a few days old, they may be fed the same as young chicks.

MEAT.—If you cannot procure meat, use blood from the slaughter house, by boiling it in a gluepot, or vessel within another, stirring in plenty of corn meal and oat meal until the mass is very thick.

MATING.—Avoid putting large, heavy cocks with small hens, as damage may be the result. But small, active cocks may be placed with large hens. Look for size in the hen, and activity in the cock.

GREEN FOOD.—If there is no grass, steam clover hay, or give chopped onions, (top and bulbs), with cabbage. Boiled turnips, potatoes or carrots, are also excellent. Even the potato peelings may be utilized.

FEEDING SOFT FOOD.—Never throw it on the ground, as gapes and cholera will in time be the result. Make small troughs, and when the hens have finished their meal, clean the troughs thoroughly, washing them occasionally.

HENS EATING EGGS.—This vice is ineurable when once it becomes a habit. It may be prevented, however, by constructing false bottoms to the nests, so that when the eggs are deposited, they will roll out of the reach of the hen.

CHICKS DYING IN THE SHELL.—This is peculiar to the breeds that lay the dark eggs, the shell being, usually, harder and thicker than the white ones. Sprinkle the eggs with tepid water once a day, for two or three days before the period for hatching.

MARKET THE CHICKS.—Never wait for a rise in the price of young chicks. It never comes. As soon as asparagus appears in the market, is the time when they may be sold to good advantage. When once the prices begin to decline, they go down until the "old hen" standard is reached.

BUYING STOCK.—Never bring a hen into your flock until you have quarantined her, or disease may appear in the flock. In buying a lot of hens select those with bright red combs, clear eyes, good legs, and clean plumage. Notice that they are clear of filth on the beak and rear parts, and use the nose for detecting odor of roup.

THE DROPPINGS.—In summer the droppings render the poultry houses very offensive, and should be removed, at least twice a week, or an absorbent used in order to disinfect them. One part plaster and three parts dry earth is excellent as an absorbent as well as a disinfectant. Another method is to sprinkle dry earth with chloride of lime or Carbolic acid, and use the earth freely under the roosts.

HENS EATING EGGS.—This vice is not easily cured. Make the nests in dark places, so that the hens cannot easily see the eggs, and have the strips in front high enough to prevent the eggs from rolling out of the nests. The habit is usually formed by the hens first eating the eggs that have rolled out of the nests on to the floor, and if this temptation is removed, the difficulty will not be so great.

THE PULLETS.—Remember that early-hatched pullets are the ones that begins to lay in the fall, and continuing to do so during winter. Endeavor, therefore, to hatch them this month, if you have not already done so. A Leghorn cock in a flock of heavy hens, will produce pullets that will lay in the fall, and that will also make good winter layers, if kept warm and in good condition.

EARLY RYE AS FOOD.—Those who followed our advice last fall, and sowed a patch of rye for the hens, will find themselves fortunate. A lawn mower, passed over a portion of the patch, will cut all that may be desired for a day, and it will grow up again to furnish a fresh supply. It may be pulled by hand and thrown into the pen, if preferred, and will furnish a bountiful crop until the regular grass comes in.

THE DORKING.—In England the Dorking is regarded as the most desirable of all fowls for general purposes. It excels for marketing and the table. It is up to the average as a layer, but does not equal some of the other breeds. In this country the chicks are not as hardy as are those from our well-known Asiatics, but their close and compact bodies make them attractive, and good prices are realized from their sale.

USE PLENTY OF COAL OIL.—The cheapest method of avoiding lice, is to swab the roosts with coal oil once a week. It may be mixed in proportion to one quart of coal oil and one gallon of milk, as an emulsion. Now slack enough lime in warm water to make a bucket of whitewash, and to each bucket of whitewash, add one quart of the oil and milk emulsion. Use it freely on the walls and every part of the poultry house, and the lice will be destroyed.

SCALY LEG.—An ointment for eradicating the accumulated matter from the legs of fowls afflicted with scaly leg, may be made as follows: Sulphur, one tablespoonful; carbolic acid (liquid), one teaspoonful; lard, one ounce. Mix the ingredients intimately, and after washing away the dirt with soap and water, anoint the legs, from the thighs to the toes, well. Repeat the operation once a week. Three or four applications will usually be sufficient.

TO MAKE YOUNG CHICKS GROW.—Cook one pint of oatmeal in sufficient water to make a thick porridge. While cooking, add three eggs, well beaten, and a pint of milk. Allow it to boil a few minutes more, then thicken stiffly with corn meal, and feed twice a day. A few chopped onions, cooked potatoes, or turnips, will make it more palatable and varied. In addition to the two feeds of the mixture, the chicks should have one other kind of food, as a variety, that may be convenient.

GEESE.—The best geese for feathers are the Embden, they being entirely white. The best for market is a cross of the Toulouse gander with the Embden goose, which produces offsprings larger than either of the parents. Geese cost but very little if allowed the liberty of the fields with access to a pond or stream, but to attempt to make them profitable without such advantages, will result in failure. The cost of raising a goose may be as low as twenty-five cents, actual outlay, or it may be as much as two dollars. Everything depends upon the possession of the proper conveniences for keeping them.

YOUNG TURKEYS.—The turkey hen will make her nest away in the fields if given liberty. By removing the eggs she will lay a larger number than if they are allowed to remain. Although the eggs are often hatched with chicks under hens, the turkey hen is the best mother. Dryness is the most essential requisite for young turkeys. Feed them on hard boiled eggs for two or three days, and four or five times a day, giving a small quantity of mashed potatoes mixed with chopped onions. Then feed on clabbered milk, oat meal mush, and continue the chopped onions, allowing meat in a fine condition once a day. Do not keep them too closely confined.

CROSSING PLYMOUTH ROCKS.—The Plymouth Rocks are liable to become very fat when highly fed and under confinement, and in such cases they may be crossed with the Dominick, advantageously. Of course, there are other suitable crosses, but as the Plymouth Rock and Dominick are alike in color, and other respects, except size and comb, the cross preserves the uniformity of plumage and promotes vigor and activity. The Dominick is almost as good at flying as the Leghorn, and is therefore made more compact by the infusion of Plymouth Rock blood. The cockerels of either breeds may be used upon the hens of the other, but the Dominick cock and Plymouth Rock hens should be preferred.

PECULIARITIES OF FOWLS. The feathered leg fowls are the Cochins, Brahmas, Langshans and Sultans. The yellow-legged breeds are the Brahmas, Cochins, Leghorns, Wyandottes and Plymouth Rocks. The hens that lay the darkest colored eggs (shells), are the Cochins and Brahmas, followed in order by the Plymouth Rocks, Wyandottes and Langshans. All the non-sitters, such as Leghorns, Hamburgs, Black Spanish, Houdans and Polish, lay white eggs. The rose-comb breeds are the Hamburgs, Dominiques and Wyandottes, the pea-combed breeds the Brahmas, and the straight, or single-combed breeds, are the Cochins, Games, Plymouth Rock, Black Spanish and Leghorn. The French breeds have horn-like combs.

THIS ARTICLE IS CONTINUED FROM OUR APRIL ISSUE.

Delivered by John T. Lovett before the American Institute Farmers' Club, New York, February 24, 1885.

PEACH CULTURE.

PRUNING.—Perhaps no other fruit tree suffers so much from neglect of pruning, both at the time of planting and in after years, as the peach. This is owing not only to the fact that the peach requires annual pruning—more than almost any other fruit-bearing tree—but also because no other fruit tree receives so little or is so often neglected. In planting, all side branches should be cut back to within a few inches of the main stem—the main stem being severed at about two-thirds of the distance from the ground. Small trees should be pruned to a whip, cutting back the stem very nearly one-half the way to the ground. In order to produce what is known as the bush form—a system followed by many successful peach growers—sever the main stem from twelve to eighteen inches from the ground, causing many shoots to be produced near the earth. Subsequent pruning consists of an annual cutting back of the main branches, forming a symmetrical contour, and a judicious thinning of the branches. The latter, however, is of minor importance, as the inner branches will, without assistance, in a great measure die and drop off.

CULTURE.—Nothing can be more simple than the culture required by the peach. It is simply to keep the surface always mellow and free of weeds. In other words it needs only the culture that one would give corn. For the first two years after planting, hoed crops may be planted between the trees with advantage; after which time they require the entire strength of the soil. Grain crops of all kinds are very injurious, and it is rare that peaches will succeed in sod or grass. In making the annual plowing in spring, it is well to use a light plow, plowing very shallow, that the roots may not be mutilated or disturbed. In keeping the surface mellow and free of weeds I have found nothing so admirable and rapid in performing the work as the Acme Harrow; although anything that will produce the desired result can of course be used.

FERTILIZERS.—As is well known, the peach is a heavy feeder of potash, hence potash should be supplied in some form. I prefer unleached or live wood ashes for this purpose to anything else, provided they can be had at a satisfactory figure, namely, thirty to thirty-five cents per bushel, delivered. I have also employed muriate of potash with good results. I prefer to apply broadcast always in spring and harrow in. The peach also demands a liberal supply of phosphoric acid. This is to be obtained in its best and cheapest form in pure ground bone, or at least I have always had a good success from using this fertilizer. I do not recommend using stable manure for the peach, the tendency being to produce an undue leafy growth, rendering the trees unproductive and more susceptible to injury in winter.

ENEMIES AND DRAWBACKS.—The chief enemies of the peach are the grub or borer, and that terrible scourge, the yellows. The former is easily overcome. All that is necessary is to examine the bodies of the trees early in the spring, and extract the grubs with a sharp-pointed blade of a knife. They will be found just beneath the surface of the soil, and their presence will be readily detected by the gum formed from the exuding sap. As a preventative of the borer, place at the base of each tree a shovelful of slacked lime or several of coal ashes. The yellows, which have proved so disastrous to peach culture in many parts of the country, have recently been, I think, conclusively demonstrated by Prof. Burrell and Prof. Grossman to be the result of a fungus, and since the disease—if such it can be termed—is understood, I think we can handle it successfully. Many trees supposed to have the yellows are not in reality affected with the disease, their sickly appearance being the result of improper nourishment in the form of potash and phosphoric acid. I have known trees that were affected with the yellows *in reality* which were restored, not only to vigor but also to fruitfulness, by a liberal application of muriate of potash and severe pruning. These are the only remedies that I have to offer, and I am thoroughly convinced they are the only ones necessary to battle with this dire enemy. The drawback to peach culture in the vicinity of this city and northward, however, is the killing of the buds in winter. As many are aware, prior to the winter of 1881-82, peach buds were not injured to any extent throughout the Hudson River district and southward for a period of at least ten years; but since then they have been injured to a greater or less extent each winter. But this is no reason why they should be injured in the future. Were it not for this one risk peaches would soon be grown so largely that the producers of even the finest crops would not find them profitable. We must take the risk if we would have the gain.

A COLLECTION

BROUGHT BY U. S. MAIL AND IN OTHER WAYS.

Entered at Philadelphia Post Office as Second Class Matter

CHILD BROS. & CO., Publishers, 715 Filbert St., Philadelphia, Pa.

T. E. McAllister, seedsman, of 31 Fulton Street, New York, will move to 22 Dey Street, on May 15th, 1885. The New York office of Messrs. Hance & Borden, of Red Bank, N. J., which is now with Mr. McAllister, will be moved at the same time to the new location.

The New South is most fittingly represented by the Southern Seed Company, of Macon, Ga., whose advertisement of the "Pride of Georgia" Watermelon appears on our first cover page. Active, honest, enterprising, and judicious, they merit the patronage of every reader interested in seeds. Buy some of the melon seed, reader, if only a small quantity for trial.

LOW PRICES FOR BUTTER.—The New York *Tribune* in its market report, explained why some butter is sold for such low prices. In speaking of butter, it said:—"Light-colored goods are very hard to dispose of, and several lots were thought well sold at 9 to 10 cents." If butter-makers would get the top price, they should use the Improved Butter Color, made by Wells, Richardson & Co., Burlington, Vt. It gives a pure dandelion color, and never turns red or rancid, but tends to improve and preserve the butter.

CATALOGUES RECEIVED.

S. Pennock & Sons Co., Kennett Square, Pa., Machinery
Robert Buist, Jr., Philadelphia, Pa., Seeds.
R. B. Chaffin, Richmond, Va., Virginia Farms
Harry Chapels, Wilhamsport, Pa., Florist.
Parsons & Sons Co., Flushing, N. Y., Trees.
Jas. M. Lamb, Fayetteville, N. C., Plants.
C. W. Darr & Co., Des Moines, Iowa, Seeds.
A. Giddings, Danville, Ill., Florist.
J. A. Everitt & Co., Watsontown, Pa., Seeds.
E. Hippard, Youngstown, Ohio, Florist.

The Farm and Garden.

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INSTRUCTIONS TO CORRESPONDENTS.

Subscriptions may begin with any number, but we prefer to date them from January of each year. Price fifty cents a year, in advance.

Renewals can be sent now, no matter when the subscription expires, and the time will be added to that to which the subscriber is already entitled.

Notice is always sent of expiration of subscription. If not renewed it is immediately discontinued. No notice is required to stop the paper, and no bill will be sent for extra numbers.

Remittances may be made at our risk by Post Office Order, Postal Note, Registered Letter. Stamps and Canadian Money are taken, but if sent in ordinary letters are at your risk. We do not advise you to send money or stamps without registering. See instructions on page 12.

Receipts.—We send a receipt for all money sent us. If you do not hear from us in a reasonable time, write again

Addresses.—No matter how often you have written to us, please always give your full name, post office and State. We have no way to find your name except from the address.

Names cannot be guessed, so write them plainly and in full. If a lady, always write it the same—not Mrs. Samantha Allen one time and Mrs. Josiah Allen next. If you do not write Miss or Mrs before your signature, do not be offended if we make a mistake on this point.

Errors.—We make them, so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us any way. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

ADVERTISING RATES.—From Issue of January, 1885, to December, 1885, inclusive, 60 cents per Agate line each insertion.

CHILD BROS. & CO., Publishers,
No. 725 Filbert Street, Philadelphia, Penna.

THE FARMER'S HOME GARDEN.

By Joseph.

Slowly the returns come in,—a head of lettuce, a buneh of radishes, some green onions. How we all relish these things after having been deprived of garden "sass" for so long a time. Keep pushing, keep planting, and do not tire of weeding. Do not neglect to make successive sowings of peas, lettuce, radish, early sweet corn, etc. It is still time to set out tomato and pepper plants. The latter do well on rather moist ground. In planting tomatoes, I would advise setting the plants very deep, particularly if they are not well rooted or have but little or no soil adhering to their roots. They will do well if almost buried out of sight, with but the top end sticking out of the ground. The whole of the stalk will throw out roots and rootlets at once, and thus furnish the basis for a strong growth.

✢

Strawberries will soon begin to turn. The plants should now be disturbed as little as possible. Cultivation had better cease until after picking time. Pull up the weeds among the plants by hand or kill them with the hoe, but do not strike in very deep. Strawberries need an abundance of moisture. Irrigation is often of more importance and effective in the production of a fine crop than manure and cultivation.

✢

By the way, if you have plenty of strawberries, would it not be well for you to tempt your nearest neighbor who has none and who does not read the FARM AND GARDEN, by sending a few quarts of your choicest fruit? This kind of missionary work in behalf of health, comfort, and happiness is greatly needed. Your neighbor, like the true heathen that he is, in all probability will eat the missionaries that you send him. They will then convert him to your faith, and hereafter he will grow strawberries.

✢

Professor Riley publishes Chas. H. Erwin's (Painted Post, N. Y.) plan of killing the the cabbage worm with ice-cold water on a hot, sunny day. The method is simple enough, and the home grower should try it. Yet, as even a severe frost does not kill the worm, I am led to believe that it may be merely stunned by the sudden shock, and afterwards come to life again.

✢

Now, as we are in the height of the bug season, we must consider the best ways of fighting them. When the yellow-striped squash-bug is full fed and fastidious, almost any nauseous substance, lime, road dust, cow dung, tobacco, etc., will turn his stomach. But when he has to go three days without a warm meal, he will relish his "vittles" with a keen appetite, no matter what flavoring extract the cook has put in, or how it is adulterated. He will take his greens with cayenne pepper, salted, with kerosene, or with whatever it may be. The kerosene (coal oil) emulsion I believe to be one of the most reliable remedies after all. Care must be taken, however, to have the emulsion complete, by thorough churning, else the application may prove fatal to the plants. Take two gallons of kerosene, one of water, and one-half pound of soap. Mix and churn by means of a force pump or otherwise, and for a sufficient length of time. When done, the mixture should have the consisteney of soft butter. Mix one gallon of this (soluble) substance with ten gallons of water, and spray the plants to be protected. It is a good remedy for the cabbage worm, lice on animals, and for many other insects.

✢

Primroses can be easily grown from the seed. Now is the time to sow them if you want nice winter-blooming plants. Buy a package of mixed seed for your wife, even if it is expensive.

CUTTING THE SEED.*

From many other tests, which brought forth similar results, we will mention only our own of last season, 1884.

The soil selected for the test is a rich loam, having been used as an onion field for a number of years, and repeatedly and heavily manured with hog and hen manure, salt, ashes, kainit, high-grade super-phosphate, &c. Variety selected—Early Gem. Planted in drills three feet apart, eighteen inches apart in the drill. On acco'nt of the high fertility of the soil, we did not expect to see a great difference in favor of hea vy seeding. A quantity of large, smooth potatoes, half a pound in weight each, were selected for seed. The plants of the heaviest seeding were the first to come up, and the amount of foliage, about four weeks after planting, indicated the exact proportion of the yield afterwards.

With yield from whole potatoes taken as 100, the result was as follows, viz.:—

Whole potatoes,	100.00	per cent.
Single eye on whole potato,	66.10	"
Single eye, cut from N. W. to S. E.,	42.40	"
Seed end half,	61.02	"
Stem end half,	61.00	"
Whole large potatoes, without seed end,	106.78	"

while Prof. Sanborn's tests show the following per centage:—

Whole large potatoes,	100.00	per cent.
Whole small potatoes,	79.02	"
Single eye,	36.16	"

From our own tests we must infer that even a high state of fertility of the soil, or a sufficiency of moisture during the whole season, (which were the conditions of our soil), does not always materially lessen the benefits derived from heavy seeding.

A very common circumstance bears testimony in favor of liberality in seeding. Every farmer has occasionally come across a *self-seeded* plant, grown from a *whole* potato which had happened to escape the vigilant eye of the digger, and if he is the least observing, the *unusually large* yield of such a hill, often growing under unfavorable conditions—in the shade of a corn hill, or right in the midst of a potato patch, perhaps between the rows—can hardly have failed to attract his notice.

Prof. Sanborn's experience coincides with our own, and serves to fortify our position. He says, (Bulletin 12.):—"The growth of the tops, in the early season, displayed more difference in favor of large seed than the harvest indication, showing that a vigorous leaf at the early period of potato growth is of much importance. This difference has been noted every year of the trials."

* * * * * *

"The leaf is broader, the stem stronger, and the whole top always, in my experience, *much in advance* of those tops grown from severely cut or from small potatoes."

Incidentally, we have mentioned some advantages of a mere mechanical nature, resulting from heavy seeding. The tops from large seed pieces, appearing above ground *from one to two weeks earlier* than those from single eyes, soon meet, shade the ground, retain the moisture (and perhaps, ammonia), and choke out weeds' growth, thus saving a considerable amount of labor in cultivation and in fighting the bugs. There is a great difference in the innate vigor of the varieties. Low tops, as a rule, yield less than taller varieties. This lack of constitutional vigor must be counterbalanced, and heavy seeding will do it. We can hardly conceive of any combination of circumstances which might prevent a corresponding increase of yield from heavier seeding with early varieties. The peeling off of the seed end of varieties with many eyes, seems to increase the yield of large tubers considerably more than it decreases that of small tubers. With early varieties, our choice of seed, therefore, is as follows, in the order named:

1.-Large potato, peeled at seed end. 2.-Whole large potato (4 ounces or more). 3.-Small potato (less than 4 ounces). 4. Seed-end half of large or medium potato. 5.-Stem-end half of large or medium potato.

The tops of even dwarf varieties should cover the ground, and stimulation, high feeding with potato pulp is necessary for the purpose. Late, that is, strong-growing sorts generally do that with lighter seeding even on common farm-soils; yet with so vigorous a grower as * * * * * *

* From new book by "Joseph," entitled, "Money in Potatoes."

GOLDEN OPPORTUNITIES IN THE SOUTH.

Continued. By Joseph.

Market Gardening. The writer stands once more on Southern soil. The village from which this letter will be mailed to the FARM AND GARDEN, is but small, yet, every summer the houses are crowded with boarders from the cities. The railroads arrange weekly excursions to this neighborhood. There are two or three large hotels and innumerable boarding-houses, all requiring a vast amount of garden supplies throughout the warmer season. Yet, there is not a *single, solitary market gardener here.* The demand is large and prices rule very much higher than in city markets. One or two of the hotels receive their supply of vegetables, early berries, &c., from Philadelphia and Washington. Still, there is not even an attempt made to produce this supply at home. Why not? My readers must find the explanation in the general condition of the South, as previously related in these series of articles.

The circumstance is singular, but is met with in very many of these inland towns. In Northern towns of this size, we generally find an excess of supply over the demand; or but little demand and live competition, which brings prices down. Here is the demand and profitable prices, and, therefore, many opportunities which good market gardeners might embrace.

PUMPKINS.

By John M. Stahl, St. Louis, Mo.

I have seen it stated in agricultural journals by those who had presumably tested the matter (if they had not they should not have been allowed to express an opinion) that there was no economy in growing pumpkins and corn together; that more would be produced by growing the two separately, as the pumpkins would lessen the corn crop to an amount greater than the rent of that area of land, which, devoted to pumpkins alone, would produce the same amount as that grown with the corn. My experience of twenty years has led me to an exactly opposite conclusion. To test the matter I have frequently planted alternate strips of corn with and without pumpkins, and instead of those strips without pumpkins yielding more corn, there was very rarely any appreciable difference; while this difference was invariably in favor of those strips growing pumpkins. This I attributed to the effect the vines have as a mulch. In my section (Western Ill) our corn crop is often lessened by drought in midsummer and later; and the broad leaves of the pumpkin keeps the ground under them moist (retarding the evaporation of the moisture from the soil) and thus increasing the yield. I am perfectly aware of the fact that the plant food cannot nourish the corn as well; and this, if I had no experience in the matter, would lead me to believe that there was no economy in planting corn and pumpkins together. But I have tested the matter long enough to be certain of my position.

I now use the two-horse planter altogether in planting corn, hence must make a second planting of the pumpkins. I wait until the corn appears above the surface; am compelled to do so anyhow, as I prefer to have the pumpkins, at least, ten days later than the corn. When the plants show where the hills of corn are, I take a pointed stick and, walking along the rows, make a hole close to each hill, in which I drop a seed, and then close the hole with the toe of my shoe. In this way I can plant several acres per day. In cultivating the corn I pay no attention to the pumpkins. They do not get of a size to be disturbed until the last cultivation of the corn, and then no serious damage is done them. Though partially covered up and turned on their backs until they wither, they revive after a while and seem no worse for the rough usage the cultivator has given them. I pay no attention to them when cultivating the corn, unless one should be covered up entirely—a very rare occurrence. Hence the only expense for the crop is planting and harvesting—both very small items. I raise about a thousand bushels each year and consider them the most profitable crop on the farm. Some years I raise twice this amount, and my stock never fails to furnish profitable consumption for all I produce.

I feed some to both cattle and sheep, but the greater bulk to my hogs. I do not know that I would be such an enthusiastic friend of pumpkins did I feed them to only cattle and sheep, for I have always, in my opinion, realized the highest price for them when I fed them to hogs. My farm is well suited to swine raising. I have an abundance of timber pasture with a stream running through it, and good clover and corn land. Hence I raise hogs largely, and have always done well—a fact which I attribute to largely feeding of clover and pumpkins. My hogs I summer on clover and blue grass pasture, without grain. When the pasture fails I begin to feed corn, and in the fall and early winter fatten rapidly. At this time I feed mostly on corn, but I am too well acquainted with the results of exclusive corn feeding to indulge in that expensive luxury. To ward off disease rather than fatten the animals, I feed pumpkins with the corn. There is not much nutriment in pumpkins for their bulk, but they relieve the monotony of a corn diet. When corn is fed mostly, it taxes the digestive organs to the utmost and will ultimately produce disease unless other foods are given to counteract it. It is almost sure to produce constipation, and a good authority has said (truthfully, in my opinion) that four-fifths of what we call hog cholera has an immediate rise in constipation. Pumpkins have a gently laxative effect, and therefore relieve the constipated condition of the bowels produced by the corn. It is this which gives them their chief value—as a medicine rather than a food. Other vegetable foods will have the same effect, and of these I give the hogs all I can; but they would prove inadequate, and therefore I raise pumpkins. Anyhow, by my plan I can furnish pumpkins to my stock at less cost than any other food, having like properties. I can produce them so cheaply that the nutriment they contain would make them profitable, not to speak of their medicinal virtues. In conclusion, I would urge my brother farmers, especially those having hogs or cows to feed, to make pumpkins one of the principal crops of their farms.

NOTES ON MAY NUMBER.

By W. C. Steele, Switzerland, Florida.

Joseph is usually so correct in his statements that I seldom find anything to criticise in his articles. But I must dissent very emphatically from his opinion that it is *shiftless* to sow seeds with a hand drill. He gives no reason except that it saves labor in cultivating and weeding to sow by hand. If *he* can sow seeds by *hand* better than it can be done with a drill, then he is a more expert workman than any that I have ever met. In the April number he recommends the Matthews drill, and that probably accounts for his prejudice against *all* drills. I presume that the Matthews is as good as any that work on the same plan, but the principle is not good.

Like Joseph, I prefer to soak many kinds of seeds before planting them, and therefore I have no use for any drill except the Planet Jr., that being the only one that I know of which will sow soaked seed without injuring them. Any drill having an agitator in the hopper will split and mash soaked seed, and spoil a great deal of it. But as the Planet simply rolls the seed over and over, it may be soaked almost to the point of sprouting, and still be sown without injury. I know this to be a fact from ample personal experience.

Farther, if you wish your seed sown in bunches, it is easily done with the Planet Jr. All that is necessary is to stop up part of the holes in the drum with bits of cloth or paper. I have stopped all the holes but two in sowing some seeds, and thus had them in bunches several inches apart.

Joseph says farther on, that salsify *must* be sown by hand. It is not necessary. If you only wish a very few for home use, it may be as well to sow by hand, as a machine uses more seed. But if growing a quantity for market, stop up every other hole in the drum of the Planet, and sow with the drill. The time saved will much more than pay for the extra seed needed. When sown with a drill the row is so much narrower and straighter that it is more easily cultivated.

✝

In "Garden Notes," on page 3, the same mistake is made, with the addition that parsnips must be sown by hand. I have sown pounds of parsnip seed with a Planet drill, to my own perfect satisfaction. As in the case of salsify, it takes a little more seed, but the time saved will pay for it over and over again.

✝

I would not advise sowing peas with a drill on the level surface. But when your furrow is plowed or hoed out, then they can be sown in the bottom of the trench with a drill much more evenly than by hand, and in a narrow, straight row, which will be much easier to keep clear of weeds than when scattered all over a broad furrow by hand.

✝

The man who took the premium for the best cabbage at our State Fair, in February, used 800 pounds of commercial fertilizer on 2000 plants. This cost a little over twenty dollars, but he sold one hundred and seventy dollars' worth of cabbage, besides having some thirty-pound heads for the State Fair.

✝

On page 4 I am made to say that I do not believe that the pollen affects the *flower* of strawberries. I wrote it *flavor*, which is a very different matter.

OUR DREADED VISITOR.

By S. L.

One who has seen much of Cholera in its several visits to this country since 1831, gives some suggestions about it which are interesting and timely, and are calculated to allay the fears of the timid.

One point especially noted was that "the drunkards died like flies." So did those whose systems were weakened by any evil courses. A prudent person, of good habits, living in a cleanly section, need have little anxiety about the cholera.

Another fact stated was that cholera was no more catching than a broken leg. Others might fall over the same obstacle and break their legs. Foul affluvias inhaled by one person in a house, and causing cholera, may be breathed by others with the same result. No sanitary method has ever improved on the old direction—"wash and be clean." It is a hopeful sign that towns, cities and individual householders are engaging in the work this season with redoubled vigor and thoroughness, and the chanees seem good that, instead of a very sickly summer, we may have one of unusual health.

It is usual, says this writer, for those attacked with this disease to nave premonitory symptoms from one to four days before it reaches a dangerous stage. People of good habits, who take the proper restoratives at this early stage, almost always recover with but little trouble.

We have kept in the house for twenty years, or more, a remedy for cholera and all kindred diseases, which was employed by Dr. Hamlin, and other missionaries, in Constantinople, when it raged there so violently in 1865. It proved most efficacious in this early stage, and is a good household remedy for summer. It is simply equal parts of Laudanum, Spirits of Camphor, and Tincture of Rhubarb. Begin with thirty drops as a dose, and increase it if the attack is violent. *Absolute rest* and *quiet* is necessary. If one says:—"Oh, I haven't time for that! Remember that in all probability then you must "take time" to die.

THE SOUTHERN FEVER AGAIN.

By a new Settler.

C. C. says in the May number of FARM AND GARDEN that the "craze" for going South increases as time passes. Whether it is a "craze" or not, depends very much on circumstances.

Since my letter about Florida was published in the January number, I have received over two hundred letters of inquiry. I do not remember that a single one writes as though he desired to come South simply to better his condition financially. Some wanted to try a change of climate on account of health, but the usual reason was a desire to escape the long, cold winters of the Northern States. They were not all from extremely cold States, such as Minnesota and Maine, though I had letters from both States and also from Canada. But I had more letters from Virginia and Kansas than from any other two States.

I would not advise any one *owning* a good, productive farm, which will support his family *comfortably*, to sell out and come South or go West, unless necessary on account of health. But for persons of small means who think of going West to start on the plains, I do claim that Florida offers greater advantages than can be found in Kansas or Nebraska.

I know nothing of the educational advantages of any other Northern State, but I think they are as good in Florida as is usual in new settlements at the West. Though our school fund is small, compared with those of older and more thickly-settled States of the North, yet we have a special advantage as to teachers.

Though we cannot pay large salaries, yet we have no difficulty in securing first-class teachers, owing to the fact that so many teachers come here every year on account of health, who are glad to teach at a low price to help pay their

expenses, rather than be idle. In fact, a family containing two or three children of school age, if they live where there are no public schools, can easily obtain the services of a good teacher during the winter at the bare expense of the teacher's board.

I do *not* recommend school teachers to come to Florida to make money. But if obliged to come on account of health, they will probably do as well as in most parts of the West.

As to isolation from all society, *that* does not apply to Florida. All through the orange growing counties there are settlements of Northern people, and among them you will find as good society as can be found anywhere in the United States. In this settlement, we have as good neighbors as can be anywhere, and they are much more sociable than is usual at the North.

In some parts of the South wages are low, but not in the orange-growing counties of Florida. Common labor costs from $1.00 to $1.50 per day, and carpenters get from $1.50 to $3.00 per day, according to skill.

We have less sickness in this settlement, in proportion to the number of people, than I ever saw elsewhere, and I have lived in Nebraska, Indiana, New Jersey and New York; but like *all* new countries, we *do* have occasional cases of fever-and-ague and malarial fever. The type, however, is usually milder and yields more readily to treatment than at the North.

Malaria being always worse in warm weather than in cold, I should have a very poor opinion of the judgement of a physician who would send a patient, already suffering from malaria, from a cold into a warm climate. As to this climate being debilitating, I do not find it so in my own experience, nor in that of my neighbor. Those who were active and energetic at the North, remain so here. A naturally lazy man is not likely to improve here. Less labor is necessary to support life here than at the North; hence, he has not as great incentives to hard work.

As I have said in former letters, I think the chances for a *poor* man to make himself a comfortable home, are better in Florida than anywhere else in the United States.

WORKING IN THE DARK.

By Beedy Aich.

Some farmers are frequently so behind hand with their work that they need to prolong the hours of their labor into the evening. This kind of working in the dark is bad enough, but it is far better than laboring in the darkness that comes from the lack of mental light. There is but very little excuse for any one not being up with the times in this age of telegraph and the printing press. It is a blind prejudice that keeps a man from taking a paper in nine cases out of ten. The money is always at hand when the mind is well disposed. The farmer who takes the papers is the most prosperous, and the daily or weekly visits of the papers have something to do with the prosperity of those who read them. Therefore, one of the methods of working in the dark, is to abstain from taking any papers devoted to a person's calling. In this way the methods of others are kept from sight and mind. Any new invention is unknown, and not being known is a weapon in the hand of others, who use it, to the disadvantage of all who do not. Let us give an illustration. A neighbor has recently procured a potato planter, with which one man can do the work of seven. Such a machine pays for itself several times over when a hundred rows are to be planted. With this planter, my neighbor tells me, he can raise potatoes for less than ten cents a bushel. What is the natural result? He will put in two or three times as many acres as he would otherwise, (it would, of course, not pay to have a machine for a small patch), and he becomes known as a potato raiser, and a person who always has a stock of this food. He can ship his potatoes in car load lots, and gains in freight rates as well as saving in the cost of growing the tubers. The man who does not keep up with the times, with all its modern labor-saving machines, is fighting a losing battle.

Another good way to work in the dark is to be always at work. Never go to your neighbors and learn how he does things. Know nothing about his stock. If he is using a full-blooded ram or bull, and thereby increasing the value of his flock or herd nearly two-fold in a single year, never know anything about it. The methods of improving stock are all given in the stock journals; but they may as well never been printed, because they are not seen.

Keep away from any farmers' club, because you have not taken the papers and will not be able to understand about potash, nitrogen, phosphoric acid, pupoteney, cross-breeding, etc. Do not think well of such meetings should you chance to hear that they are being held, because the only thing for a farmer to do is to work in the field. Talk is only fit for the lawyers, who are paid for their work according to the length and versatility of their tongues.

A thousand fairs, or more, are held each year in the United States. Some one, or more, of these are not many miles away from any farmer. Do not take any stock in fairs, because sometimes the judges have either been incompetent or unjust. When some enterprising person talks of getting up a show, discourage him from the first, because it cannot pay.

If you would work in the dark, have nothing to do with any exhibition or gathering of men of any sort. A meeting of sheep men is for the the purpose of pulling wool over the eyes of the farmers with small flocks. The cattle men meet to skin some one, and the swine preachers are perfect bores. The more you know about horses the less pleased you will be with your own. The wise horse men are forever trading. Avoid all contact with these terrible experts.

Another method of working in the dark is to have no garden. It is small business this planting radishes in a bed, and as for setting out a strawberry bed, it is positively effeminate. Flowers are pretty, but they are not salable, like fine corn. Pork packed away in a barrel is solid living, and there is no fuss about cooking a mess like there is with green peas.

If you work in the dark yourself, the children will also dwell in the same darkness—at least until they get large enough to see better than you when they soon will be gone. The old home is then empty and the darkness settles into the deepest night.

KITCHEN SLOPS.

By Mahala B. Chaddock, Vermont, Fulton Co., Ill.

Where do they go? Does the drain from the kitchen sink just reach outside the wall a little ways, and is it left to run there half the time without a bucket under it, to soak the ground full of reeking filth for rods around? Is the well where it will draw the foul matter into it? Fathers, mothers, as you value the lives of your children, look into this matter, and look into it *now*; do not wait a single day. All slops from the kitchen should be disposed of in some *sure* way, and not be left to chance and guess-work. The man that *guesses* that the old, worn-out drain will do until fall, may be lying in a trench himself before fall comes, as the work of that same deadly drain; or if he escapes because he is not compelled to breath the malaria from the stagnant ground, by reason of his being away from his house all day, his wife and little ones who stay by it most of the time, may be the sufferers. I read the other day about how the Persian women were shut up in cells, and treated worse than animals. A lady doctor was sent for to see a rich woman, and when she found the patient was out in a shed, she went to her there. The woman lay on some bare boards on the ground, while close by her was a *calf covered up in a bed*. The article went on to compare the women of that country with American women; but when I see the kitchen drain emptying into the well, I say this man is no better than a heathen, and he ought to live in Persia. I believe it is the strong point with all sanitarians that no kitchen slops must be sinking continually into the ground, nor no cess-pools must be sunk within one hundred feet of the well. The well being deep, draws the moisture to it for a distance of one hundred feet in every direction. Take your tape-line and go to measuring. I think you will find many wells not forty feet apart. If you do, remedy it at once.

All the papers say that we are to have the Asiatic cholera here this summer. I do not know; but I *do know* that we ought to get ready for it. Clean up all decaying matter. Burn it up or haul it away. If a well is in a bad place, remove the surroundings or dig a new one. Is your cellar clean? If not, go to work then *at once*. Carry out all the mouldy boards and barrels. Clean out every particle of decayed vegetables, and whitewash every inch of the walls and over head with lime and copperas. Clean up the floor well; and if it is of dirt, sprinkle strong ashes over it; if of cement, it can be scrubbed like any floor. The kitchen slops, such as are not wanted for the hogs, can be carried away from any dwelling with a tile drain, costing from fifteen to twenty dollars; or you can hang a barrel between two old buggy wheels, and when it is full, cart it away and empty on the ground that needs fertilizing. I want to write more on this subject, but I fear the Editor of THE FARM AND GARDEN will think I am occupying too much space.

NOTES BY THE WAY.

To make a roller, take two old mowing machine wheels, and bolt planks on them.

Oats ground that is seeded to clover in the spring will usually, if well rolled after seeding, make a better catch, and suffer much less from dry weather. There is also a gain should the oats lodge, of having a level surface to cut over.

We are just as careful to deal squarely with our readers as we can be. We do not like frauds, and believe we should do the right thing by every one. We may, when we have so many letters to read, overlook a request, but we never mean to do it. Our readers are our family, and a large one, too, and we shall treat every one of them like one of our own. If we make a mistake, as all do, tell us of it kindly, and we will always see to it that you are righted.

Manures for corn should, for most soils, contain potash in some form, and phosphates. The effect of ammonia on corn is usually not well marked, but potatoes will require all three. Ammonia is a dear manure, but is usually wasted when applied to corn, but valuable for potatoes.

The best potato manure is composed of 400 pounds of dissolved bone, 300 pounds of nitrate of potash, and 200 pounds of nitrate of soda, well mixed, and applied at the rate of 500 pounds per acre. The cost of the raw materials will be about fifteen dollars per acre, and in a favorable soil the yield should be 200 bushels per acre, and will usually make a much better crop than the application of 20 two-horse loads of stable manure, and make much fairer potatoes. Experiments prove it.

ORCHARD AND SMALL FRUITS

Conducted by Eli Minch, Shiloh, N. J.

THE ARKANSAS APPLE.

We give a cut of a promising new apple we saw at the New Orleans Exposition, called the Arkansas or Arkansaw. The Arkansaw being a Southern apple, would, when planted in the middle section of the United States, be in season probably from January to April, our season being so much later. The color is a bright, mottled red on the upper half, the lower, being of a reddish-yellow. Cavity much russeted, and extending on the surface in indistinct rays.

The texture is fine and the flavor a pleasant subacid. It is remarkably heavy for its size, like the Swaar, and will prove a good keeper. It is in fine condition in Arkansas as late as March, and will keep much longer. Our specimen was in fine condition for keeping when cut on the 3d of March. Our illustration gives the form, size, and shape, size of seeds, core, etc., all of which are carefully reproduced.

The tree is a good grower, young wood a very dark brown—almost black, and in habit resembles the Winesap, of which it is probably a seedling, but is better rooted. It is a good bearer, and sets the fruit evenly through the tree. We are testing the Arkansas in our trial orchards, and feel confident we shall find it a desirable fruit. We got our information of the variety and a specimen of the fruit from Mr. E. F. Babcock, Russelville Nurseries, near Little Rock, Arkansas.

FRUIT NOTES.

A tree that has been lately planted will revive if kept well watered. Mulch the tree with any litter, and keep well watered. Much better carry a few pailfuls of water than to buy a new tree next spring.

Prune all branches closely. Wounds made by pruning heal soonest in June. We leave all large stubs left in winter pruning until then, and saw all off very closely. The hot, dry winds soon stop the flow of sap and the bleeding which occurs in earlier and later pruning.

A writer in *Coleman's Rural World* says, to make an apple-tree that blossoms but does not bear fruit, fruitful, "lay in the crotch of the tree a stone as large as your two fists; if you lay it in now you will have a good crop of apples this year." We hope our readers will not try it. It would be a pity to waste the stones, even if they are cheap. We think much better advice was given eighteen hundred years ago (see Luke XIII., 6-9). Save the stones for something else.

Pear orchards kept in grass and surface-manured, appears to be the safest plan for growing. Cultivation makes a large growth of immature wood, which is sure to blight. The vitality of the new growth is injured by the cold, and will become apparent the following summer. We had a Vicar top-grafted on a Duchess that grew finely and blossomed freely this spring, while the stock was dead and black with winter-kill. As long as the healthy sap that was in the Vicar wood lasted it grew finely, while all below it was dead. Exhausted vitality and blight are one.

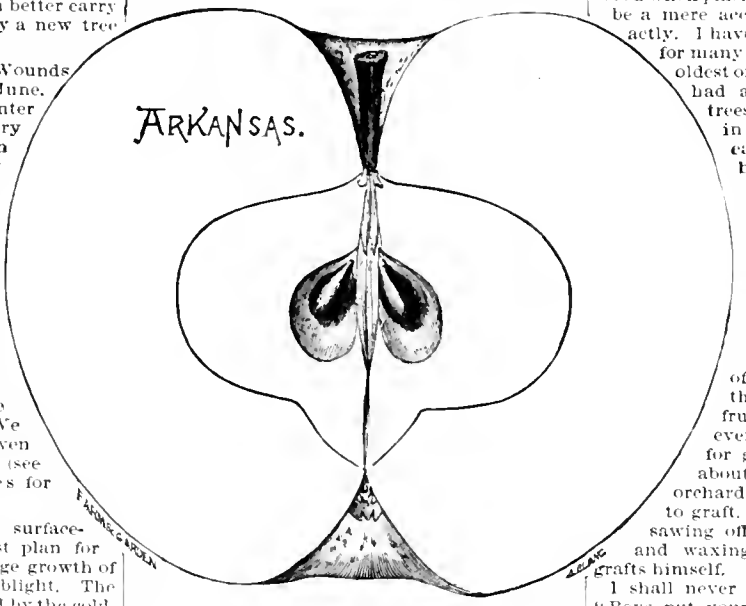
See to newly-set trees that they do not loosen. If they do, take a round pole abont two inches in diameter, cut off one end sqnare and round the other end to hold in the hand; then straighten up the tree and firmly pack soil around the tree with the pounder, taking eare not to injure the roots. Fill around the tree and pound again, and level off around it. No tree will stand if there is loose dirt under it. If it does not stand firmly it will not last long. Pack the dirt when partly dry; it will work better. Staking will do for small trees but not for large ones.

The superiority of kainit over ashes for peach-growing we believe is due to the salts of magnesia and the common salt it contains, as well as the potash. Being extremely soluble, and not as caustic as ashes, it enters at once into the sap circulation, and does not burn the roots as ashes would if freely used. We are now successfully growing a peach orchard of two-year-olds where it was deemed impossible to grow them on account of the yellows, which the soil was sure to produce. Even seedling trees would turn yellow and die in a few years. We now have a fine orchard of healthy trees.

The staking of blackberries and raspberries will not be required where the canes are topped at three feet for the ordinary varieties. The more vigorous ones must be topped higher. This causes them to branch and form a bushy head and a firm, strong growth of the cane, which will stand up under a large load of berries. Should any of the branches grow too fast, top them also, which will cause them to develop fruit buds and they will produce enormously the next season. It takes a great deal of work to keep a field of blackberries topped, but the extra quantity and quality of the fruit amply pays for the labor.

Trees girdled by mice may be restored if the part injured is kept covered with a foot or two of moist earth. Last year we had some large apple trees girdled by mice,—all the bark removed for six inches or more all around them. We banked up the wet soil two feet high around the trees, and they are now nicely covered with new bark. The sap from the body of the tree will exude, and if kept moist by the dirt, will soon form a soft growth of new wood where the injury is, and it will in due time be covered with bark. Last year we saved fifty trees by the plan we advise. We banked our trees in June and trod the dirt solidly around them.

Do not use Paris green on gooseberry or currant bushes. It is a mineral poison, and will not lose its poisonous qualities by sun and rain. Hellebore is a vegetable poison, and dews will destroy its harmful qualities, which makes its use perfectly safe. Turn no stock into an orchard where Paris green has been freely used until after a rain. The grass under the trees is poisoned and is dangerous. The best antidote for Paris green poison is the hydraten sesqui-oxide



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of iron, given immediately. This antidote should be in every farmer's kitchen, ready for instant use in case of poison. Your druggist keeps it. It is very cheap.

The currant and gooseberry worms that consume the leaves of the currant and gooseberry, leaving the bushes bare of foliage, will weaken them so much that the berries will not ripen,—even the bushes are sometimes killed by them. They may be poisoned by the use of hellebore dissolved in water, and the bushes sprayed with it. Take a tablespoonful of the hellebore and add a quart of hot water, and allowing it to stand a few hours, add to it a pailful of water, and spray the bushes well with it. An old broom will answer very well for spraying. The worms are soon killed, and the poison will not last long. In a few days the berries are safe to eat.

The cold, dry winter we have passed through has ruined many orchards in Indiana, Illinois, and the North-west. The dry winds of winter are as ruinous to the trees as the colds. Many orchards that are not yet dead, are so severely injured that they will linger along and prove worthless at last. We believe hardy varieties must be root-grafted for cold, dry sections, and then the varieties wanted should be top-grafted on them. There is a great difference in the hardiness of stalks for the purpose we name. We hope in the proper season, to have more to say about the subject. We should be glad to hear from those who have tried the plan we advise of top-grafting hardy stocks.

If your peach tree looks yellow do not pull it up, but give a liberal supply of kainit to it, say five pounds for a small tree to fifteen pounds for a large one. Spread evenly as far as the branches extend, and allow it to wash into the soil by rains. We use from eight to ten tons annually on peaches, and find its use, with bone-dust, a preventive of yellows. We had trees set one year make a large head by the use of kainit and bone-dust. Some of the trees, as dry as it was last year, made a growth of *five and one-half feet*, and made some growths of new wood one inch in diameter. Some of the trees made heads from a single stem over *six feet* across, and as sturdy as an oak. The FARM AND GARDEN has been the first to recommend kainit for peach culture, and we would not raise a single peach tree without it. We also tried ashes last year, but the new growth was so small and the indications of yellows so plain, we dug the trees up and planted again. We used, of ashes, from a half peck to a peck to a tree, but we will say we prefer kainit and bone. We have twenty-four acres planted in peaches, and are not only experimenters, but practical growers.

Editor FARM AND GARDEN:

SMITHFIELD, FULTON CO., ILL., April 16, '85.

In your issue of April in an article on Cleft Grafting, you say that you must always have the "wood of the stock and that of the graft and scion *even*." This would be impossible, and a mere accident if it so happened. We only cleft-graft where the stock is too large to either whip-graft, or the bark too thick to bud successfully. Hence owing to the great difference in the thickness of the bark of the stock and scion, and the impossibility of seeing the line between bark and wood when placing the graft in the cleft, it would be a mere accident if it would correspond exactly. I have made cleft grafting a specialty for many years, as in this country all the oldest orchards were seedlings. My father had a nursery here in 1830, and his trees were sought after and planted in many adjoining counties by the early settlers, most of whom brought apple seeds with them when they came from the east. They planted them, and when large enough some one of the hardy pioneers wanted them, and hence all were seedlings, and some of most excellent quality that are still largely grown, as you will see by referring to "Downing's Fruits."

In the year 1845, Mr. E. W. Pike, of Rochester, N. Y., came through this country with specimens of fruits, and took orders from nearly every owner of a seedling orchard, for grafting. My father paid him about $125 for grafting his seedling orchard. I set in with Mr. Pike to learn to graft. There were four of us to do the sawing off of the limbs, setting grafts, and waxing, Mr. Pike whittling all the grafts himself.

I shall never forget his orders. They were, "Boys, put your grafts with the bud out, and nearly down to the top of the slope, and be *sure* and lean the top of the graft *out a little*." This leaning "out a little" was done in order to be sure that a junction would be formed, and the veritable bud on the wedge of the graft always *outside*. In waxing, this bud was always covered with it, and it sometimes happened that this bud would be the only one on the graft to grow. Thus you see that this leaving a bud on the outside of the wedge part of the graft was of ancient origin.

I have for thirty-five years grown nursery stock, root grafting, budding, and cleft grafting, and have never seen any difference in the life, health, or bearing of the various methods, provided the stock was of itself a healthy seedling, grown from seed of a natural seedling.

Right here I would *insist* upon nurserymen sowing only the seed of natural seedling apples for stocks to graft or bud. I know that they are much hardier, and in every way make better trees than if grown from seeds promiscuously saved from all kinds of grafted fruit. The wood of the seedling apple is finer grained, more compact, firmer, smaller pored, and much less liable to be injured by freezing and thawing, than is most of the grafted-wood seedlings.

JOHN H. BAUGHMAN.

The farmer who last season neglected to plant a bed of strawberries, and who now sees his neighbor's wife and children bring the luscious fruit from their patch to the house by the pan, pailful, or by the bushel, probably wishes he had taken the advice which we give every season, viz., plant a sufficiency of small fruits.

We give place to a letter by Mr. J. H. Baughman, on grafting. When such articles come from practical men like Mr. Baughman, we are glad to insert them, even if they differ from our views. The FARM AND GARDEN is a practical paper. We believe in facts and not theories, and believe in letting each one have his say. We claim the *publication of the new feature in grafting*, to which he refers, *to be original with us*, and until we received his letter, in all our reading we never saw it recommended. The idea of placing the graft with the "top to lean out a little" we find in practice, to make the graft, in top grafting, liable to blow off in heavy winds. We think the bud plan we advise meets all the requirements he recommends, and makes a firmer union. We place our grafts, not from the side, as usually done, but from the top, looking downwards, and can always see if the wood is even, which will be the case if it is even at top of the stock and the graft set in line with the stock. We want all the facts, so do our large class of intelligent readers.

Look well to the Round-headed Apple Borers. They make their appearance as perfect beetles this month, after a three-years' existence in the larval state in the tree. We obtained some apple trees of a local nurseryman and found a few borers in them. We thought we had caught all when set, but we find a few this spring almost ready to leave the tree. They are all destroyed at once, but it is expensive, and takes time to find them. Better spend ten dollars now than have the orchard infested with borers, from which we hope to be always exempt. We advise for the borer a wash of one pound of caustic soda to a gallon of water. Use a brush or a rag fastened to a stick, and thoroughly wash the body of the trees with the solution, especially near the roots, at least two or three times during the summer. The eggs are deposited in June and July, and the soda wash kills the young worms before they enter the tree. We gave a good receipt last year for the borer, as our old readers will remember.

D. E. Hoxie, in the *Farm and Home*, writes that he sowed a bushel and a half of salt on five plum trees, ten years old, the crop of plums were always destroyed by the curculio. The salt killed all the grass under the trees, and he supposed the trees were killed also. The next spring they bloomed profusely, and bore a full crop of plums free from curculio, the first crop for years. He thinks the salt killed the worms in the ground when they were changing from worms to the perfect insect. We hope some of our readers will try salt, which should be done now, before the worms leave the fallen plums to enter the ground. This they always do to undergo their change from worms to the beetle state. If salt is just applied of course it will not keep the curculios away this year, and make a crop of plums, but will kill the crop of the curculios that will kill the plums next year. Randolph Peters also claims that the use of a peck of salt, and from a half bushel to a bushel of ashes will make full crops of plums. We hope our readers will try this plan, and let us know if successful or not. We want practical experiments. Spread the salt evenly over the entire ground.

J. B. Rogers, in a paper read before the New Jersey Horticultural Society, divides strawberries into three classes, in respect to the need of special fertilizer for each class. Mr. Rogers experimented four years, and finds that the "Primo, Triomphe de Grand, Bidwell, and Sharpless constitute a class that make the greatest development in fruit and flower with barn-yard manure and commercial manures poor in potash. Class second, those that grow to greater perfection by the addition of potash to the manures already named; of this class are the Miner and Seth Boyden No. 30. Class third includes the Cumberland and Charles Downing, which seems to grow under any special manure equally as well, and appear indifferent to any special fertilizer." Do we not find here the reason that varieties of berries are variable in different soils, because of the absence or presence of the special fertilizer the variety demands? We shall have more to say about this fertilizer question, and the capacity of feeding of the strawberry.

Last year we tried Paris green on pears for the curculio and pear-tree slugs, using a teaspoonful of Paris green to a Yankee pailful of water, and sprayed every other tree with a hand force-pump when the pears were as large as buckshot. The alternate trees were full of slugs and the pears were knotty and wormy, while those that were Paris greened, except where too freely used, the foliage was perfect and the pears free from worms, very smooth and fine. The difference was very apparent.

Editor FARM AND GARDEN:

I notice your article on "Cleft-grafting" in the number for April. The best way of scarfing and inserting the graft or scion is the one you have there described. I used to scarf and set them precisely as you have described forty years ago. I thought them surer to live and grow, and in addition to the advantages you mention, they seemed to secure a firmer and much earlier hold on the stump than in the older way of setting. Our old-fashioned September gales were often hard upon the first season's growth; so likewise the loads of snow and ice of the first winter.

Some always split the stump in a vertical direction, so that if the cement cracks and lets in water on the top of the cleft, it may find its way out on the under side, consequently the under scion or branch was much the oftener broken down, sometimes after it began to bear. If both scions are to be allowed to grow, I think the horizontal cleft the better way. This applies only to trees of many stumps projecting various angles with the horizontal.

I observe that many people prune their apple trees in February and March, just when there is the most freezing and thawing going on, and when they will bleed, if ever. If only small, thrifty branches were cut it would not be of serious moment. I never cut a partly-dead branch of any size unless the tree is growing. I think it best in full foliage. The wood then generally becomes hard, and the healing process begins at once. If one desires his trees to have nesting-holes for birds, the March operation is, by far, the best.

Tyngsborough, Mass. A. M. SWAIN.

STRAWBERRIES.

By Mahala B. Chaddock, Vermont Ill.

"Fifteen, sixteen, seventeen, eighteen; it will take six more boxes to fill this crate. Hurry up Tots, and bring them!"

It is in the height of strawberry season; the fifteen pickers, in among the vines, are picking off the luscious berries, one by one, and putting them in the clean, sweet-smelling boxes, and the little girls, May and Gay, carry them to Aunt Nancy, who, under the shade of the Scotch pine, is putting them in the crates and fastening down the lids.

Eight O'clock and the picking is all done; and away we go to the depot, to send them off on the train, and at noon, people fifty miles away will be eating our freshly-picked strawberries, with the dew still on them.

It makes lively work, but we like to make things hum, and after the berries are on the train we can straighten our backs and rest a little.

And such flush times as we have as long as the berries last. Strawberries and cream, strawberry short-cake, strawberry pie, and stewed strawberries. Some of us are getting so "tony" that we have our berries set on the table in the boxes and we pick off the hurs and sugar and cream them to suit our fancy without any wilting or mashing. Others of us want them "fixed" and set away for the sugar to melt and make lots of juice; while still others of us like them best stewed. And don't our appetites for strawberries last though? We get tired of egg when eggs are cheap; we get stalled on chickens when chickens are plenty; and we get tired over and over again of potatoes and beans; but we can eat strawberries three times a day for four weeks with never a murmur.

And I do believe it makes us good-natured to live on strawberries. It looks reasonable that eating so much acid, would work off the bile and leave the liver in good order, and healthy livers make good-tempered people the world over.

Water newly-set trees well.

Salt in small quantities is good for most trees, especially quinces and plums. Too freely used will kill the trees.

Use the pruning knife daily to keep young trees of all kinds in shape. Easier to shape them now than later.

Do not cultivate quinces too deeply. Their roots are all near the surface. Deep plowing injures them. The richer the ground the larger and more prolific the quince. Mulching is better than cultivation.

The fruit prospect is not very flattering. Strawberries are very late and are injured by the past severe winter. Blackberry and raspberry canes are injured and weakened from the same cause. Apples are not promising. There are many trees killed outright, and others are so weakened that the apples will drop before maturing. Pears appear to promise well, and peaches, except in some parts of the Mississippi Valley, promise a fair crop of fruit. The indications are that 1885 will not be a fruit year.

We saw recommended in an English paper that alum dissolved in water and sprayed on gooseberry bushes would kill or drive away the currant worm. We tried it thoroughly last year, and found it of no use whatever. The gooseberries stood near where we sprayed a pear tree for the curculio, and some of the Paris-green water fell on the bushes and the worms were at once all poisoned, and the bushes grew finely, while where the alum water was used the worms grew finely and ate all the leaves. Do not use it for gooseberries.

The reader will see that we recommend one pound of Paris green to one hundred gallons of water about 800 pounds; not as most of our contempories do, give *one part of Paris green to seven or eight hundred parts its bulk of water*. Since Paris green is very heavy by *bulk*, you would have, perhaps, one part of Paris green to less than twelve gallons of water. Were it possible to so mix it the trees would be all killed by it. We are always sure of our advice being right before we offer it to our readers. The reader always can depend upon our information as practical, not theoretical.

A writer in the *Farm, Field and Stockman* recommends driving the tree full of nails to produce fruitfulness. Should our readers try it, be sure and do so on some neighbor's tree. It would also be well to borrow the nails for such a simple experiment. Those who are so superstitious as to believe such nonsense have had misfortune enough already, and should lay a part of the burden on some more fortunate neighbor and his apple trees. We say, do not be foolish. For the tree that does not produce we advise steel, not iron, and in the form of a sharp axe is best. Then at the proper season plant a fruitful variety.

Our Flower Garden.

BALSAMS.

The best way to get these really good, is to sow the seeds in small pots, which should be kept in a temperature of 70°, or so. As soon as the plants are up, they should be placed on a shelf near the glass, to keep them from drawing; the great thing being to get them dwarf and stocky. To bring them to that condition, the plants, at each potting, should be dropped down a little lower in the soil, and then they will root out around the buried stems, which will add to their strength. A good compost for them, is two parts fibrous loam, one of leaf soil, and the other of rotten manure, in which they should be potted somewhat loosely and, as soon as they get well hold of it, have a liberal supply of manure water. If wanted large, they must have their first flower-buds picked off, and be shifted before they get at all pot-bound, until they are in the pots in which they are expected to bloom. The place that suits Balsams best to grow in, is a light house or pit, where they can be plunged and have bottom heat; but of course, every one cannot give them these accommodations.

Impatiens Sultani, a new kind of balsam, now for sale by almost every florist in the United States, comes readily from seed, but quicker results can be obtained by growing from cuttings. It flowers in the greatest profusion, especially if the plants are grown in a light-house, with their heads well up to the glass, which exposure consolidates sappy shoots, and enables them to set plenty of blossoms. These are very bright red, and are sent up well above the foliage, which is of a pleasing green, and very pretty-looking. The seed should be sown in fine, light soil, and placed in heat, where it will germinate freely. This is a plant on which florists can make some money. It has a ready sale, and is of quick growth.

PANSIES.

Some florists declare that no Pansy should be tolerated whose form is not a perfect circle, and whose colors have not their margins as carefully defined as if they were drawn with compasses. Still, hosts of lovers of the Pansy will continue to grow and admire them in all their diversities of form and colors. Pansies have been known from time immemorial, and at periods, people were actually recommended to keep them in check for fear of their becoming a nuisance. It is one of the few flowers that always remains in fashion. In 1840 it became one of the leading competition flowers in England, and the result was that its lines became more stiff and rigid. Since then florists have divided the show Pansy into different classes, such as white and yellow grounds, and dark and white or yellow selfs. English societies, by keeping the merits of the Pansy before the public, have helped to spread and encourage a taste for this truly useful flower. Varieties discarded by florists on account of their vagaries in form and color, have now become the most popular of their race. The show Pansy was introduced from Belgium. These differed from the older varieties by having large, dark-colored blotches on the petals, flamed, or edged with colors quite new to Pansy growers up to that date. They attracted the attention of amateurs, and startled old-fashioned florists, who saw no beauty in such oddities. Professional growers saw that it was to their interest to cater to the public demand, and improvements have been going on at such a rate that one is afraid to say that perfection has been attained.

Culture. While most Pansies will be at home and flower well in almost any garden soil, it is well, if fine specimens are required, to bestow some special attention in the making up of a proper compost in which to plant them. The improvement in the size and number of flowers will amply make up for this little extra trouble. A good fine loam, as full of fibre as possible, and enriched with one-third of well decomposed cow manure, and nearly one-sixth of sand, will be found best. A position naturally sheltered from winds is to be preferred, and if convenient, not too much exposed to the midday sun. Early flowering strong plants may be put out in September, providing some protection be used. A single daily watering will be found quite sufficient, providing it be a thorough one. Cuttings strike well in a shady border, under a north wall. Seed may be sown in June in the open air for transplanting in autumn.

IXIAS AND SPARAXIS.

A boxful of these beautiful spring flowers were received from our friends Hallock & Thorpe. The large size, and perfection of the flowers, prove what good cultivation can do. We seldom meet with Ixias and Sparaxis in gardens or conservatories; even the trade does not appreciate them. This evidently comes from the want of enterprise. Were they given a new name, and pushed as a novelty, everyone would want them, and pay high prices for them. The large variety of colors, and sweet perfume, and the "long stems," ought to make them florists' flowers. Won't you plant some next fall? Make a memorandum of this now. For those unacquainted with them we would say that every color of the rainbow may be found among them. Some of the Ixias being even a beautiful green.

A VASE OF PANSIES.

IN THE FLOWER GARDEN.

Trailng plants will now need frequent regulating and pegging down evenly over the surface, until the bed is covered, after which they look best undisturbed. Baskets and vases in which climbing and drooping plants predominate, need great care in starting them properly. Such plants as the trailing Ivy-leaf section of Pelargoniums, in addition to being pegged down, should have a wire run around, just below the edge, to which all drooping shoots should be securely tied, or the continual chafing by wind will, as a rule, soon either cut them off, or injure them. The above is for those who have plenty of time to spare on flowers.

STAKING PLANTS.

Late rows of sweet peas must be staked, and any Dahlias, Hollyhocks, or Delphiniums that are not securely tied, must be attended to without delay. Above all, any plant that needs support should have all staking and tying or training done as early as possible, so as to out-grow all signs of artificial support, long before the blooming season has arrived. The practice of tying Dahlias to one or two single sticks with all the shoots drawn together in the shape of a broom, should never be followed; it gives them a most unnatural appearance and seriously injures them through the non-admission of light and air to the foliage. Use as many sticks as necessary to tie the shoots out, and paint the sticks green, so that they will not be observed at the first glance. These plants being gross feeders, two inches of well-rotted manure should be applied.

GLADIOLI.

If hot, dry weather should set in immediately, mulch the beds with old manure, and apply water plentifully when necessary. It is also important to stake these as soon as the spikes are of sufficient height, as the broad leaves are much acted upon by gusts of wind.

TULIPS.

The roots of these may soon be lifted and stored in a dry place until planting time. Each variety should be labeled and kept by itself.

PINKS.

Now is the best time to put in cuttings of these. The smallest growths strike root most freely; and if the weather is dull and showery at the time when they are taken off, they may be put in a shady position in the open ground. In shallow boxes they will perhaps strike sooner. They must be shaded from the sun until roots are formed.

PANSIES.

It is a good plan to put in some cuttings now to form a late autumn bed. If it is intended to have extra good flowers for show, pinch off all the buds that are nearly open, until about two weeks before the date at which the plants are required.

Pansies degenerate rapidly, and the only way to prevent this, is to pluck off all flowers for a time, and apply surface dressing to the beds.

PRIMROSES AND DAISIES.

Roots of these, that have been temporarily laid in, should now be divided and planted in nursery beds, keeping them moist and shady until well-rooted again. The double Primroses are especially deserving of increased cultivation, and if shaded borders are not available for them, light evergreen branches will serve as a substitute. An occasional syringing to prevent red spider, will help them wonderfully.

FUCHSIAS.

It must be remembered that Fuchsias must never become pot-bound, or their bloom will be considerably checked. As soon as the roots touch the sides of the pot, it is time for shifting into a larger size. Good, rich soil, and a rather shady position are required. Some people put Fuchsias in the hot sun and then wonder why all the buds fall off.

ROSES.

All old blossoms should be regularly removed; also suckers and weeds. Keep them moist at the roots, but do not sprinkle over-head while the plants are in bloom. Strong growing climbing roses will need tying and training. The sooner the shoots are thinned out after flowering, the better, and the greater chance there is for the young wood to get well ripened.

LILIUM HARRISSI

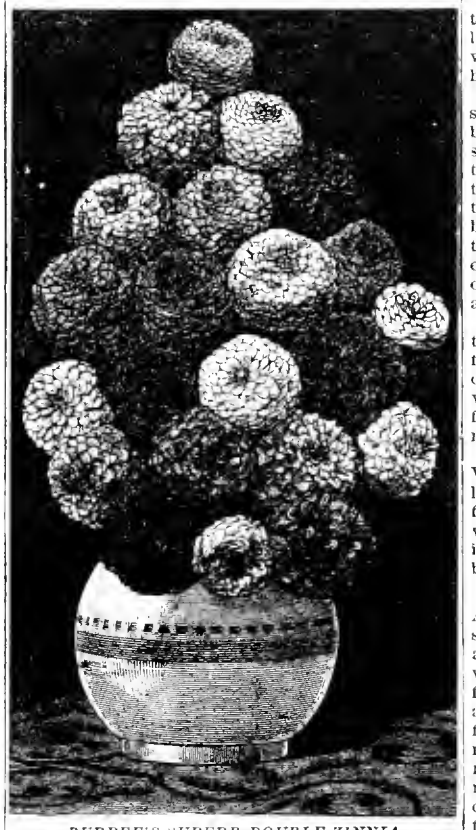
That have bloomed in pots, may be planted out, and will no doubt make fresh growth and bloom again even this season. Pot them again in the fall if wanted by Easter. There is no lily to equal this. One or two of our florist are handling these in a thorough business-like manner; for, instead of propagating and growing them themselves on their own grounds, they grow them in Bermuda, where they increase in size three times as fast as here.

PINE-APPLES.

When the careful house-keeper is putting up her preserved pine-apples, she should take the ents off the top and one or two of the suckers, set them in a pot filled with moist sand, and in the course of a few months she will have several fine plants that are worth watching, and that will bear fruit for her as well. The stones of dates, if planted in a pot, will also grow and make a nice plant—the Phoenix Dactylifera. It is of much slower growth—being a palm—but is very graceful.

CLIANTHUS DAMPERI.

This beautiful plant is seldom seen in bloom. We doubt if there is a single plant of it in Philadelphia; and yet, it deserves the particular care that it requires to bring it in flower. Providing time, a glass structure, and artificial heat may be commanded, we see no reason why it should not easily be cultivated. It must be remembered that the seed should be planted where it is to bloom. If in a pot, it should be of sufficient size to need no shifting, as this operation will be found fatal to your plant. This pot should be set inside of another one of larger size, and the intervening space filled with moss or saw-dust, so that the soil may be kept moist without too frequent watering. Carefully shade from the sun. This plant is really magnificent. We see the seed of it catalogued by almost every seedsman, but few people are aware of the special treatment it requires, and we doubt if one plant out of a hundred ever comes to perfection on this account.



BURPEE'S SUPERB DOUBLE ZINNIA.

CHRYSANTHEMUMS.

Now do not forget to obtain a nice lot of the best Chrysanthemums, for blooming next fall. If you do not get them now, you will forget all about them, and the consequence will be, that instead of getting your plants now at ten to twenty-five cents each, you will have to spend two or three dollars for them later. If you have looked over our advertising columns you know where to get them. No need of our telling you here—it would seem too much like a free "Ad."

Here is an article that should have appeared sooner, but which will be found worth remembering. In the case of imported lilies, there is some danger in potting or planting at once, as the bulbs have necessarily endured vicissitudes that lower their vitality and render them liable to decay. Owing to the dry appearance of the bulbs, this does not show at the time they come to hand, but it declares itself later, when they come in contact with the damp soil, and when, of course, there is no means of observing and of applying a remedy.

The safest plan is to lay some damp moss, shutting them down and standing the box on the floor of a cool house. This will give just sufficient moisture to draw roots from the bulbs without causing rot. The bulbs can be examined from time to time, and decaying portions removed.

HOUSE PLANTS

Will now be benefitted by being set out in the lawn, or any place outside where they can get fresh air. As summer advances they will require water more frequently. This had better be done in the morning, so that the plants will get the benefit of it during the warmest part of the day.

ZINNIAS

Are a useful class of annuals which specially deserve cultivation on account of their hardiness and showy flowers. They vie indeed in beauty with the best class of Asters; while Asters often fail to grow freely or bloom profusely, Zinnias are certain to succeed in every respect. We have frequently seen them growing here and there in mixed borders with good effect, but they are much more attractive when grown in large masses. Of course, double-flowering ones are decidedly the best. The blooms vary from two to four inches in diameter, in the best strains, and the petals are beautifully arranged, while the colors are of every known hue. The single ones bloom equally free, but the flowers have a ragged appearance, and are not so effective when seen either close at hand or at a distance. Both, however, require the same treatment. Seed may be sown any time after March, either in pots or in the open ground. The seed germinates freely in light, sandy soil and anywhere where the temperature is from sixty to sixty-five degrees. At first the young plants may be quite close together, but as they form a few leaves they should be taken from the seed quarters and given more space. Their easy culture is greatly in their favor, and those who have no houses or frames may have them in bloom from July until November. Our illustration is from a photograph kindly furnished by Messrs. W. Atlee Burpee & Co. The engraving of the plant shows the general habit of growth.

JAPANESE ROSE-HEDGE.

A new hedge is recommended as entirely new and very promising. It is of young plants of Rosa Rugosa. This rose, which is quick-growing, has very close, strong thorns, and if a hedge is carefully made at the bottom, no small animal would get through it. Seedling plants may be used, but where the rose thrives it makes many suckers. This Japanese Rose thrives well even when closely cut in.

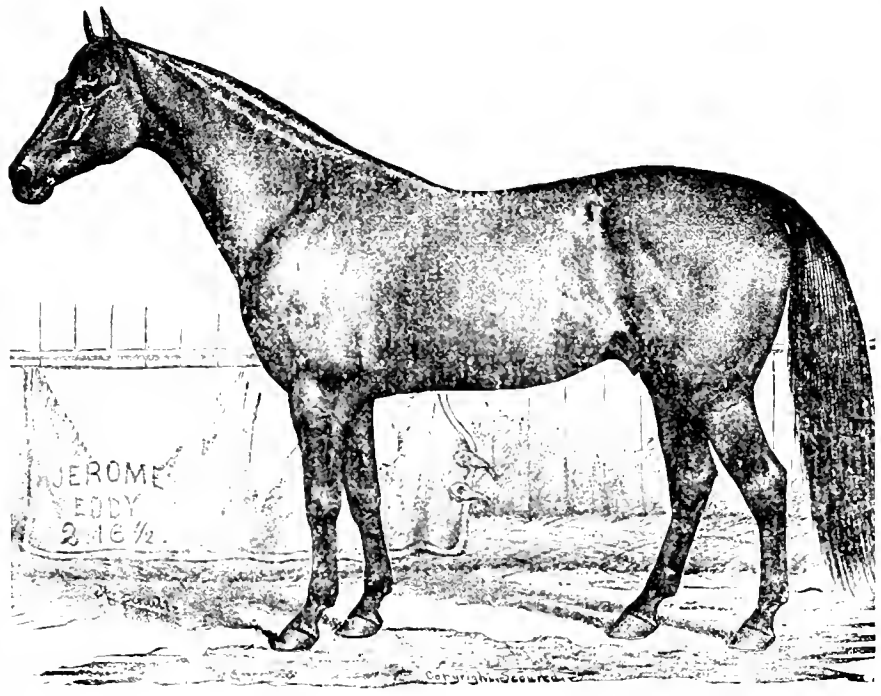
LIVE STOCK.

JEROME EDDY.

Owned by Henry C. Jewett & Co., Millbank, N. Y.

Ever since Jerome Eddy scored his record of 2.16½, and showed his ability to have wiped out all stallion records, and especially since he became the property of Mr. Jewett, we have been very anxious to extend the pedigree of his dam. At last we have reached what we sought, in a very satisfactory and circumstantial form. The history seems to be complete, and as our readers will understand it better we will recite it, in brief, commencing with the remote end of the story.

Mr. George Fox, of Fox's Corner's, a few miles north of Harlem Bridge, had a daughter of imported Trustee that went lame, and he traded his Trustee mare, in part payment, to Charles Brooks and Ned. Luff, of Harlem, for a pair of large coach horses which he used in his family for a number of years. About that time Charles Brooks had charge of Long Island Black Hawk, at the Red House, in Harlem, and he bred the Trustee mare to Black Hawk. The produce was a filly, and he sold that filly, when two years old, to Wi. et Underhill, near Glencove, on Long Island. In due time Mr. Underhill bred this filly to Smith Burr's Napoleon, and the produce was a brown filly, which, when matured, was fast; and he sold her to Nathaniel Smith, a butter merchant of Washington market, who was well known among the road riders up-town as "Butter Smith." This Napoleon mare had a great deal of speed, but she had a will of her own, was hard to manage on the road, and withal was a kicker. Smith got tired of her, and he traded her for another mare to Dr. Peck and W. H. Saunders, of Clyde, N. Y., who were in the city with a lot of sale horses. Peck and Saunders put her along with the mate of the mare they traded for her, and sold the team to Lewis J. Sutton, of Orange County, N. Y. This kicking mare was bred to Alexander's Abdallah, and the produce was Fanny Mapes, the dam of Jerome Eddy. Our first impression was that the Black Hawk mare was not by the original Long Island Black Hawk, but by his son, known as Brooks' Black Hawk, or New York Black Hawk, as he was called. As the sale to Mr. Sutton, however, was made in 1852, the dates settle the question that she was by the old horse.—*Wallace's Monthly.*



ENSILAGE AND GREEN FOOD.

Green food is plentiful now, but the farmer should begin to grow his winter supply. There are many good points in favor of ensilage, and there are also some objections. The claim that all ensilage is sour is not founded upon fact. Something depends upon what the ensilage is composed of. If corn is used exclusively there is no process known that will prevent a certain degree of acidity, but if a resort be had to clover and grass, which may be ensilaged as well as corn, the ensilage will be sweet all the winter. Acid does not really injure the ensilage, it rather promotes its digestibility, but affects the milk somewhat. This is due, however, to the nature of the food itself, as much as anything else, as any change in winter from hay and grain to green food will do the same thing. Even cooked potatoes and turnips have an effect on the quality of the milk, and at no season of the year, even when the cows are on pasture, can milk be procured which is entirely free from odors of some kind. The use of hay with ground food always gives the best quality of milk, and ensilage is not an exception to other bulky food.

Those farmers, however, who have no silos, can grow a large quantity of good succulent food by sowing oats, and cutting the crop at the time it is in its "milky" stage, care being taken that it does not become ripe. The juices and nutritious matter are then preserved in the straw as well as the grain, and will be found tender and acceptable at all times, increasing the flow of milk, and making an admirable change from hay. For horses it has no superior. Our farmers, however, cannot resist the temptation of securing a crop of grain, but they will find it profitable to grow a portion of their oats as mentioned.

Corn is a valuable green food in winter if it is cut before it tassels. We say green because it is a different thing from matured fodder. Some prefer to wait until the small ears appear, but for both horses and cattle it answers best when cut very young, cured and fed in winter.

MILLET AND HUNGARIAN GRASS FOR STOCK.

These crops are excellent for light sandy soils, and grow quickly. The seed should go in this month, and before doing so the ground should be worked up fine. One fault with many who grow these grasses is that they defer the cutting until the seed heads are formed. This practice is wrong, as the seed is not used for stock, and it deprives the soil of valuable material, which should be stored in the stalks and leaves instead of the seed. It may be sown very thickly when a grass crop is desired, but for growing a crop of seed six quarts per acre are sufficient. Horses prefer Hungarian grass to millet. Hungarian grass may be cut every month or six weeks, but millet affords only a single cutting. These crops are the quickest and easiest produced of all the grasses.

BUTTER-MAKING.

To properly understand what is required in a good article of butter, it must be considered that butter, like other commodities, possesses several points of excellence, all of which must assist in arriving at perfection. The first quality to be sought is the flavor. This cannot be imparted by mechanical means, but depends upon the quality of the food and the cleanliness and care exercised. The slightest odor, or exposure, will more or less affect the flavor. The dairyman can only *retain* the flavor, and cannot add anything that will improve it. The proper coloring of butter is an art. The color should be added to the salt, in sufficient proportion to impart a straw tinge. To have it even and uniform, it must be well worked into and incorporated with the butter. The grain is another quality, and, unlike flavor, this is imparted by mechanical methods. Just how to describe the best practice for giving the proper grain cannot be done. Experience alone will only give a knowledge of how to secure the grain as to whether much or too little working will affect the result. Something depends upon the quality of the salt used also. No salt is absolutely pure, and, therefore, great care should be exercised in procuring that article. Salt of a special manufacture, for dairy purposes, is made by those who thoroughly understand what is required, and the difference of a few cents in its cost should not be considered. Only one ounce to the pound is required, and the butter will sell for more when sent to market.

STOCK NOTES.

USE PLENTY OF DRY EARTH.—It is cheap and plentiful. Throw it in the stalls, into the urine, and even over the backs af the stock, if necessary, as it is not only a good disinfectant and absorbent, but prevents vermin.

ABORTION IN COWS.—There is no known remedy for this difficulty, but we mention, for what it may be worth, that several French dairymen report that they have succeeded in curing and preventing the disease by keeping a male goat in the herd.

ESTIMATING FOR PORK.—The amount of pork to be expected from the corn fed next fall will depend upon the summer management of the pigs. Plenty of green food now will show its effects on the capacity of the pig when he is penned up for his corn diet.

STOCK AND TURNIPS.—Don't forget the turnip crop next month when the new seed will be ready. The English consider farming useless without turnips, and if our farmers will raise more roots they will find it to their advantage in winter, when nothing but dry food can be had.

PASTURE.—We are often reminded that stock do best on a good pasture in the summer, requiring but little grain. This is true, but the *quality* of the pasture must be considered. Clover and timothy grass is very different from the natural wild grass, and although a pasture may provide a *sufficiency*, unless the grass is of good quality the results will not always be satisfactory.

RAISING COLTS.—Although it is remembered that mares be bred in spring or fall, it is well known that no plan can be adopted in regard to time. Mares do not conceive as easily as other animals, and the consequence is that colts come in at all times of the year. The only thing to be done is to secure brood mares that give plenty of nourishment, and breed colts from them whenever it can be done, without regard to the season.

JUNE PIGS.—Large hogs cannot be secured from the pigs that are farrowed this month if they are to be slaughtered at the end of the year, but they may remain with the sow until they are eight weeks old with less danger of injuring her, as she can be better provided with a variety of food. Late pigs, however, grow very fast, and gain in that respect over those that are earlier. Avoid feeding them corn; they should not be fatted until six months old.

THE RESULT OF IMPROVEMENT.—We have lately inspected several herds of dairy cows among which Holstein bulls have been introduced. The cows from the cross of that breed with the native breed, give on an average, fifty per cent. more milk than their dams, and as they are only half bred, better results will be obtained when the stock becomes three-quarters bred. According to the above we wonder that every dairyman does not at once seek to improve his herd.

THE RECORD OF PRINCESS 2D.—That a cow should give over 46 pounds of butter in one week from 300 pounds of milk is one of the greatest achievements of the nineteenth century. Given in quarts her yield of milk was about 150 quarts, or in the neighborhood of 6½ pints of milk for each pound of butter. Her feeding was heavy and of the best quality, it is true, but this fact does not detract from her performance. Every one cannot own a Princess 2d, but every one can feed for the best results, and breed the stock to a higher degree of usefulness.

JERSEY POINTS OF EXCELLENCE.—The new standard for Jerseys does not allow any points for the escutcheon, it having been eliminated. The udder and milk veins are strongly encouraged, and every precaution taken to develop *usefulness* in preference to exterior marks of color. This is a great step forward, and will do much in favor of the rapid improvement of the Jerseys, as the tendency during the past ten years has been for production in preference to standard stock. We commend the example of the Jersey breeders to the breeders of other cattle.

THE POULTRY YARD

THE SPACE REQUIRED FOR LARGE NUMBERS.

By P. H. Jacobs, Wayne, Ill.

During the severe weather of the past winter but few eggs were procured from the hens in the northern section of the country, while hatching and raising broilers for market could not be accomplished except in a suitable building. With a poultry-house ten feet wide and one hundred feet long, and divided into ten apartments, thirteen incubators were put in operation, the the chicks being transferred to brooders, one brooder being allowed to each department. While thus engaged the work was mostly experimental, and has given very satisfactory results, so much so as to permit of the claim that raising broilers may be as profitably conducted in the cities as in the country. The loss among the chicks in the brooders, if we except the few very weak chicks that usually hatch with all broods, did not amount to four per cent., which is a trifling loss, if one will stop and consider that when chicks are carried by hens, a loss of two out of ten is twenty per cent. The reason is very plain, also. The incubator chicks were always in a *dry*, warm place, which is the most essential thing in their care, and they were fed regularly, and closely watched. A slight calculation will enable any person to notice that a space 10 x 100 feet is less than the one-fortieth part of an acre. With fifty chicks to each apartment the building accommodated 500 chicks. In the spring, after the weather became mild, each apartment was made to hold one hundred chicks. And, it may be stated, each apartment (had the windows been so arranged as to allow of the change) could have been profitably divided into sections 5 x 10 feet, each of which would have conveniently accommodated fifty chicks. The building, therefore, could be made serviceable for 1000 chicks, and as they are marketed as soon as they are of proper size, they in turn give place to other broods.

What I desire to impress upon the readers here is that chicks can be placed in small apartments, there to remain until they are for sale. No yards are required at all. We have hundreds now on hand, of all ages, and not one of them has ever been outside of the building, and no healthier, finer lot of chicks can be found anywhere. The greatest care is exercised in preventing them from becoming wet, as dampness is not only fatal to young turkeys but also to young chicks, although they are not as properly protected in that respect by the majority of persons as they should be. Water is given in a small drinking fountain that does not allow them to wade in it or wet their feathers. The food is given in small troughs, and consists of anything they will eat, only they are not confined to a single article, but given a variety. If they can be raised successfully in a building, what is to prevent persons of limited means, and also ladies, from raising chicks in large numbers in a building in a city, or on a small suburban lot; nothing is wanted but good care and attention. I am still experimenting, and so far have found fewer difficulties than I at first expected. The common fowls are used, as well as some pure breeds. Plenty of feed and *dry floors* will prevent many losses that occur with those who raise young chicks as a business.

THE CAPITAL REQUIRED.

Among the many inquiries made regarding the matter of raising poultry in large numbers, is "How much capital is required?" If the inquirer will but compare the poultry business with any other, a little reflection will enable him to unravel for himself whatever mystery may be attached to it. If $1000 be invested in a mercantile pursuit, the interest on capital invested, at six per cent., amounts to $60, and a dividend of ten per cent, will give $100, or a total of $160 on an investment of $1000. It is conceded that a return of $160 on a capital of $1000, every year, is an excellent one, and why not take the same view of the poultry business. We are safe in asserting that $160 can easily be made on $1000 invested in poultry, and even more; but the above is given to show that the beginner does not fail simply because he cannot secure several hundred dollars on a small investment. The poultry business will give as large returns as any other, in proportion to capital invested, provided proper care and management is bestowed. The difficulty with most persons is that they expect too much. They are not disposed to take a business view of the matter, but desire the poultry business to do what they would not for a moment expect from any other, which is, a return of the capital in one season. We have often had parties to ask if they could maintain a family with the poultry business, on an investment of a few hundred dollars, something which they would not hope for in any other enterprise.

THE WYANDOTTES.

Eight years ago this breed was uniform in plumage, compact in shape, and gave promise of being one of the best breeds introduced. After being admitted to the standard, which compelled breeders to adhere to points of plumage, the original shape disappeared, and not even the feathering became uniform. Although admitted as a pure breed there are but few breeders who can boast of a flock of hens that are alike. Some are striped on the feather, some white with black edge, and others laced like the Dark Brahma. But few Wyandottes, whether cockerels or pullets, show the beautiful spangled breasts and wings so elegantly displayed in the illustrations. They are fair layers, however, but do not compare with the Leghorns and some other breeds. A few years more and no doubt they will be bred to greater perfection, but they now often revert back to the original stock. There is one thing in their favor, however, which is their bright, clean, yellow legs, and golden-colored skin; in which they excel the Plymouth Rocks or any other breed. They are destined to be one of the best market fowls in existence. They also have small combs, which is a great desideratum, especially in cold climates. They are hardy, and, as a rule, free from diseases as compared with some breeds.

PACKING EGGS FOR WINTER USE.

As the price of eggs is usually low at this season, a large number may be packed and stowed away until prices become higher. It is not necessary to keep eggs six month, though they may be kept a year with care. Prices fluctuate very much, and three months make quite a difference. Opinions differ as to which is the best method of preserving eggs. The usual practice is to pack the eggs in salt, not allowing them to touch each other, filling the spaces well with the salt. Boxes should be used, and the small sizes are best. The eggs are placed on end in the salt, and when the boxes are full, the tops are screwed on tightly. The secret of success is to *turn the eggs* at least three times a week, which is done by turning the boxes upside down. The difficulty with preserved eggs is that the contents, if the eggs remain in one position, settle and adhere to the shells. This cannot be avoided whatever the method or process may be, but if they are packed in boxes, and the boxes frequently turned, as mentioned, the difficulty will be greatly lessened. In addition to salt as a packing, coal-ashes, plaster, well-dried oats or corn, and even dust may be used, but salt is best. Dry processes are more convenient than the liquid methods, and the later they are preserved the better. The chief point to be observed, however, is to frequently turn the eggs, and to keep the boxes in a cool place.

POULTRY SCRATCHINGS.

HAY SEED.—This material can be had from livery stables for a trifle, and is just the thing for young chicks.

THE NESTS.—Tobacco refuse is excellent for preventing lice, and cannot be used too freely, as it is harmless to the fowls.

GREEN OATS.—If green food is scarce sow a quart of oats after a rain, and feed it to the hens when the oats are two inches high.

THE COOPS.—Remove the windows and substitute wire screens, as plenty of fresh air is a very important adjunct to health in summer.

THE BEST SOIL—The best soil for a poultry yard is one that is very sandy, as it dries off quickly, and is easily spaded and cleaned.

THE DROPPINGS.—They quickly decompose now and should be removed often, not only from the coops, but by raking the yard also.

LICE.—June is the month for lice to put in active work. Nothing short of strict sanitary regulations will prevent the vermin, and no time should be lost in suppressing them.

A SUMMER DUST BATH.—As the ground often becomes hard and compact, especially after a rain, a convenient mode of making a dust bath, is to spade up a few feet of earth, working it up fine It will serve the purpose admirably.

GREEN FOOD.—It should be plentiful now, and freely used. We would suggest the sowing of a few rows of leeks and shallots for early use next season. A few onions grown and stored away for winter use will be found excellent, and a hundred late cabbage plants will afford quite a supply when the snow comes again.

JUNE CHICKS.—It is now too late to hatch young chicks, as the prices will be very low by the time they are old enough for the market; yet, they will pay a small profit, no matter during which month they may be hatched. We have already demonstrated that it only requires five cents to produce a pound of chicken, and, consequently, they pay at all times,

YOUNG TURKEYS.—Dryness is the first essential in raising young turkeys, and then comes the matter of range. Young turkeys cannot be confined like young chicks, nor must they be allowed to wander in the wet grass. See that they do not leave the coops until the sun is well up, and that they are shut up before sundown. It will be troublesome for awhile, but pays in the end.

PLUCKING GEESE.—Do not pluck the geese until the goslings are all hatched and able to take care of themselves. The geese may be plucked twice—once in July and once in November, as they will have nothing to do after this month in the way of laying or sitting. It should be remembered that the renewal of the feathers is a great drain on the system, and the geese should be well fed, and given a warm, dry place at night until they are fully feathered again.

THE HOUSEHOLD.

SUMMER IN THE COUNTRY.

By J. E. McC.

"I hear the wild bee wind his horn;
The bird swings on the ripening wheat;
The long green lances of the corn
Are tilting in the winds of morn;
The locust shrills his song of heat."

Whittier.

The summer is full of sweet sights and sounds; but too many hurried house-mothers feel that they have no time for even a breathing-space to drink them in. Yet, it is good for the mother, and good for the work, to make her little pauses; to leave the hot kitchen a minute and feast on the delicate perfume and the rich beauty of the opening rose, this June day; to perform some little, loving office for a drooping favorite in the flower border, and to pick a little cluster of pinks to wear through the bustle and hurry of the morning. These are all little things, but they are sweet helpers to busy hands. It is just such little, softening influences that keep the heart from growing hard and fretted, and that bring pleasant thoughts, those cheeriest of all guests.

The influence of the flower border is not for herself alone. The children will feel and show its power in their every day lives. There is some line of good in the roughest boy who prizes a beautiful flower. I dropped a little bunch of roses, one morning, as I walked up from the ferry in New York, near the stand of a little boot black, and as I crossed a street I glanced back to see the result. He had sprung to the spot in an instant, and already a half dozen others seemed to have flocked about him, to whom he was dealing out a rose apiece. I have many times since then given a flower to a street child, and never without seeing a look of delight spread over its face.

Oh mothers who toil in the country, and think your lot so hard, rejoice that you and your children are not even common working people in the city. What it would be to belong to the city poor, one can only guess with a shudder.

COUSIN PHEBE.

By Aunt Eva.

"Good news for you children," said Mrs. Clyde, "Cousin Phebe is coming to spend all of July with us."

There was a chorus of "good, good, good," from three chubby children, and the baby came in at the close with "dood, dood," though he did not at all understand what it was all about.

"I thought cousin Phebe was that lame cousin of Mr. Clydes," said Mrs. Black. "I should think it would be a sight of trouble to have an invalid about the house in the very busiest season."

Mrs. Clyde smiled cheerily, as she said: "You don't know cousin Phebe; just to have her in the house helps folks, even if she is not able to sit up. But, though she is not strong, and is lame, she helps along with all the work. It is not her happy spirit altogether, but she knows just where the hurry and worry comes in, and can sit in her rocking-chair so calmly, and get a whole dinner ready for the stove, if need be, and invent simple plays for the babies, or sing a sweet song to the children all at the same time, and, yet, all is done with no apparent effort. She can do the most in the quietest way of any person I know. She will not let me touch a needle while she is here.

"'I can't do much, Lucy,' she says, 'but I can sit and sew, or knit, and I should be miserable with nothing to do.' As if she was not always doing; working twice as much as I wish she would. But she says it is only a play-spell to her. Still, if she could do nothing but lie on the lounge all day and cheer one up, and suggest easy plans for doing work, she would be a blessing anywhere.

"It is quite different from having a fine lady visitor settle down in your house and fold her hands, waiting for you to entertain her. I always prefer to have such company come at some other time than harvest; but Phebe can never come at the wrong time. We all want her, and will keep her as long as we can when we get her. Stay as long as she will, she will never out-stay her welcome."

TO SPEND THE SUMMER.

By Edith.

"What am I to do cousin Linda?" said Nelly, laying down the letter she had been reading aloud, with an air of vexation, perplexity, and discouragement.

"I have always found that a truthful, straightforward way was the best, Nelly. I would just write a kind letter explaining the situation, and declining the girls' visit until after the busy season is over. Tell them you are greatly overworked as it is, and that you dare not undertake any additional labor. If they are offended, you must try and bear it with composure. They have no reason whatever to be so. People who choose the most inconvenient time for their farmer friends to entertain them, merely as a matter of convenience to themselves, and as a means of saving money for the summer, are not people of very fine natures. They are too thoroughly selfish to make their opinion of us a matter of much moment. If they get angry over such a reasonable request, it is all the plainer that they would be very undesirable guests. I knew a family living in a roomy house in a small village, who had two half-grown, boydenish school-girls sent down to them for six weeks, while their city friends shut up their house and went to Saratoga. They were merely acquaintances, and they came for a visit, the lady of the house receiving instructions "to treat them just as she did her own girls, and not allow them to be careless about making washing, &c." She must "limit them to so many white waists a week," which was a very encouraging view for the mother of eight children, one of whom lay dangerously sick all summer. They all survived it, but it was a puzzle to see how. The next year when they wrote to invite themselves down, the letter was left unanswered. People who are of the order of 'spongers,' may well be avoided by any fair means within our reach. I would surely write to the girls, asking that their visit be deferred to the fall; and while I would write politely, I would also write plainly, so that there would be no danger of being misunderstood."

LIGHT BISCUIT.

By Lois.

"What, making biscuit for your workmen, Mrs. Hammond?" said her neighbor as she ran in to borrow a cup of sugar. "You must have more time than I do."

"This is the second time to-day," said the other, sliding a wide tinful in to her oven. "I gave them two heaping bread-plates full for breakfast. I do not know of anything that I can make in ten minutes' time, that is half as satisfying to a company of hungry men. They about take the place of hot buckwheat cakes in winter, only they are far easier made, and far more wholesome. I think this talk we have heard all our lives about the unhealthfulness of hot biscuit, is largely superstition. There are no heartier or happier set of workmen than ours come around a table, and nice, light biscuit twice a day is our regular custom. I put a plate of bread on the table for any who prefer it, but it is seldom touched. It is far easier for me than the same amount of bread moulding, watching, and baking, and if it hurts nobody, I mean to keep it up. I think biscuit got their bad name from that hot shortcake of our grandmother's, which was fairly melting with shortening. It was a different kind of provision from our modern, feather-weight, baking powder biscuit."

"I don't want to hinder you, but could you just give me your directions for making them."

"Oh, yes; I can write them down in a moment," and taking up the ever-handy pencil, she wrote:

One quart of buttermilk, with enough soda to just sweeten it. Half a teaspoonful is usually enough. One teaspoonful of salt; one large, heaping spoonful of lard. Mix five heaping teaspoonfuls of baking powder with the flour; then rub in the lard, and mix. Bake quickly.

"It usually takes me just ten minutes to mix, roll, and put in the oven; though, when in a hurry, I can do it in less. Then it can go on baking while I am preparing the rest of the meal. I like it, and my men folks like it, and we have not a dyspeptic person in the house. So, I mean to keep up the practice for the present."

A POOR TOPIC FOR CONVERSATION.

By Arley.

Miss E. had a very pleasant face and manner, as she sat down cosily for an afternoon call. She is a well-informed woman, and there were many topics of interest on which she could have conversed with pleasure and profit; but the sole one of which she could speak, was a recent lung and bronchial difficulty, of which she had been the victim. She smilingly opened up the subject in reply to an inquiry about her health, and for one hour the symptoms, treatment, and past history of the case were detailed with sufficient exactness for the most searching medical inquest. It was useless to try and change the subject. It must be heard to the end, and all was told as impressively and pleasantly as if it was the most agreeable of news. She is an excellent, kindly woman; but even that could not prevent the infliction from being very wearisome. As far as I could see, it was of no possible advantage to her, and it was difficult to imagine how the painful review could have been a pleasure.

One might suppose that Emerson had fallen in with people of this type, which caused him to give this good counsel, which is especially valuable to young people whose habits are forming. He says:—"There is one topic that is peremptorily forbidden to all well-bred, rational mortals; namely, that of distempers. If you have not slept, or if you have slept, if you have headache, sciatica, leprosy or thunder-stroke, I beseech you, by all angels, to hold your peace." He always says a thing strongly, if at all; and we can easily see that he takes this point too far. There are suitable times and seasons for speaking of complaints, even to our friends, but they should not be made the staple of conversation. Details are not usually interesting to outsiders; but on the contrary, quite the reverse. Sympathy is quite as likely to flow from a few words regarding our affliction, as from a day's harping upon it.

There are those who must talk over their troubles, and who rejoice when a fresh listener can be obtained. If you are that listener, take it patiently and kindly; at the same time, when you see how irksome it is, take the hint and do not do so yourself. It is an art to learn to talk on suitable subjects, as well as to speak in a fluent and graceful manner.

RECIPES.

SNOW CAKE.—12 eggs, 3 cups sugar, 3 cups flour, 1 cup sweet milk, 1 cup butter, 1 cup corn starch, 2 teaspoonfuls baking-powder; flavor to taste.

GINGER BREAD.—One-half cup lard, 2 cups molasses, 1 cup sugar, 1 cup sour milk, 1 tablespoonful soda, 1 tablespoonful ginger, some salt.

LEMON CAKE.—5 eggs, 3 cups sugar, 4 cups flour, 1 cup sweet milk, 1 cup butter, 2 teaspoonfuls baking-powder; flavor with lemon.

SPONGE CAKE.—6 eggs, 3 cups sugar, 1 cup water, 4 cups flour, 2 teaspoonfuls baking-powder.

SOFT GINGER BREAD.—1 cup sugar, 2 cups molasses, 1 cup butter (if lard, salt), 1 cup water, 1 teaspoonful soda, 2 teaspoonfuls ginger, 2 teaspoonfuls cinnamon, 2 eggs, 5 cups flour.

AUNT MILLIE'S HARD SOAP.—6 pounds sal-soda, 4 pounds unslacked lime, 24 quarts rain-water. Put all on the fire, and boil, then set off and let settle. Drain off and put over the fire with 6 pounds clear grease, and one-half pound rosin. Boil until it begins to thicken, throw in a couple handfuls of salt. Let cool and cut.

MRS. M. I. H., Greenville, Ill.

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GRAHAM GEMS.—1 quart buttermilk, 1 teaspoonful soda, 1 teaspoonful salt, flour enough to make a very stiff batter, and baked in gem pans, hot and well greased, in a hot oven.

POTATO SOUP.—1 gallon water, 6 potatoes peeled and cut in squares, 1 tablespoonful salt, 2 onions, one-half cup rice. Boil one hour. Just before taking from the stove add 3 tablespoonfuls flour, stirred in a cup of sweet cream, and a tablespoonful butter.

GINGER BREAD.—One-half cup sugar, 1 cup molasses, one-half cup lard, 1 teaspoonful each of clover, cinnamon, and ginger, 2 teaspoonfuls soda in a cup of hot water, 2 well-beaten eggs, $2\frac{1}{2}$ cups flour.

CREAM PIE.—1 pint milk, one-half cup sugar, 3 tablespoonfuls flour (or 2 of corn starch), yolks of 2 eggs, pinch of salt, flavor with vanilla. Boil quickly until thick. Bake a lower crust. When baked pour in the cream. The whites of 2 eggs, one-half cup sugar, beaten until stiff, spread on pie and brown in oven.

WHITE CAKE.—2 cups sugar, 1 cup butter, one-half cup milk, whites of 8 eggs, 1 teaspoonful baking-powder, cream, butter, and sugar, add milk and well-beaten whites, flour, and baking-powder for a moderately stiff batter.

CUSTARD.—1 quart milk, set to boil in a pan of hot water, 1 tablespoonful butter, yolks of 4 eggs, well beaten, added to a little cold milk, and 4 tablespoonfuls sugar; stir into the hot milk, and let cool until creamy, stirring often. Just before taking from fire add salt and vanilla to taste. Beat whites to stiff froth, add 2 or 3 tablespoonfuls sugar, while beating, and a few drops of vanilla; place on top of custard.

MRS. A. H. M., Charleston, W. Va.

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WHITE CAKE.—1 cup milk, 3 cups flour, one-half cup sugar, 2 tablespoonfuls melted butter, 1 egg, 1 teaspoonful soda, 2 teaspoonfuls cream tartar (or 3 baking powder.)

JUMBLES.—1 cup butter, 2 cup sugar, 3 eggs, 1 teaspoonful soda, lemon for flavoring; roll in sugar.

CREAM PUFF.—2 eggs, one-half cup sugar, two-thirds cup flour, 1 teaspoonful baking-powder, mix with flour; break eggs in a bowl, add sugar, then flour. Split the cake, and put the custard between. *Custard:*—1 egg, 2 or 3 tablespoonfuls sugar, 1 tablespoonful corn starch, 1 cup milk; cook in hot water, like boiled custard.

DOUGHNUTS.—1 cup sugar, 1 cup sweet milk, 1 egg, 3 teaspoonfuls baking-powder, 1 tablespoonful butter. After taking out of the lard, roll in sugar.

DRESSING SALAD FOR CABBAGE OR LETTUCE.—4 eggs, beaten well, 2 tablespoonfuls mixed mustard, one-third teaspoonful red pepper, 1 teaspoonful salt, 1 tablespoonful hard butter, 6 or 8 tablespoonfuls vinegar; set into boiling water over the fire, and stir until thick, like custard; when cold and ready for use take one-half cup cream, and add 2 tablespoonfuls of the salad. Chop the cabbage fine, and pour over.

GINGER CAKE.—1 cup molasses, 1 cup sour milk, 1 cup brown sugar, one-half cup shortning, $3\frac{1}{2}$ cups flour, 2 eggs, 2 teaspoonfuls soda; spice to taste.

MRS. J. W. J., Onaga, Kansas.

ODDS AND ENDS

OBEDIENCE.—A great step has been gained when a child has learned that there is no necessary connection between *liking* to do a thing and *doing* it.

LIKE SUNBEAMS.—If you have something to say, as a general rule, boil it down. Words are like sunbeams, the more they are condensed, the deeper they burn.

GREENLAND AGRICULTURE.—It is said that carrots and turnips can be raised there, and that cabbages produce tolerably large leaves. But potatoes never get larger than marbles.

CRACKER MINCE PIE.—Two cups of crackers, rolled fine; 1 cup of sugar; 1 cup of molasses; 1 cup of water; half a cup of vinegar; 1 cup of chopped raisins. Spice to taste. Bake like other mince pies.

THE DAHLIA.—It is just one hundred years since the Dahlia was first introduced into Europe. It was found in Mexico and was sent to Spain. Kostritz, in Germany, is now the centre of the Dahlia culture.

IVY POISON.—For ivy poisoning nothing is better than simple lime-water. Those exposed to it must apply it several times a day. If it once gets fairly started it is difficult to entirely cure it, until it has run its two weeks course.

Two little girls had a dispute about the possession of a few beads. At last one thought of an agreement which she felt ought to have weight. "Oh, Lizzie; you should remember the Golden Rule! Give 'em all to me."

Daniel Webster once used an excellent illustration in an address, and an admiring friend asked him afterwards where he obtained it. "I have had it laid up in my memory for fourteen years, and never had an opportunity to use it before," he replied. It costs nothing to carry knowledge, and there is no telling when an item will come into play.

In boiling greens, always add a little soda to the water. It leaves the greens bright, and the water will be almost black. Be sure the "looking over" of greens is given to some trusty person. So many insects harbor in them at this season. Rightly prepared, they are an excellent addition to any dinner. Serve with hard boiled eggs laid over in slices.

UNCONSCIOUS INFLUENCE.—An enthusiastic admirer of Carlyle once visited him, but complained afterwards that his presence, in some unaccountable way, "rasped on the nerves." On the other hand, one describes the entrance of Dickens into a room "as the sudden kindling of a big fire, by which everyone is warmed." So much is there in unconscious influence.

It used to be the custom to take out to the weary harvester, about ten o'clock, a covered tin pailful of cold water, in which had been mixed molasses, a little vinegar, and a spoonful or two of ginger. I never heard of its doing any harm, but the thirsty men counted it very refreshing and satisfying. It certainly is far better than the heating fluid sometimes passed around in harvest fields.

THE LARGEST APPLE TREE.—The largest apple tree in the country is said to be in the door-yard of Delos Hotchkiss, Cheshire, Conn. Its circumference is thirteen feet and eight inches. The girth of the largest limb is six feet and eight inches. It has eight branches; five bear one year and three the next. 110 bushels have been gathered in one year from the five branches. It is over 140 years old.

WOMAN'S RIGHTS.—There is a good deal of clamor in some quarters for woman's right to do men's work. They have this right across the ocean, without stint. Henry Wilson tells us that in the land of "Bonny Doon" he saw seventeen women hoeing in one field, and a man standing by without a hoe, acting as overseer. In Germany he saw women working with a barrow on the railroads, carrying coal, carrying mortar up a ladder to the top of six-story buildings, saw women yoked with dogs, donkeys, and cows, women with faces almost as black as Africans, and loaded down with great packs of hay, while a man walked leisurely along carrying a rake. French peasant women may be seen hard at work in the fields, while their husbands lazily smoke on the door steps. And yet some American women rail at our government.

WHY THE HOUSE WAS UNHEALTHY.—A fine house could never keep its tenants, though kept in the best of repair. A fever seized its occupants and gave the place a bad name. An investigation showed the cause. The handsome wall-paper had been laid on over the last coat for generations, and the fetid old sizing and paper were fermenting, and breeding death in all the rooms. A thorough scraping and cleaning restored the value of the house.

MIDSUMMER.

Becalmed along the azure sky
The argosies of cloud land lie
Whose shores with many a shining rift,
Far off their snowy-white peaks uplift.

Through all the long midsummer day
The meadow sides are sweet with hay,
I watch the mowers as they go
Through the tall grass, a white-sleeved row;
With even stroke their scythes they swing,
In time their merry whetstones ring;
Behind the nimble younglers run,
And toss the thick swaths in the sun.
The cattle graze while warm and still,
Slopes the broad pasture, barks the hull,
And bright when summer breezes break,
The green wheat crinkles like a lake.

TIRED OF THE FARM.—A young girl, tired of the farm, went down to New York last September to seek her fortune. A paper advertised "good wages for light work," and she applied at the establishment, which proved to be one where collars were made. She worked steadily all day at the sewing machine, and at night joined a long line of hungry-looking, hollow-eyed women to receive her pay. She was told that she earned twenty-five cents, but five cents would be deducted for the thread she had used. She said, indignantly, that she could not live on twenty cents a day, but a scornful laugh and stare were her only reply. She was a girl of good sense, and told the circumstances to the first policeman she met. The next day she was sent home by the Chief of the Police to the blessed old farm again, with its peace and plenty, and with the advice to stay there.

HIGHWAYS.

A highway is every passage, road, bridge, or street, which a citizen has a right to use.

Highways are created by the legislative act, by necessity, and dedication. When private property is taken by a legislative act for a highway, just compensation is given, which amount is usually determined by a jury, or by commissioners.

If a highway becomes impassible from any cause, the public have a right to go on the adjoining land, even though there be a crop on the same.

The owner of land may dedicate it to the public for a highway by allowing it to be used as such without exercising control over it. The dedication may be evidenced by deed or by act of the owner, or his silent acquiesence in its use for twenty years. There may be a gift of the land on the part of the owner and acceptance of the public.

By taking or accepting land for a highway, the public only acquires the right of way, and the incidents necessary to enjoying and maintaining it, subject to the regulations of the towns. All trees within the highway, except only such as are requisite to make or repair the road or bridges, on the same land, all grass there on, and minerals below, are for the use of the owner or occupant of the land.

The owners of the land on the opposite sides own to the centre of the highways. If at any time the highway is abandoned the owner recovers the land.

The liability to repair is determined by statute, and, as a general rule, devolves upon the towns.

The commissioners of highways in the several towns have the care and superintendence of the highways and bridges within their respective towns. It is their duty to repair the bridges and and roads and to regulate and alter such of them as a majority of the commissioners shall deem inconvenient; to divide their respective towns into so many road districts as they shall deem convenient; to assign to each of the said road districts such of the inhabitants liable to work on highways as they shall think proper, having regard to the proximity of residence as much as may be.

COMMENTS FROM THE PEOPLE.

Wilbur F. Hitt, Indianapolis, Ind.: "Have seen your paper but little, but like it for being practical."

Otto L. Nichols, So. Brookfield, N. Y.: "I would rather have the FARM AND GARDEN than any agricultural paper I have ever seen."

Orvin Hubbard, Artesia, Cal.: "I now send you a club, and will continue to work for you and your little gem, which is worth twice its price."

E. G. Wood, Northview, Mo.: "We have been taking your paper and prize it very highly. We think we have received a great deal of information."

Jas. W. Love, Ft. Valley, Ga.: "I have no idea of giving up the FARM AND GARDEN. Meet it when and where you may, it seems to greet you with a pleasant smile."

Alfred Rawson, Westville, New Haven, Conn.: "I received package of rose plants in good order. They are larger than I supposed they would be, and we are much obliged."

Mrs. H. A. Alling, South Cairo, N. Y.: "The rose plants came yesterday in good shape and looking finely. I am very much pleased with them. Many thanks."

J. W. Manning, Odell, Neb.: "As soon as possible I am going calling with my little yellow-bird, the FARM AND GARDEN. I want all my neighbors to have it; it is full of good things."

W. K. Hamilton, Bunker Hill, Ill.: "I am well pleased with the FARM AND GARDEN, and think it is the best little paper that is published. As long as I command fifty cents I will not be without it. I wish it was a semi-monthly."

George A. Breed, Oconomowoc, Wis.: "I received from Mr. H. S. Anderson, of Union Springs, Cayuga Lake Nurseries, the Niagara grape vine I ordered through you. Also received the collection of seeds from William H. Maule. They are very satisfactory. I read with much pleasure your excellent and well-edited paper, and hope you will give us a true description of all new fruits and flowers, that we may not be imposed upon by interested nurserymen."

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CONTENTS OF THIS NUMBER.

EDITORIAL COMMENT.

June. "Learn to labor and to wait."—*Longfellow.*) The farmer *has* learned, and is accustomed to work. For weeks and months past he has been plowing and harrowing and seeding. He has been out in the field early and quit his work late. But now the planting season is over. If he has done his work intelligently,—which we expect of all readers of the FARM AND GARDEN, done it thoroughly and in proper season, he has done his part towards a final result, such as he deserves. Then he can wait for his reward patiently and without worry, but with an implicit and child-like trust in the great goodness of our mother Nature and in the blessing of the Supreme Being. For as *sure as there was a seed-time there will be a harvest.*

And while thus waiting and trusting, he has no time for idleness. June is the chief month of weeds, and they are, like bad habits, hard to eradicate when once firmly established. Stay them with harrow, cultivator, wheel-hoe, hand-hoe, plow, with fingers and weeders,—any way you can, but kill them, and kill them in infancy.

Rest is a powerful invigorator for the hard-working farmer. Let it be as perfect as the work. Your mind should be at ease and free from cares. Only then can you enjoy the fullest benefits from rest.

But the plow that rests will rust, and the farmer whose tools are kept rusty for an improper length of time, will "bust." Coal oil is said to keep plow shares, cultivator blades, etc., from rusting. Frequent use will do it better, and the cultivator must not be resting too long at a time.

When done with plow, harrow, corn marker, etc., put them under shelter. Do not let them lay in the fence corner or on top of the fence.

Keep your eye on the stock in the pasture lot. Give them salt occasionally or rather, regularly. Teach your horses and colts to come to you when you call them.

Keep your garden free from weeds, and well cultivated. Buy a wheel-hoe now, if you have none.

It will pay you to irrigate your garden if you have the water facilities.

Fill out vacancies in the garden as soon as they occur. Plant lettuce, radish, cabbage, turnips, cucumbers, etc. Thin out and transplant beets. Have every available space utilized.

Celery for early fall use may be planted the latter part of this month.

Be careful with fire; with pipes and matches around barns and straw stacks during the dry season.

You want nice, bright hay for next winter. Make it in season and *while the sun shines.* The best time to cut grass is when in full bloom, or very little later.

Prepare for the drought that is pretty sure to come some time during the season. Pasture will be short during the latter part of the summer or fall months. Plant some sort of fodder crop. Sweet corn is excellent. Plant Stowell's Evergreen in rows three and one-half feet apart, and quite thickly in the rows, say six or eight plants to the foot. It is generally not worth while to sow corn broadcast. In order to obtain gratifying results, fodder corn needs cultivation as much or nearly as much as the common corn crop. When grown in cultivated rows and on good soil, you can raise not only a large crop of splendid green fodder, which will increase the flow of milk wonderfully during the shortage of pasture, but also a large amount of ears for drying or feeding purposes.

If you have more than you want—and very likely you will if you plant a large patch—take it to your nearest evaporating establishment. It is generally in good demand at a price which makes the production of it very profitable. We can always find sale for sweet corn in the *husk* at thirty cents a bushel in our neighborhood. The ears thus pay for all expenses and more, leaving the fodder as clear.

Where preferred, Early Minnesota Amber Sugar Cane may be grown for fodder purposes.

Hungarian grass not only makes a fine green fodder, but also a splendid hay. It should not be sown before the soil has become thoroughly warmed through. In more southern latitudes it may be planted on good soil after the wheat is harvested. Use about three pecks of seed to the acre. There is no use in sowing it on *poor* soil. Cut and feed or cure as soon as the heads are well out. Horses and cows are very fond of it. Even the coarsest part of the hay is eaten with evident relish. Do not neglect to provide for the future by planting one or the other of these crops, we beg of you.

A crop of 400 bushels of potatoes will remove from the soil 45 pounds of phosphoric acid, 135 pounds of potash, and 101 pounds of nitrogen, or the reabouts, while 50 bushels of corn remove 19 pounds of phosphoric acid, 131 pounds of potash, and 98 pounds of nitrogen.

It appears, therefore, that one bushel of corn requires about as much raw material as eight bushels of potatoes, yet the price of one bushel of the latter not only equals but exceeds that of one bushel of the former.

We consider the price generally paid for the tubers far in excess of what they are actually worth as an article of food, and certainly one that makes potato growing a very profitable business for the farmer engaged in it, provided he knows how to proceed.

We came across the following item in a Washington daily:—

"Washington, April 16th. Market Master Buell reports that the sale of oleomargarine cannot be prevented. The imitation butter proves better and cheaper than much of the genuine article, and a conviction under the health ordinance is almost impossible."

There is the rub. "Better and cheaper than much of the genuine article!!" The remedy is in the farmer's hand, and is said in two words—*good butter.* Such can be made cheapest and to the best advantage by co-operation. Let the farmers of one and every neighborhood erect a suitable structure for a creamery, centrally located. Supply it with all the necessary apparatus, hire a first-class, experienced butter maker, and deliver all their milk daily to this factory. In this way gilt-edged butter can be made much cheaper than each farmer with three or four cows can produce it at home.

Good butter, and a full supply of it, will soon drive the oleomargarine and other slaughter-house butter to the wall. Inferior butter will *never* do it, even with the assistance of severe legislation. What say you?

If we aim to grow a four hundred-bushel crop of potatoes to the acre, we must supply the manurial elements which that crop removes. How to do that, and do it the cheapest, is the question.

The green clover on one acre, which would make one ton of hay, and the clover roots, eight tons in all, contain about 26 pounds of phosphoric acid, 70 pounds of potash, and 112 pounds of nitrogen. Now then, turn under a good stand of clover, either in fall or spring. Thus you furnish more than enough nitrogen, the most costly of the elements, for a four hundred-bushel crop of potatoes. All you would have to add, in order to have a sufficiency of available plant-food for the manufacture of that four hundred-bushel crop, is 17 pounds of phosphoric acid and 65 pounds of potash per acre.

One hundred pounds of superphosphate of lime and 250 pounds of kainit (or a corresponding amount of muriate or sulphate of potash) will supply the deficiency at the trifling expense of less than $4.00 per acre. From these statements it also appears why potash (and phosphoric acid next) is considered a specific manure for the potato crop.

If the raw material is to be supplied wholly by the application of barn-yard manure, 14 two-horse loads of one ton each of mixed and well-decomposed stable dung will furnish 56 pounds of phosphoric acid, 140 pounds of potash, and 126 pounds of nitrogen, or more than sufficient for a four hundred-bushel crop. Each farmer must decide for himself which method of manuring is the cheapest for him.

It is not to be supposed, however, that the application of that quantity of manure—of clover and chemicals, will *insure such a large crop.* The plantation needs considerable coaxing besides. Like a cow giving milk, the field responds liberally to kind and judicious treatment.

The wheat crop in Virginia is a sorry sight indeed. We would not expect more than half a crop, unless each plant, having plenty of space for tillering, will verify the soundness of the doctrines of those who advocate light seeding. Here is a chance for making converts. We shall watch the development of these wheat fields this month (May) with great interest.

The wise farmer has kept and taken care of his sheep. The wool money will come handy. It will be plain enough, after a time, that the tariff has not so much to do with the *price* of wool, and that the heated discussions, etc., which, during the "sun-stroke" days of last season, filled so many columns of the agricultural papers, have been, like purely political debates, entirely fruitless. The wool grower need not see ghosts nor be afraid of his own shadow.

The shearer should not be allowed to maltreat the sheep because it does not cry out. We like quick and skillful work at the business of shearing, but we protest against the practice of "racing it" between the hands. No matter how willing the patient animals may be to part with their wool, *they need their own skin.* At least, the removal of each particle under the jaws of the shears is exceedingly painful to them. Be merciful.

Should cold storms follow closely upon the operation of shearing, the animals should be sheltered for a while until they get accustomed to the loss of their winter garments.

We are glad to see Col. Norman J. Colman, of the *Rural World*, at the head of the Agricultural Department in Washington. We know him by reputation and by his writings, not personally, but we consider him a practical man, and expect him to inaugurate the reforms needed in the Department.

Mr. Colman is an enthusiast on the question of sorghum sugar. We also believe that we shall yet see the time when all the sugar consumed in America will be produced at home. We have that much faith in the superiority of American soil and climate and in the skill, progressiveness, and pluck of our farmers. It only takes time and perseverance. Rome was not built in one day, and it has taken millions of dollars and long years of experimenting to put the sugar industry of Europe on its present footing. America will yet catch up with all her rivals and competitors.

Mr. Colman, we believe, has a good deal of that "horse sense" so rare and so much needed at present, and we hardly fear that he will follow Mr. Le Duc's example, and be one of them, of whom the advocates of home-grown sugar might pray, "Lord protect us from our friends."

The Agricultural Department of the future must be an altogether different affair from the Department of the past. Mr. Colman has had ample opportunity to see its deficiencies and will try to remedy them, no doubt.

At all events, we want *reliable information*, not packets of convolvulus major, Lattyrus odorat and of such flower seeds, as—according to *Home and Farm*—are not even worthy of the distinction of a common English name. Give us information and leave the seed business to the seedsmen.

The *Ohio Farmer* speaks of "rich soil and thorough culture," which they contend will make the one-eye system a success. "The careless, don't-care farmer had better stick to the whole tubers or the old system of cutting." Yes; rich soil; there is the rub. On *rich* soil you can raise almost anything, and large crops without much difficulty.

It seems to us that the chief question is this:—Which is the most profitable distance between the hills in the rows, 9, 12, 15, or 18 inches? Is it more profitable to multiply the number of hills with less tuber in each, or to have fewer hills and a greater yield in each?

CLIPPINGS.

It is our desire to make these so full and varied that every reader of the FARM AND GARDEN, *even though he takes no other paper can feel in a measure acquainted with all the leading publications.*

From "National Poultry Monthly," Springfield, Ohio.

STIMULATING FOOD.

There are some who will tell you the wild gallinaceous birds feed on fragrant berries, carminative seeds and spices, having more or less stimulating properties. True, the wild turkey plucks the buds of the sage bush, the Aromatic Vinago Pigeon, Phasmella and Oceanic Fruit Pigeons Cigana, Penelope, Palmeada and Jungle fowls feed much on tropical fruits and spices. Under domestication fowls require nutritious food, with a little seasoning once in a while, to give relish. Any simple condiment like ginger, or pepper, is stimulating and helps to make them thrifty, but they should not be fed on such quantity as would cause undue action in the system, but merely to "tone up." If fowls are fed in this way there is no reason to expect they will keep in good condition and make themselves valuable to their keepers.

From "Gardeners' Monthly," Philadelphia.

ONE HUNDRED BUSHELS OF APPLES FROM ONE TREE.

In the *Gardeners' Monthly* for December some one mentions the case of an apple tree bearing forty-three bushels of apples in one year, and asks for record of a larger yield.

I would call to your notice a tree in Cheshire, Connecticut, belonging to Mr. Delos Hotchkiss, which is believed to be the largest apple tree in New England. In 1880, when I measured it, it had eight large branches, each of them as large as an ordinary full-grown apple tree. The spread of these branches is six rods; five of them in one year have borne eighty-five bushels of fruit since Mr. Hotchkiss owned the place, and his predecessor had over one hundred bushels in one year from the same five branches, which had a habit of bearing one year and the other three the next.

From "Breeders Gazette," Chicago, Ill.

It is announced that agents of the British Government made a contract last week with Armour & Co., of this city, for 5,400,000 pounds of canned meats, and that on Monday of this week a contract was made with the Fairbank Canning Company for 3,800,000 pounds, making a total of 9,250,000 pounds, all supposed to be designed for the British army. This immense order has some significance in its relation to the probabilities of war on a large scale in Africa, in support of British authority against the followers of the "false prophet," or in Asia in opposing the Russian advance beyond the alleged Afghanistan frontier, but it has an especial bearing upon the relation this country sustains and must continue to sustain toward Great Britain in the matter of food supply, and more especially so when the peace of Europe is threatened. In times of profound peace even, the British people find this country the chief reliance for meat supply, while in case of anything like a general European war, the American store-house will become well-nigh indispensable to them.

From "Farm Journal," Philadelphia.

HOW A YANKEE WOMAN MADE GOOD CHEESE.

I used to make cheese the storekeepers liked to buy and everybody liked to eat. Our dairy was small, and they were made in a simple way, just as mother made them. We thought a great deal of cheese in those days, and it seems to me that it was not so sharp and indigestible as it is now. There is too much hurry now-a-days, and the cheese is spoiled by too much rennet, to get it quick and get it out of the way as soon as possible We used to take all day for one cheese to come and drain off, and all of this time it was getting better, or, as they say now, "ripening," and that means, I suppose, getting to be real cheese. The hurried-up stuff is only partial cheese—green—and it gets strong and is not good. You cannot *make* cheese after it is put into the press no more than you can make butter after it goes into the bowl. What is there *is* there, good or bad.

The rennet is the stomach of the calf, saved while it is living on milk. It is dried in salt, and when wanted for use it is soaked in salt and water, and the juice is used to make the curd for the cheese. Soak one rennet in two quarts of water, and take a tablespoonful of this liquor for twelve quarts of milk. We used to make double-curd cheese, and use the night's milk. The rennet was put in as soon as the milk came in, and the curd carefully dipped out into a cloth and put into a basket to drain off, in a cool place. In the morning this curd would be ready to mix with the other curd when it was prepared. The curd will come in the milk in ten or fifteen minutes after the rennet is put in. It should then be cut into small squares with a case knife, so carefully as not to break the curd. Dip out the whey, and do not let the curd or whey get sour, or you will have a soft and rank cheese. The whey should be heated as hot as one could bear his hand in it—about ninety degrees or a little more, and poured upon the curd. When too hot, the cheese will be hard and dry.

When the curd has a squeaky feeling or pulls out stringy, it is just right. The curd should then be put in a cloth to drain. When drained, put it into a chopping bowl, with the curd of the night before, and chop it fine; put a small teacupful of salt to twelve pounds of curd, and put it into the press. Squeeze gradually at first, and increase the pressure until the press is required for the next cheese. A cloth bandage should be put around the cheese, and it must be turned and rubbed every day. Rub with butter, and keep in a cool, dark place. As a general average, nine pounds of milk will make one pound of cheese. The richer the milk the less required. The pressure should be enough to force out all of the whey or there will be putrid spots in the cheese where cells of it are retained, and these make bad-smelling and tasting cheese. More might be said if I had the space. We ought to make cheese in dog days. At night take the cheese out of the press and turn it.

From "Western Farmer," Moline, Ill.

THE DUCK QUESTION.

Again must we call the attention of breeders to the profit in ducks, when properly cared for and when there are facilities at hand for breeding them properly. Many a farmer has realized far more from breeding ducks than he would obtain from his chickens, for they are very hardy, and lay remarkably well during some parts of the season. As soon as they commence to lay, the eggs should be carefully gathered and put away. As soon as a hen (not a duck) wants to sit, set her with duck eggs, and let her hatch and care for the brood until they are able to care for themselves. A hen will care for a brood of ducklings far better, ordinarily, than will an old duck. If the ducks think they have laid enough eggs, and show unmistakable signs of wanting to sit, put them into a convenient coop and put one of your most vigorous young drakes with them, and they will soon be willing to shell out eggs again, which should be set under hens as fast as convenient, so as to bring as many out at a time as possible, thereby lessening the cost of attending to them. A shallow tub, kept well filled with water, will afford plenty of bathing room for the ducklings until they are two or three months old, or perhaps longer.

From "American Agriculturist," New York.

NUT-BEARING TREES.

The time is not far distant when tree planters will take the fruit of forest trees into consideration in making selections for planting. Chestnut and Hickories, and Pecan and English Walnut in southern localities should pay a good rent upon the land for a number of years before they are converted into timber. Most boys are aware that some hickory and chestnut trees produce nuts larger, sweeter, thinner shelled, or in some particular superior to the average. The variation in the nuts is sometimes strongly marked. In the selection of nuts for planting, some care and even expense devoted to securing the choicest obtainable varieties are likely to be rewarded when the trees come into bearing.

One of the most distinct and valuable varieties that has ever been brought to our notice is the "Hale's Paper Shell Hickory Nut." We first became acquainted with this variety some fifteen years ago; and the next season described it under the above name. It is a variety of the common Shell-bark Hickory, and the tree is now growing, with several others of the same species, near the Saddle River, on the farm of Mr. H. Hales, about two miles east of Ridgewood, Bergen County, N. J. The tree is a large one, and produces a fair crop of nuts annually. The general appearance of this nut is quite similar to some of the varieties of the English walnut, the surface being broken up into small depressions instead of angles and corrugations, as usually seen in the large varieties of the Shell-barks.

From "Western Rural," Chicago, Ill.

WHEY AND OIL MEAL FOR CALVES.

We are asked by a correspondent if oil meal and whey are as good for a calf as milk, and how to mix the meal and whey. We suppose it can hardly be said that anything is as good as milk. Or more properly speaking, it can hardly be said that a mixture equal to milk is ever compounded, though there might be. We refer to young calves. After a comparatively short time, there are foods that are better than milk. Whey has a considerable feeding value. The following is the analysis: Water 93.02; butter (pure fat), .33; albuminous compounds (containing nitrogen) .97; milk, sugar, and lactic acid, 4.98; mineral matter (ash), .70. The ash, it will be seen, is large, nearly as much as in whole milk. The albuminous matter is nearly one per cent. Now, if you will replace the oil that has been taken away in the cream and add the phosphate of lime, magnesia, sulphur, soda, etc., that have been taken away in cheese making, we shall have made it pretty nearly as good as natural milk, and made an appropriate food for growing calves. There is no single food equal to oil meal that can be added to whey. It contains about twenty-eight per cent. of muscle-forming food, and that is what the whey most lacks. It also contains about ten per cent. of oil, another deficiency in the whey. It has also considerable lime, magnesia, potash, soda, etc., which the calf needs for bone formation. Dissolve a quarter of a pound of oil meal in hot whey and add it to a gallon of whey; it will make good food for a calf ten days or two weeks old. When the calf is three or four weeks old, add a quarter of a pound of wheat bran, ground oats, or barley to each gallon of whey.

From "Rural New Yorker," New York.

If we look around and consider the results of all the exaggerated and senseless excitement in regard to contagious disease of our live stock, we shall see the enormous losses which have been inflicted upon our business with foreign countries. Our trade in provisions has largely gone into other hands, and the absurd cry about diseased meats has been made the excuse for loading our products with heavy tariffs. The large business we might have done in shipping live feeding cattle abroad has been entirely prevented, and our live stock interest has lost millions of dollars annually. As an instance, let me give the following figures: A lot of 417 steers, averaging about 1200 pounds each, was sold last fall, at Omaha, to a gentlemon who is engaged in feeding such cattle, for about $40 per head. The same kind of cattle were worth in England, at that time, for the same purpose about $90. If we could ship such animals abroad and supply the large demand, which this price indicates, it would be a profitable business. But our stock is looked upon abroad as reeking with all the diseases imaginable, and is forbidden entry in foreign ports; while at the same time it is the healthiest in the world. This is the serious part of the business; the farce of it is the constant investigating business; the highly sensational and chromo-lithographed reports of the doctors, and the hundreds of thousands of dollars which have been spent among veterinary doctors who would otherwise have found no use for their talents.

From "Poultry Keeper," Chicago, Ill.

MINKS.

Unluckily for me I am not a millionaire, hence this letter. If I were one of the above-named lucky mortals, I think I would proceed to hire a correspondent clerk and invest in a few paper and envelope mills immediately. For, since you published my letter, offering to give any one my method of dealing with mioks, weasels, etc. the letters have poured in from every direction, until I have finished my education in writing lessons and exhausted humanity calls for a relaxation. It is surprising how many poultrymen are bothered by the above-named pest of the poultry yard. I hasten to implore you to publish the following plan for destroying these enemies of poultry:—

Get wide boards and place all around the inside of your yard (or on the side the minks enter), leaning against your yard fence and about six inches out from the bottom, so as to leave a "run" behind. Place the boards butt to butt, making close joints, and at intervals of two or three boards make a small hole, opening into the yard under the edge as above. Directly behind these holes place your trap (I use number two, single spring "Newhouse" steel trap), *covering it well.*

Covering your trap is very particular. Make a hole just deep enough to leave your trap level with the surface of the ground, then cover the jaws and springs with sawdust or light earth, making everything look natural; drop carelessly a dead leaf on the "pan" so as to cover it well. Care should be taken not to get lumps of earth under the "pan."

See that your chain is fastened firmly or you will lose your trap. Be careful and not make your holes under the boards too large, or some inquisitive bird will get its neck squeezed.

The above is the best plan I know of, for your traps can remain "set" both night and day, without danger to the fowls. A mink or weasel will not climb over the boards when they can travel on the ground or *under.*

When the above plan cannot be carried out, as in the case with an open yard, try this:—

Around the fowl house make piles of roots, rubbish, sticks, etc., say three or four, and so arrange them as to leave a small hole in each. Set your trap just at the entrance of the holes, and cover well. Put a few drops of the following oil just *beyond* the trap—about a foot or so: Take trout, minnows, or eels and cut fine, put into a bottle lightly corked; hang this in the sun for three weeks, when an oil is formed by decomposition. Minks will leave your hens to follow up this scent. Care should be taken to spring your traps every morning.

For the benefit of those who do not know what is working among their birds, I will say that when you go out in the morning to feed, and find your precious charges lying in heaps all over the house, with teeth marks on the top of their heads and bloody wounds in the neck or under their wings, you may be sure they are mink marks. It is surprising how many fowls they will destroy in a night. Where these pests abound I think the poultry house should be several inches above ground, and made tight. Minks will go through a hole not larger than two inches in diameter.

Mr. Editor, you have published cures of different diseases among poultry, but I think a want long felt is a description of such ailments, so simple that every one can tell at a glance what ails his poultry. Hope you will see fit to publish a "description of ailments among poultry" at some future time.—*E. C. Burdick, Arthur, Michigan*

CORRESPONDENCE.

LIVING OUT.

By a Working Mother.

I fully agree with "Olive" in the April number of the FARM AND GARDEN concerning help. To me the question has often arisen why American girls, in needy circumstances, will prefer standing in stores, working in over-crowded factories, in fact, do almost anything in preference to house-work. If we need money and are obliged to earn it, what matter whether we gain it by cooking a dinner or elaborately trimming a hat.

True, in large cities where servants are easily secured, it may make a difference, and the occupation of house-work, in its fullest sense, is apt to be looked upon as degrading. But in the country there are plenty of desirable places for good girls where they are well treated and placed on the same footing as other members of the family; where the word servant is ignored and the kindlier term of help is always used.

There are many overworked mothers who would be glad to have help whom they could treat as a companion, whom they could trust with their children. This is just what is needed—a better educated and more refined class of girls; those who are qualified to be the daily companions of our little ones. There is many a mother living in a retired country home who would gladly share in the work of the household for the privilege of having some one with her who could aid and instruct her children, for often there is no school near and no way of securing an instructress. Let me give you an instance in my experience:

A young friend of mine, well educated, who had studied for the purpose of becoming a teacher, failed in securing a position in a school. She wrote me the circumstances, saying she did not like to ask her father to support her, but wanted to do for herself, and knowing that I had no help, would I take her at the ordinary rate of wages. I agreed, and she came and staid with me a year, only leaving because she succeeded in obtaining a lucrative position as teacher in an academy. Need I add that we both regretted the parting, and both felt we had been mutually benefitted? Neither do I imagine she felt *degraded*, because when she takes charge of a home of her own, she will have added to her other accomplishments a practical knowledge of housekeeping.

And this brings out another thought. Our bright American girls, just on the threshold of womanhood, are all looking forward to some day in the future when they can really have homes of their own. Tell me, will you, how many of them who, in early life, have been obliged to work in some one of the over-crowded occupations of a large city for the means of support, would be capable of taking charge of homes of their own? Could they cook a wholesome meal or bake a loaf of good bread, to say nothing of preparing those dainty desserts that give the *fine-art* touchings to a meal?

Girls, there is plenty to do for those who wish to do it, and if these remarks will lead you to do away with that foolish idea of degradation, so that if your work is growing dull, you may seek homes where you may be gaining strength and knowledge that will be of good service to you in this everyday-working world, we will be coming very near to the solution of one social problem.

A HOT-HOUSE AND PORCUPINES.

Although it is late in the season, perhaps a description of my impromptu hot-bed might be interesting to some of the readers of the FARM AND GARDEN. This spring I sowed tomato seed, as usual, in a large box in the house, but was somewhat disappointed to see the plants growing tall and slender. Noticing one day that the manure heap was steaming, I asked Alonzo (I am Philomela) to carry the box down there. I then covered it with a window, and behold, my plants are stubbed and nice. Every day, unless the weather is freezing, the glass is taken off to keep them hardy. The tomatoes started out so nicely that I fixed boxes with cabbage and flower seeds. The plants are doing so well that I take every caller to see them.

The other day a stranger, noticing the cabbage plants, said that his cabbage was very nice last year, but was entirely destroyed by the green worm. I gave him my remedy, which may be new to some of your readers. Sprinkle wheat bran liberally through the plants, renewing after every rain. It saved my plants two years ago, with very little searching and killing of the pest, and last year I was not troubled.

Last week the dogs came in with their noses fairly bristling with porcupine quills. How the poor creatures did roll and claw their heads! Curly had evidently been there before, as she went up to Alonzo and whined, showing him her nose. He told her to lie down, and called for the pincers. He held her while I pulled out as many quills as I could, and then he filled her mouth with dry ashes, holding it shut for a few moments. I said "how cruel you are," and got a knowing look for an answer.

Polka would not hold still to have the quills pulled out, and was only treated to a dose of ashes. The quills have all dropped out without any serious consequences, and Alonza says that it was the ashes.

"Humph!" somebody says, "who does not know that ashes will kill porcupine quills; but what has that to do with farms and gardens?"

But the FARM AND GARDEN has a great many readers, and some of them will not know any better what to do than I did when the farm dog gets quills in his mouth. PHILOMELA.

WHAT IS WRONG WITH THE INCUBATOR?

Will somebody please tell me quickly, through the FARM AND GARDEN, what is wrong with our incubator? We have a Savidge Hydro-Incubator, made after specifications sent by FARM AND GARDEN last summer. We have set it four times, and have never had more than a very small percentage of live chickens from the number of eggs set. The first time it was very cold weather, and we had hard work to keep up the required degree of heat. On the twenty-second day, no chickens appearing, we began breaking the eggs, and soon found a live chicken that would not have hatched for several days more. We put them back for another week, and at the end of that time helped out the only two chickens that pipped the shell. They only lived a short time. Examination of the eggs showed only fifteen per cent. of them fertile, only two of which hatched. Next time we put in three dozen eggs, kept the heat 101°, 103°, and 102° degrees per week and hatched out fifty per cent. of the fertile eggs. In the rest of the fertile eggs were chickens dead at all stages. Tried the next time with eighty eggs, following the same plan as before. Hatched seventeen chicks. A very large percentage dead, as before. Fourth time, seventy-five eggs; result, twelve chicks.

We have followed instructions given in the FARM AND GARDEN as closely as we could, never allowing the heat to go below 98° nor above 103° for more than a very short time, sprinkle and turn carefully twice a day, and cool once. Hens set the same day or one or two days later, with eggs taken at random from the same basket, will bring out ninety per cent. of the eggs. The eggs that we set are seldom over five days old.

I wish somebody would give his experience with this incubator, whether successful or unsuccessful, and the probable cause of failure. The chicks hatched are very nice, and seem to do better than those hatched by hens. The first hatched are now large enough to fry, and are not yet eight weeks old. If some of a nestful hatch, I cannot see why others of the same lot, undergoing the same treatment, must die in the shell.

F. Thatche, Marinette, Wis., asks "what is the matter with the teats of his cow, a sore forms on the end of the teat and is very painful?" Answer:-The teats have been probably frost bitten.

✝

H. E. Birtch, West Brooklyn, asks "what is good to give a cow after eating poison laurel?" Answer:-Give a purgative of some kind, say Glauber salts; dose from four to eight onnces dissolved in water, or a half pint of castor oil. Then feed on nutritions feed.

Reader, Hinsdale, N. H., asks why the yolks of eggs are sometimes so white. Answer: The yellow color of the yolk is in the oil that in part composes the yolk. Corn (yellow), will add a yellow color to the oil. Close confinement or long-continued cold weather will sometimes make the yolks white.

✝

Mrs. L. Zuver, Woodhull, Ill.: Do any of the readers of the FARM AND GARDEN know of a breed of chickens called Chittigoongs? Can any one give the names of some of the most desirable roses to plant in door-yard, also the best hardy climbers, vines, and shrubs, with names and descriptions of the same.

✝

W. Hickox: In April number we notice you say of Poison Ivy:—This deadly foe to many is the three-fingered variety. The following we believe to be a sure cure for Ivy poisoning: Aleum Olivæ, 1 ounce; Bromine, 15 drops; mix. Apply with camel's hair brush three or four times per day. Cures in twelve to thirty-six hours.

✝

Many ask us the proportions of cement, sand, lime, &c., to be used to make the cisterns as figured in the February number. We say you will find the whole art and proper proportions of materials in that number. We can give no fuller details than the article contains, or, in fact, there can be none. Read the article carefully.

✝

Interested Reader asks "how often should cocks be changed to keep a flock from degenerating?" Answer:-Much depends upon the health and vigor of the old stock. If very vigorous, once in two or three years, if only the best birds are kept over, as should be done. If the old stock is not vigorous we should change every year, and keep only the best, most active, and healthy.

✝

B. Burland, Port Kent, Essex Co., N. Y., complains that we did not answer "How to grow pea-nuts?" We got the letter in January, too late for last year's planting, and rather early for this, so we waited for its proper season,—May. We try to please our readers, but we always wish to give all topics in due season. We believe Mr. Burland will see the propriety of the plan of being always in season.

✝

T. E. Bondernot, 2114 Farnania street, Davenport, Iowa, asks "if grubs or worms in the back of a cow will injure her milk, and how to prevent and cure them?" Answer:-The grubs are the larva of a large fly that lays the egg in the skin of cattle late in summer, and the egg hatches a worm which, when grown, changes again into a fly. They can be prevented by bathing the back of the animal with anything repulsive to the fly which lays the egg. But the cures are as bad as the grubs. The milk, unless the cow is fevered, will be good.

✝

A Reader, Fowler, Ill., asks at what age should a colt be weaned. Answer:-That depends upon the vigor and growth of the colt, and how good a milker the dam is. From four to seven months is the usual extreme. The best rule to follow is to allow the colt to continue on the dam as long as both do well. As soon as the colt will eat, allow it some fine, sweet hay, or if possible, to run on pasture. If extra growth is desired, feed on crushed oats, one or two quarts at a time. The aim must be to keep up the growth of the colt and to teach it to eat food so that too much change of diet will not be felt by the colt in weaning. When the colt is weakly, feed on oatmeal gruel.

HUMOROUS.

Haven't you always noticed that when passenger rates are cut down to nothing and a chromo thrown in, it is always on some line which you never have occasion to travel over?

Experience has satisfied an English botanist that plants have a faint intelligence. Possibly, therefore, we may yet come to compliment a man by calling him a cabbage-head.

"I see they are serving refreshments on roller-skates in some of the restaurants," the husband said as he laid down his paper. "Good gracious!" exclaimed the wife, "have they no plates?"

A little girl who had been very observant of her parents' mode of exhibiting their charity, being asked what generosity was, answered:—"It is giving to the poor all the old stuff you don't want yourself."

GENTLEMAN.—"Ah, Patrick! Warm this morning. Guess the young people won't get much skating to-day. See how wet the ice is." PATRICK.—"Niver you fear sorr; jist wait till the sun gets a little hoigher and the oice will soon dry off."

[An exchange announces that the "Ladies' Foreign Missionary Society of the First Presbyterian Church will serve a missionary tea at the chapel." We had supposed that dining off missionaries was a thing of the past, but it seems we were misinformed.

A Philadelphian went to a physician with what he had feared was a hopeless case of heart disease, but was relieved on finding out that the creaking sound which he had heard at every deep breath was caused by a little pulley on his patent suspenders.

"Ah, my little man, good morning," pleasantly remarked an old gentleman as he stopped and patted a Hewes street little boy on the head, "have you any brothers and sisters?" "Yes, sir; got four, but I'm the only one that 'mounts to anything," replied the urchin.

Little boy (at the front door)—Is the doctor in? 'Cause if he is I want to see him right away."
Servant—"He's not in."
"Well, just as soon as he gets home you tell him to come over to our house and take that baby off he left last week. It's in the way."

An Irishman who was sleeping all night with a negro, had his face blackened by a practical joker. Starting off in a hurry in the morning, he caught sight of himself in a mirror; puzzled, he stopped and gazed, and finally exclaimed: "Begorra, they've woke the wrong man!"

"Do you know what bulldozing is?" asked a man of an old farmer. "I thought I did," said the granger; "but the bull wasn't dozing; he was only making believe, and being in the middle of a forty-aere lot, I naturally had to make pretty quick time to reach the fence ahead of him."

"What is the breed of your calf?" said a would-be buyer to a farmer. "Well" said the farmer, "all I know about it is that his father gored a justice of the peace to death, tossed a book agent into the fence corner, and stood a lightening-rod man on his head, and his mother chased a female lecturer two miles; and if that aint breed enough to ask $4 on, you needn't take him.

The minister last Sunday morning had preached a very long, parched sermon on the creation of man, and one little girl in the congregation was utterly worn out. After the services, she said to her mother: "Mamma, were we all made of dust?" "Certainly, my child." The preacher, too?" "Of course. Why do you think he was not made like the rest of us?" "Oh, because he is so dry, mamma, I don't see how the Creator could make him stick together."

DOUBLE TAXATION.—"Hello, Sam," said a gentleman to an old negro riding along on a mule, where did you get the beast?" "I buyed 'im, in cou'se, boss; you didn't tink I stoled 'im, did yo'?"—"I wasn't sure. What did you give for him?" I gib my note, sah, for fawty dollahs." —"Your note, Sam,?" "In cou'se, sah,"—"Why, you'll never pay it." "Cou'se I won't, boss. Yo' don't reckon dat man specs Ise gwine to pay fo' dat mule an' pay fo' dat note besides, does yo'? No sah, hits ez much as dis nigga ken do to pay fo' de mule."

THE POULTRY YARD.
(Continued.)

ARTIFICIAL INCUBATORS.

Artificial incubators are coming each year into practical use. When they have the proper attention, and are made on the right principle, they perform very successful incubation. Some of them are very complex and owing to using lamps and other contrivances for heating are somewhat difficult to regulate.

The Savidge Hydro-Incubator is constructed on a different principle (using hot water only), and is very easily made and managed. No lamps are required, and no coal oil smell in the room, or sudden heat or chill, but an even temperature, free from smoke or dirt, is maintained by adding as may be required, a few gallons of hot water. These Incubators can be put in a dining room, making a pleasant pastime of hatching an early and profitable brood of spring chickens, when there is little on the farm to do, and an easy and pleasant way of finding both profit and amusement, if desired. A poor hatch of chicks by the hen of the poultry house is supplemented by the hatcher, and the hen will be happy and content with a numerous family, instead of wandering solitary and alone, or with a few desolate-looking chicks. The incubator is so easily made, that any bright farmer boy could easily make and manage one.

POULTRY SCRATCHINGS.

SORGHUM FOR FENCING.—We have never tried the experiment to any extent, but once noticed an excellent fence around a poultry-yard, made by sowing sorghum seed thickly, twisting and matting it together after being well grown, which confined the fowls closely. Sorghum does not dry as quickly as corn, and stands on the ground for a long time.

SUDDEN SHOWERS DETRIMENTAL.—During the summer many chicks are caught in showers of rain and destroyed. The loss from this cause is very great. When signs of rain appear, coop up the chicks. If any are exposed, and become drenched, place them by a stove until thoroughly dry again, for, as we have frequently stated, dampness does greater injury than cold.

SUMMER DISEASES.—Whenever symptoms of disease appear, do not begin to give medicine; but first examine for lice. More than one-half the ills that affect poultry may be traced to this source. The fowls begin to droop, become sluggish, lose appetite, have bowel diseases, and give but few returns in eggs. Little chicks succumb very soon, and die without apparent cause. Lice are not always dicovered until too late to rid them from the premises except with difficulty.

LATE PULLETS.—Early maturity is an important factor in a pullet, and hence it is now too late to secure them early. The best course to pursue is to make up the time by crossing with cocks from the early maturing breeds. The best cock for this purpose is a Leghorn. Pullets from a Leghorn cock and ordinary common hens will lay when they are six months old, and consequently if the pullets are hatched in June they will lay in Debember if the winter does not come in too soon.

EGG PRODUCING FOOD.—Without resorting to medicines or chemicals the food may be so combined as to be complete in nutritive qualities, and in a cheap form. An excellent combination is 10 lbs. wheat, 5 lbs. corn, 5 lbs. buckwheat, and 10 lbs. oats, ground together, and fed once a day, first being scalded with boiling water, and given in the form of a stiff dough. There should be no other food given until night, which may consist of whole grains, but corn should not be given during the summer.

FOWLS IN CONFINEMENT.—Feed nothing to them in summer except in a form for which they must scratch to procure it. The old method of giving a good mess of soft food in the winter is well enough, but during the summer, if the fowls are confined, they should be kept at work as much as possible. By using leaves, cut straw, or some coarse material, and the food thrown into it, the hens will pick out every grain, and by constant scratching, exercise themselves as well as it allowed full liberty in the fields.

DUCKS.—Ducks grow much faster than chicks, and, if fed liberally, can be sent to market when three months old. They are subject to but few diseases, and some breeds, such as the Aylesburg, will lay as many eggs as the hens. Eggs from young ducks, however, do not hatch as well as those from two-year-old females, and this should not be overlooked. If a pond is not convenient, provide them with a trough for bathing purposes, filling it with fresh water daily. This may be easily done by attaching a hose to a pump, thereby saving labor.

YOUNG GUINEAS.—Never leave the eggs for the guinea hen to hatch. She will no doubt know what to do for her young, and be as successful in raising them as the hens, but the young guineas will become to wild and untameable. Guineas, if hatched under hens, will soon become accustomed to going on the roosts with the other fowls. It is best to hatch a few chicks with the guineas, as the guineas will soon imitate the chicks in obeying the hen. The eggs for chicks should be put under the hen one week after placing the hen on the guinea eggs, so that all the eggs may hatch at the same time.

A COLLECTION

BROUGHT BY U. S. MAIL AND IN OTHER WAYS.

Entered at Philadelphia Post Office as Second Class Matter

CHILD BROS. & CO., Publishers, 725 Filbert St., Philadelphia, Pa

By the kindness of Mr. John Thorpe, of Queens, N. Y., President of the Society of American Florists, we are enabled to announce the following report of the committee meeting at Pittsburg:—

The Annual Exhibition will be held at Cincinnati, August 19th, 20th, 21st, 1885, in the Exposition Building:—

The following gentlemen have been appointed to read the articles on the subjects designated:—

Charles Henderson, Jersey City, N. J., "Diseases of Plants and their remedies."

Carl Turgen, Newport, R. I., "Forcing of Bulbs and Flowers for winter."

H. De Vry, Superintendent of Parks, Chicago, Ill., "Floral Embellishments of Parks and Public Squares."

John May, Summit, N. J., "Roses, their propagation and management."

John Thorpe, Queens, N. Y., "Steam *vs.* Hot Water for Heating Greenhouses."

Henry Michel, St. Louis, Mo., "What Shall we Grow for Early Spring and Summer Cut Flowers."

William T. Stewart, Boston, Mass., "The Cut Flower Trade, Sales, Shipment, Packing."

S. S. Jackson, Cincinnati, Ohio, "Pioneer Florists."

The Exhibition will consist of new plants, cut flowers, designs, flower-pots, instruments for florists, designs in wire and straw goods, specimens of illustrations for catalogues, models in miniature of greenhouses, heating appliances, etc.

USAGES OF THE BEST SOCIETY, an excellent manual of all the usages of the best society. No one after having studied this work need be at a loss how to act or behave in society. Just the book for young ladies and young gentlemen who are entering society, as it gives all the rules and customs. It tells all about good manners, and how to appear to the best advantage in any company. A valuable book also for the lady who presides at any social party.

Johnson & Stokes, seedsmen and live-stock dealers, have moved from 1114 to 219 Market Street, Philadelphia, Pa. This enterprising firm has been obliged to move into larger quarters by the rapid growth of their business.

Mr. C. L. Knecland, Manufacturer of "The Crystal Creamer," whose advertisement appears on first cover page, has removed from Franklin, N. Y., to Unadilla, Oswego Co., N. Y. With increased facilities for manufacturing and shipping, Mr. K. will be able to fill orders promptly. You should see his circular

We take pleasure in calling our readers attention to the advertisements of T. Walter & Sons, Stockmen, of West Chester, Pa. They are reliable men, and do a large business. They are always glad to have their customers come and select their purchases of stock. Those who cannot do this should send for their circulars.

The following is a letter received by Mr. Case, recommending his "Sun Hat," which he advertises in our paper:—

MR. CASE, DEAR SIR: Please send me three hats, by express, at your earliest convenience. I will endeavor to obtain more orders for them. As for durability and coolness, I can recommend them as the best hats for summer use I have ever worn. Hoping success may crown your efforts in the hat business, I remain, Yours, truly, BENJ. M. BRENEMAN, *Mount Joy, Pa.*

"MONEY IN POTATOES," by Joseph. 56 pages, 12mo Illustrated. Franklin News Co., Philadelphia, Pa.

There is more useful information in this little book than is usually found in a large volume. The author gives such practical ideas on the subjects of soils, seed, planting, manures, cultivation, and harvesting, as to insure successful potato-growing. He claims that if his plans are carried out—and there is no reason why they should not be—a yield of 400 bushels per acre can be grown as a field crop. Joseph is a very successful gardener. He knows how to grow potatoes, and in this little book tells all the secrets of the occupation. Sent free by mail by Franklin News Co., of Philadelphia, on receipt of fifty cents.

THE BEST BUTTER COLOR.—The great unanimity with which dairymen of high reputation have adopted, in preference to anything else, the Improved Butter Color made by Wells, Richardson & Co., of Burlington, Vt., is remarkable. It shows that the claims of imitative colors are baseless, wise dairymen will use no other.

C. M. Blackstone, of Sack City, Iowa, writes as follows to Mr. Auger of Fitzwilliam, N. H.: "Your egg cases were received all right, and I have tested them over our roughest roads and find them perfect. I cannot praise too highly, for they are complete in every respect." See advertisement in this issue.

We have received the Annual Catalogue of Pennsylvania State College, for 1884 and 1885. It is published by the Board of Trustees, and will be sent free to applicants.

Mr. J. A. De Veer, importer, wholesaler and retailer of bulbs, has removed from 318 Broadway, N. Y., to 19 Broadway, and has admitted Mr. Wm. H. Boomkamp as a partner. The bulbs which gave our friends such splendid satisfaction last fall, were imported for us by this house, and we recommend to notice their advertisement on page 7 of this number.

P. C. Lewis, Catskills, N. Y., makes a specialty of the manufacture of Force-pumps and Syringes for farm and garden use. These labor-saving instruments should be used in every orchard, and we ask our readers to write to Mr. Lewis for his catalogue.

The Farm and Garden.

Vol. IV. JULY, 1885. No. XI.

INSTRUCTIONS TO CORRESPONDENTS.

Subscriptions may begin with any number but we prefer to date them from January of each year. Price fifty cents a year, in advance.

Renewals can be sent now, no matter when the subscription expires, and the time will be added to that to which the subscriber is already entitled.

Remittances may be made at our risk by Post Office Order, Postal Note, Registered Letter. Stamps and Canadian Money are taken, but if sent in ordinary letters are at your risk. We do not advise you to send money or stamps without registering. See instructions on page 12

Receipts.—We send a receipt for all money sent us. If you do not hear from us in a reasonable time, write again.

Addresses.—No matter how often you have written to us, please always give your full name, post office and State. We have no way to find your name except from the address.

Names cannot be guessed, so write them plainly and in full. If a lady, always write it the same—not Mrs Samantha Allen one time and Mrs Josiah Allen next. If you do not write Miss or Mrs. before your signature, do not be offended if we make a mistake on this point.

Errors.—We make them; so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us any way. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

ADVERTISING RATES.—From Issue of January, 1885, to December, 1885, inclusive, 60 cents per Agate line each insertion.

CHILD BROS. & CO., Publishers,
No. 725 Filbert Street, Philadelphia, Penna.

THE FARMER'S HOME GARDEN.

By Joseph.

Here we are, all out of breath, running with might and main after knowledge; yet all we can expect to do is to get hold of truth's coat tails. Before we can get abreast of it we are called off the race, and from this reason alone do I deplore the shortness of human life.

If woman is a delusion and life is a delusion, it is wonderful how men will hug a delusion, and I confess that I would like to live two or three lives or stick to the one I have quite tight, as long as I am in trim for the pursuit of knowledge and truth. Or are these delusions also?

✢

Yet we are apt to lag behind in this chase after agricultural knowledge, or get careless in its distribution. Who is infallible? I feel like thanking W. C. Steele, of Florida, for his sharp criticism of my May article of FARM AND GARDEN. If I am in error, please correct me, and I will thank you for it every time.

✢

I have no prejudice whatever against hand-drills. I have used Matthews' a great deal, and perhaps am prejudiced in its favor. Many others, like Mr. Steele, prefer the Planet Jr., which has the points of superiority mentioned by him in June number. Still, Matthews' drill is an old friend of mine, and I have used it for sowing almost all kinds of seeds with the exception of salsify.

✢

My remark that I consider it "shiftless to sow seeds with a hand-drill," must be construed as limited to *beet seed* entirely. I, as well as every other grower of experience, can plant confidently and successfully with Matthews' or Planet Jr. drills or any other, or by hand either. But the way described in my May article is the easiest and safest for the novice, and good enough for all. If you have a drill which will sow soaked seeds perfectly, and drop from three to five seeds in a bunch every twelve inches or so apart, I would advise planting in that way. We also have to consider that the home gardener hardly ever has a hand-drill at his command.

✢

In sowing peas, beans, corn, etc., per hand-drill, I make it a practice to mark off the ground with a one-horse marker, making the marks quite deep, then plant in the bottom of these furrows. In such a case Matthews' drill, with its one wheel, is greatly to be preferred to the double wheel drills.

✢

During the last few weeks I have seen many very fine home gardens in the South, with tomato plants by the hundred and cabbages by the thousand. Two things, however, are sadly needed, namely: System in planting and good tools. As it is, a southern garden of little over one acre in extent, requires one man's work during the season. The garden would require only one-fourth that amount of labor if it were judiciously laid out and systematically planted, and if the laborer was provided with a good horse cultivator and one of the modern improved wheel-hoes. How easy this could be done! What an improvement in appearance! What a saving in labor!

✢

Clear the old radish and lettuce beds from rubbish and replant with other stuff. Have every spot occupied by healthy, growing vegetation. Keep the garden in cultivation and looking fine.

✢

Turnips should be planted this month. Do not neglect to dust the young plants with plaster or ashes, to keep the flea beetle off.

CULTIVATING.*

Harrow and Cultivator. Shovel Plow. Hoe. Level Cultivating vs. Hilling.

The object of the cultivation given to the potato field is three-fold:—1. To keep down every sign of weed growth; 2. To keep the soil well pulverized, fine and mellow; 3. To prune the roots; and all this restricted to the earlier period of growth.

For the first two or three weeks after planting and up to the time when the vines are three or four inches high, a common light harrow or drag is the only tool required. It answers all three purposes perfectly; and, indeed, with an insignificant amount of labor. One harrowing actually does more good and shows more lasting effects than three cultivatings. It is better than hand hoeing. The cultivator, like Saul, slew thousands (of weeds). The harrow is the David, who slays his ten thousands. The harrow makes the ground mellow in and around every hill, and leaves not a weed.

The slight root-pruning caused by the drag teeth, seems to be a decided benefit in this early stage of growth, and to result in an increased development of the rootlets, which act as feeders and supporters. The plants respond to this treatment with astonishing quickness. They seem to grow visibly.

Some farmers understand this principle very well, and not contented with light pruning, tear the roots to pieces quite thoroughly with a home-made iron hook, fastened to an old hoe handle. (See Figure 6).

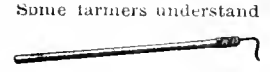


Figure 6

The drag performs its work to our perfect satisfaction, and we do not recommend the use of supplementary tools, in particular, if it involves a great deal of hand labor. Enough is a feast.

Harrow the field thoroughly, first in the direction of the rows, then crossways, every five or six days, and stop only when the plants get so large that injury to them must be feared. If a sufficiency of seed is used, this will be soon enough.

Level.

Hilled.

Then the cultivator should take the place of the harrow. Cultivate shallow, and repeat at short intervals, until the tops cover the ground and forbid further working among them.

The shovel plow is not needed for cultivation purposes. The practice of piling up great mountains around each plant, will soon be a thing of the past. Soils on which this hilling is necessary, are not desirable for potato growing.

The Editor of the *Rural New Yorker* claims for himself the priority of the level-culture idea. He has been an enthusiastic advocate of the new method, and his phenomenal yields have given strong testimony in its favor.

A test, made by us in 1884, for the purpose of ascertaining the relative yields resulting from the old and the new methods, was, for certain reasons, not as reliable as we could wish; still, we will give the figures:—Hilled, Early Gem, quartered lengthwise, land rich, moist, plenty of rain; yield per acre, 201.46. Level, under same conditions; yield per acre, 294.61 bushels. The tubers under level cultivation, were much larger than with hilling.

*From new book by "Joseph," entitled, "Money in Potatoes."

SLOBOOTS IN HIS GARDEN.

By Beedy Aich.

Sloboots' garden is improving. The first crop of weeds has been plowed under. This was a grand slaughter of the pigweeds and pusley, the burdock and birdweed, the dandelion and the docks. To be sure, in order to do this, the early crops were withheld. There was no rush to see how soon after the last snow was off that the squashes could be in. Sloboots held his vaulting ambition by a close rein, and when the garden was fairly overflowing with sorrel and lapin, he went in and plowed the whole area except the borders, when the strawberries calmly awaited their fate in the forming sod. The plowman was a neighbor who had a boney horse and a plow to match. The furrows could be easily counted, as each one was neatly separated from the two adjoining by a lace-like fringe of grass and fine herbage. The design that the plow had cut upon the whole surface of the garden was peculiar, and seemed to please those who passed by. When Sloboots returned home that June evening, he found nearly all of his garden plants had their feet, so to speak, caught in the furrows, and in their own peculiar way, were imploring to be relieved from the traps the plowman had set for them.

Sloboots felt that their deserts were met; it was good enough for them, and began the assorting of the seeds he had brought from town that day. The lettuce was first planted in hills in one corner of the garden, and so exact was he in this, in order that no one hill should crowd the others, that some of the seeds fell in the grassy depressions, while others found a resting-place upon the furrow tops. Some people can be exact when they once make up their minds that no favors must be shown—not even to garden plants. The reader knows that Sloboots was not a man to favor any crop in particular. It was enough that seeds were permitted to have a place in his estate. He was a thorough American, and was filled with the spirit of independence, especially so on the 4th of July. If a plant had rights, all it had to do was to assert them, and they were granted. The weeds, having been brought up on the ground for years, knew this, while the innocent seeds, coming from a far-away seedsman, who had shown their parents special privileges, did not realize their precarious situation until it was too late. They had not been reared to fight, but on the other hand, to dwell in peace and rapidly reproduce their kind.

The beets started out on their mission as well as any beets could, under the circumstances, but they were soon beaten. The cabbages stretched up their necks and

endeavored to get into the sunshine, but their tiny heads soon drooped; they lost color as well as courage, and finally yielded to the choking weeds around them. The tomatoes never reached the flowering state, and between the weeds and the worms, the turnips were soon lost from view.

I said that Sloboots' garden is improving. So it is. The soil was not very good when Sloboots selected it for his garden-spot. He might have done much better for the same money. This season he is practicing one of the best methods of recuperating land, namely: green manuring. He has already plowed under one green crop, and if he continues in this good way, he can turn under two or three more living dressings, so that at the end of the year the amount of vegetable matter in the soil will be largely increased. There may be an accidental accumulation of weed seeds, but these are needed if the soil is to be continuously built up in future years. Some one may say there is a loss of a crop. But under the most favorable conditions and best of care, crops are lost. The loss is less when the care is less. He might have hoed and raked the whole season through, and a blight or a bug, a hail storm or a band of inquisitive boys or hogs or hens might have swept the whole away in a single night. Gardening is uncertain. Is the land not more than the crop?

SAWDUST AND POTATOES.

By N. J. Shepherd, Eldon, Mo.

How easy it is to make statements and start them on their way through the newspapers. Plans for planting and cultivating, which are to prove of great benefit, are often brought to my notice only to be condemned, after trial. I have read the statement a number of times that if sawdust was applied in the potato hill and the seed potatoes laid upon it and then covered with soil, it would considerably increase the yield. Trial was said to have proved this of value.

My experience has shown me that instead of being of the least value, it is an actual loss. I planted two rows, one of Brunnells Beauty and one of Early rose, cutting one pound of potatoes to single eyes and dropping two eyes in each hill. The hills were eighteen inches apart, and I applied half a gallon of good, clean, fine sawdust, after running the furrow. This was put in each hill, and the seed deposited on it and carefully covered with soil. At the same time I set out four other rows, which I manured as follows:—One with ashes, one with night soil, one with a manufactured fertilizer, and one with stable manure. All rows were of same varieties so that there could be no difference in the seed or soil. They were planted all on the same day, and my idea was to give each row a fair chance. Of the potatoes planted in sawdust hardly fifty per cent. came up, and investigation showed that much of the seed had rotted in the ground. In the other four rows nearly every eye sprouted, and at this day they are making a splendid growth. As there were two kinds of seed, and so many different plantings side by side, there can be little doubt that the sawdust caused the rot. What the outcome will be this season has yet to show, but it will take an extraordinary yield on the hills which lived to make up an average equal to the other rows. Indications are that it will fall far behind.

BONES DISSOLVED WITH ASHES.

By Thomas D. Baird, Greenville, Ky.

I have been requested by a subscriber of THE FARM AND GARDEN, living at Suffolk, Virginia, to give my method of dissolving bones with ashes.

In dissolving bones with ashes, there are several things to be considered to prove successful. The ashes must be good; those of oak and hickory I find the best. Some say that wood grown on low land will not make soap, consequently, will not dissolve bones. As I have always burned wood from off ridge land, I cannot answer for this. The ashes must be kept moist, just so they will not drain. They should be kept from freezing. If suffered to freeze, the process ceases. The smaller the bones, the quicker they will dissolve.

This is the way I have managed my bones for the last two years. As fast as ashes can be had, they are put in barrels, the bottom is covered with about six inches deep in ashes, then a layer of bones, then a layer of ashes, then a layer of bones, and so on, until nearly full, and then finished with a layer of ashes. I use two-thirds ashes to one of bone. The ashes are kept wet all the time with soap-suds or chamber lye. When one vessel is filled, I then put in another until I have all the bones used. If I still have ashes, they are barrelled away until near spring, then they are put in a hopper as if used in making soap. When I wish to use the bones, and I find them not sufficiently dissolved, I put ashes and bones in a large kettle; the ashes in the hopper are leached and the lye put on the bones and ashes, and the whole mass boiled until the bones are entirely consumed. The mass is now in a doughy state; this is mixed with loam enough to make it dry as wanted. It is now ready for use.

When lye is not to be had, this mass is boiled with water, but it is not so good and takes longer to dissolve the bones.

I have heard it said that caustic lime would dissolve bones as well as wood-ashes, but I have not tried it, and cannot speak from experience.

CONTINGENCIES.

By John E. Read.

When Lord Byron declared that "the best of all prophets of the future is the past," he concisely stated a great principle. The truth thus expressed applies to all men and all times. It is a safe and should be a constant guide in all the work in which men are engaged.

As we look back and see the difficulties that have been encountered in the past, we may be confident that some, if not all, of the same troubles will beset us in the future; and it should be our special care to provide for these contingencies which are so liable to occur. A chain is no stronger than its weakest link, and no greater strain can safely be put upon it than that link will bear. So, the degree of success that will attend the farmer will not be measured by his efforts to adapt himself and his work to the most favorable conditions which may possibly prevail, but by the degree of skill with which he provides for the untoward events which may occur.

This principle applies to all the various departments of farm labor. If a very moist field is to be planted with corn, it will be wise to plow it in such a manner, and leave such large open furrows, as to insure the speedy removal of the surplus water, which, if the season should be wet, would seriously injure the crop. If the plowing has already been done without regard to this matter, it will certainly pay to plow some furrows for drains before the planting is performed. In the use of fertilizers it will be best not merely to provide a sufficient quantity to carry out the crops in case everything else is favorable, but to furnish enough plant food, in a condition in which it can be easily assimilated by the crop, to insure a large yield even if the season should not be adapted to promote its rapid growth and development. In the line of winter food for cattle, it is important, as many a farmer found last year when it was too late to remedy the evil, to provide for the contingency of short pastures and a light crop of hay. A quantity of millet, corn, or some other crop that can be used for feeding in either a green or a dry state, as it may be required, should always be provided as a safeguard against a partial failure of the grass crop.

Again, the wise farmer will guard against very serious loss from the failure of any particular crop, by giving part of his attention to the cultivation of other plants. In seasons which have been favorable to the production and sale of wheat, farmers who have grown this to the exclusion of other crops, have done very well, although such a course could not long be continued without involving a heavy expense for fertilizers, or seriously injuring the land. But when the seasons have been bad, the prices very low, or sales could not be effected, these exclusive growers have been put to serious inconvenience and have often sustained serious loss. To a still greater extent this is true of farmers who have grown tobacco as their sole crop. Now, the present season may be remarkably favorable for tobacco, or some other particular crop which the farmer would like to grow, but if he is wise he will remember that there have been many years in which the exclusive production of that crop has proved disastrous, and, also keeping in mind the fact that there will be many such years in the future, he would not assume the risk which such a course would involve.

In planning and preparing for the future, it is always a sensible and profitable course to give careful consideration to the contingencies which may arise, and to make suitable provision for the difficulties which may be encountered. By so doing, great losses can be prevented. If the course which has been advised, is adopted as a permanent policy, the probability of success for any given season will be greatly increased, while the results during a term of years will be far more satisfactory than can be secured if provision for contingencies is neglected.

GOLDEN OPPORTUNITIES IN THE SOUTH.

Continued. By Joseph.

"A New Settler" in Florida has fed his journalistic steam-works with my fuel. He comes sailing along, driven by the wind that I hoped would swell my sails. He has reaped where I meant to reap, and left nothing but the gleanings. I felt robbed, actually and shamefully robbed, when I read his reply (in June number of FARM AND GARDEN) to Clayton Collamer's fever-tainted and feverish ideas expressed in May number.

As the case stands now, I will have to be satisfied with the gleanings. The spirit of Mr. Collamer's letter alone makes it appear as self-evident, even if he had not expressly admitted it, that this New England man has listened with great satisfaction to the teachings of a partisan press which has been hostile to the South, but that he has never set a foot on Southern soil. In the main, he treats us to theories gathered from every source except from facts. The need of theory merely proves the difficulty to produce facts. In the present case we can dispense with theory altogether, because the facts are easily established.

There are malaria districts in the low lands of the South, but rarely indeed have I met the man suffering from this "worst disease." The localities are few where it is dreaded. We are not to be scared by ghosts. Why should the new-comer settle in an unhealthy location as long as nine-tenths of the country is exceedingly healthy and free from malaria?

Is the Southern climate really debilitating? Far from it. Are not the nights generally cool all summer long? The heat less suffocating even in the hottest days than in the North? Southern people have their "servants," and like to be waited on. They are used to letting a servant do what quite often they might do themselves. It is an old habit, and bad habits are contagious. Northern men may sometimes fall into this habit after a while, and get lazy, but not from the effects of the debilitating climate, but in consequence of the social conditions and surroundings.

Who should come to the South? Certainly not the man who is contented and happy, and makes a comfortable living elsewhere. Let well-enough alone. But if you are dissatisfied with the climatic or other conditions in the North, and want to go South, look before you leap. Go and see for yourself, before you buy. Use your eyes, and refuse to look through the tinted spectacles of land agents.

To the young man and the man with a limited capital, seeking a home in a congenial climate, I say, "Young man, go South!"

And now I wish to reassert it, for the one-hundredth time, that the golden opportunities in the South are as numerous as cats and dogs. There is room for good farmers, good gardeners, dairymen, fruit-growers, stockmen, florists. I know of an excellent opening for a florist or rose-grower, such as is found but once in a lifetime; of another for a dairy and truck garden. These are cases of demand without supply. Should any party wish to avail himself of one of these chances, I will cheerfully inform him of the particulars on application to FARM AND GARDEN. As these letters will have to be forwarded to me by the publishers, stamp should be enclosed. The information is free and entirely disinterested, but the applicant is expected to investigate for himself.

THE POETRY AND PROSE OF BEE KEEPING.

By Mahala B. Chaddock, Vermont, Fulton Co., Ill.

It seems like a poet's dream to sit beneath the maple trees and watch the golden messengers, shooting off and upward, glistening in the sunlight, eager for the spoils, and returning honey-laden to the hive; busy while the harvest lasts. And then at eventide, when we sit on our own porch and door-step, we can hear the contented hum of the little housekeepers, as they sit on their porches and in their front doors and fan themselves. The dewy air, fragrant with the clover smell that comes from the newly-gathered sweets. And as we sit and think that these bees are ours, and that they are working for us, it gives us a comfortable feeling that is the next thing to happiness. When we open the full hive and take therefrom the honey, clear as crystal, and put it on our tables, it makes a *sweet poem* indeed.

Now we come to the hard work—the prose of bee keeping. If the colonies are weak, we must build them up; if they are scarce of stores, we must feed them. We must get our boxes and hives all ready for the honey harvest and swarming time. We must lift and carry, work and watch, watch and wait. It is hard work. Hives must be moved around; honey is heavy, and it must be carried in quantities or much time is lost. The weather is generally hot when the bees are doing well, and our hair gets in our eyes, and when we have bee hats on don't our noses always itch? (Mine *always* does.) Sometimes the smoker goes out just when we need it most, and the angry bees get in their best licks, and our hands swell up until we cannot shut our fingers. We run here for rotten wood, there for coals, and yonder for muslin, and then we want the scissors. We tramp, tramp, tramp until our feet are weary and our head is hot, and we almost wish that we had never seen a "blessed bee."

JULY PARAGRAPHS.

By John M. Stahl, Quincy, Ill.

If wheat harvest comes before the cultivation of corn is finished, do not neglect the corn if you can hire hands at a reasonable figure. Each year more thoroughly convinces me of the wisdom of this, and makes a "reasonable figure" a little higher in my calculations. The weather is apt to be droughty, and frequent shallow cultivations will relieve the corn. I have noticed that when corn was neglected during wheat harvest and cultivated afterwards, in nine cases out of ten that cultivation did harm; and the hurt to the corn was just in proportion to the depth of the cultivation. If you must cultivate at this time, do it shallow. And if the only object in cultivating corn that has been neglected during harvest is to destroy weeds, this is better done by cutting them off at the ground with a sharp hoe. If you have cultivated your corn as you should, this can be done rapidly.

✢

Blessed be the man that invented the self-binder, for he has made the farmer independent of the migratory harvest hand, who, in nine cases out of ten, is a poor one. He is a peculiar institution. Whence he comes or whither he goes, no one knows or cares. He travels northward with the harvest, and when it ends he leaves the country. He works, or rather pretends to work, on the farm only during the harvest season.

✢

He binds grain poorly, and therefore is a torment. He does not gather up the bundle clean, but leaves a bunch to be lost. He uses not more than twelve straws for a band, therefore can not bind the bundle tight; but he would not do so anyhow. He never straightens a bundle, and its butt is as crooked as are his ways. He puts the band near the head, and when the shocker attempts to pick up the bundle the grain falls out. If the bundle is finally set up in the shock, it will not fail to slip out when laid in the stack, at least. By these marks shall you know the poor binder, and the quicker you get rid of him the better.

✢

The great secret of binding grain well is to use a thick band. Draw the band moderately tight; then if you have a large band you will make it very tight around the bundle by the twist you make before tucking. If you use a small band you cannot do this, for you have no purchase. A large band is the secret of easy binding, as it is of tight binding, for you have the advantage of a leverage, and do not have to pull the band tight by main force.

✢

Good binding consists in using a thick, double band; in gathering up the grain clean; in straightening the bundle, when needed, in putting the band near the centre, a little nearer the butt than the head; and in making the band tight, tucking it towards the butt.

✢

The band should be tucked towards the butt. In bulging a stack the bundles will always slip a little. If the band is tucked towards the head, this slipping will untie the bundles and spoil the the stock; if tucked towards the butt, the slipping only tightens the band.

✢

Since the extended introduction of the self-binder, shocking has become the most important part of the manual labor of grain harvest. Some shocking is shocking. The model shock is made of twelve bundles; neither more nor less when the self-binder is used, or when the grain, bound by hand, is of medium to large growth, for then the bundles are of a fair size. Two pairs of bundles, inclining towards a common centre, are first set; then one at each end; next two at each side; lastly, the two caps.

✢

Some farmers say that when only twelve bundles are used the shock is sure to blow down. I dispute this. It is not the number of bundles, but right setting, which gives stability to the shock. The bundles should be set down hard into the stubble. They should all lean towards a common centre; if one leans one way and another leans another way, the shock will fall of its own weight. After all the bundles are set, gather the tops in your arms, and pull them together; this will make the bundles settle together. For cap sheaves select long, slender ones, and break them thoroughly, that they may fit close to the shock; and turn the heads towards the prevailing winds. If the butts are put towards the prevailing winds, the caps are very likely to be blown off.

✢

Twelve bundles placed as I have directed will stand as well as twenty; and such a shock will dry out much better after a rain than a larger one will.

✢

Wear a large green leaf, or a wet cloth in your hat this hot weather. The leaf is the better. A horse-radish or cabbage leaf is good. As long as you sweat profusely you are safe, but should the perspiration become scant, or entirely cease, stop work, and go to the shade at once. The best way to cool the body is to pour cold water over the wrists; or if this is too severe, stir a bucket of cold water with the hands and wrists.

✢

Abstain from meats. We should have an abundance of fresh vegetables and ripe fruits for our tables. If we have not, we are very unwise. All oily foods increase the animal heat, which now should be kept at minimum. This animal heat is mostly produced by an internal combustion—the union of oxygen and carbon. The oxygen is got from the air in the lungs; the carbon from the oil in our food. Hence the more oil the more carbon (fuel) and the more animal heat. Vegetables and fruits form much the most wholesome diet.

✢

Do not sleep in the sweat-saturated clothing worn during the day. Bathe each night before going to bed; rest is gained by so doing.

COMMENTS FROM THE PEOPLE.

Mrs. Alma Perry, Danville,: Ill. "Your paper is just excellent, and I will send you another club."

Mary Stuart Smith, University of Va.: "My roses have come in good order, and I am recommending the investment to my neighbors."

J. Bunting, Bristol, Tenn.: "I regard your paper as the best and cheapest publication in the United States. I would not be without it for double the price."

E. T. Daniels, New Kioma, Kansas.: "I have been a reader of several farm journals all my life. They are all good, but for the busy practical farmer, I think yours is the best of all. It is all wheat, no chaff to be sifted out."

Jacob S. Ulrey, No. Manchester, Ind.: "FARM AND GARDEN received as well as seeds offered as premium. I must say that I was agreeably surprised in the paper; it far exceeded my expectations, and I wish you a long and prosperous career."

Mrs. L. Kelley, Washington, D. C.: "This morning your book accidentally fell into my hands on my way to the office. I passed it around and the club was made up at once. The sentiment expressed was 'you get a quarter's worth in one number.'"

I. E. C. Easterly, Willow Spring, Va.: "I can not afford to do without the monthly visits of the FARM AND GARDEN. I have been taking it for two years past, and it would be like parting with an old friend to quit now. I regard it as the best paper that is published at that price."

Wm. Lee, Manchester, N. H.: "The article on Apple Geometrides is well worth $10 to any farmer, or other person owning an apple orchard. Nearly all the apple trees in this city look as if a fire had swept over them, but I am confident that if your article is read, and the instructions followed, that we shall be able to keep the canker worms under control, if we do not entirely get rid of them next season."

ORCHARD AND SMALL FRUITS

Conducted by Eli Minch, Shiloh, N. J.

THE CRAWFORD.

We give a cut of the Crawford apple this month. The fruit is of a beautiful yellow color, with a faint blush on the sunny side. The shape and size appear in the cut. The flavor is good, but not equal to the Shiannon. Tree a moderate bearer, with the drooping habit of the Rhode Island Greening. We are testing the variety, and if we find it to appear valuable to our readers, we shall more fully describe it. The apple is a fine keeper, beautiful in appearance, and in season from December to March. While there are so many varieties of fruits before the public, and their identity so uncertain, we prefer to go slowly until we are sure, either from practical experiment or the general favorable opinion of others, which will justify us in recommending it to the public.

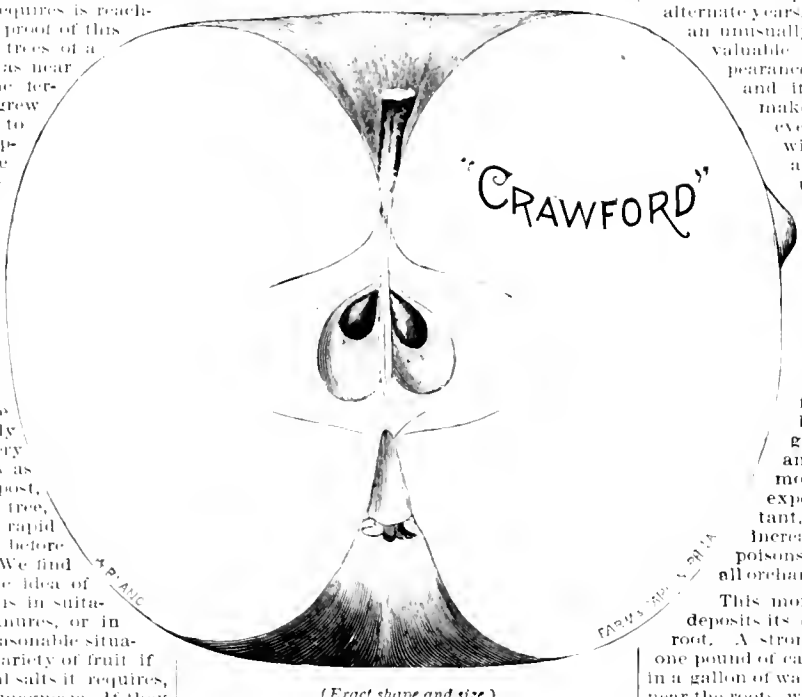
We find in fruit trees that there are varieties suited to certain soils. A variety may do well in a sandy soil, and refuse to grow in a cold clay. One variety may like a moist soil, another will appear better in a dry one. We also find that some apples are only successful in potash soils, others want lime, and some also require bone-dust. Take a row of different varieties and manure with any special fertilizer we name, and all will not be benefitted alike. Some of the varieties will appear greatly improved and others will not appear benefitted until the proper fertilizer which that variety specially requires is reached. We had a very evident proof of this last year. We planted four trees of a new variety of apples. One was near a rich compost, where all the fertilizers were present, and it grew finely. The others refused to grow, turned yellow, and appeared to be worthless, while the Ben Davis, Grange, Carolina Greening, and Red Winter Pearman seemed to grow well in the same and adjoining rows. Knowing that the origin of the fruit was in a potash soil, we gave the three failing trees a plenty of potash and magnesia (five pounds of kainit) to each tree, spreading it in a circle of six or eight feet, and allowing it to wash into the soil by the rains. The trees began to slowly recover, and then gained very rapidly. They are now nearly as large as the one near the compost, although the growth of that tree, at first, was so luxuriant and rapid that it grew at least two feet before the others started to grow. We find that there is less truth in the idea of suitability of soils than there is in suitabilities of special mineral manures, or in other words, we can, in any reasonable situation, grow to perfection any variety of fruit if we supply the special mineral salts it requires, whether it be lime, potash, or magnesia. If they are supplied, the variety will flourish.

We are making observations on the different fruits in our trial orchards. It is singular to notice the varied appearance of different fruit trees in growth—leaf, bud, and flower. We have apples like the Hyde's Keeper, with leaves almost white with down; others like the Bietigheimer, that are large and green; some almost blue, like Carter's Blue; others deep green—almost a black, while a class like Simmons' Red approach a reddish cast. The leaves differ much in size. Some are very small, others are over three inches in width and five inches long, or including stem, six and one-half inches long. The color of the bark is as noticeable as any. We have from the deep black of the Black Twig, to almost white, as in the old wood of the Minch, and through all the shades of brown, olive, and other colors. So great is the difference in color that three years ago we received seventeen varieties for trial, and when we came to graft them we found that the strings were broken and the varieties were all mixed together. They were separated by color and grafted, and out of three hundred grafts that we set, we find only two mistakes. Close attention should be paid to small differences, and the variety of fruit can be told by the appearance of the tree before setting, and we may be saved from planting worthless kinds.

A tree in the full vigor of growth, when blown nearly off by winds or broken by accident, may be repaired if only a little of the wood remains unbroken. Last year we had a peach tree broken off by the wind in July, leaving only a short, broken stump held by a single shred. A stake was set and the tree carefully lifted and tied firmly to it, all the mangled splinters removed, and then wrapped tightly with muslin bands and tied. The whole was covered with earth, well packed. The muslin bands held the parts until they grew together, and rotted, giving way to the growth of the tree. The tree is now equal in vigor and beauty to any tree in the row. The peach tree was a variety we were testing to find its value to propagate, and is now full of peaches. Ten minutes were sufficient to do all the work, and we are saved planting a new tree and three years' waiting to see the fruit of it.

A friend of ours, last year, saved a fine maple that was broken off, by covering the ruptured part with clay and wrapping the clay with a piece of old carpet to hold it in place, and now the tree is forming a beautiful shade.

In staking an apple tree last month, while straightening it, the tree suddenly broke nearly off. We at once tied the tree fast to the stake and took an old sack, tore it into strips, wrapped them tightly around the fracture, and covered the whole with wax. Five minutes did the work. The tree is now as thrifty as any, is set full of fruit, and will soon reward us for our trouble. We shall, as soon as the tree grows too large for the band, take a sharp knife and cut the bands by making a cut downwards through them to the tree, and wax over the cut. Next spring we shall have a fine tree, and it will take an expert to tell where it was broken off. Allow no



(Exact shape and size.)

wax to come in contact with the fracture; wrap well first, wax well afterwards. The wax will injure the new wood and delay the union.

Birds are invaluable to the fruit grower. We always make them welcome. They begin their day's work in the morning when daylight appears, and at all hours of the day they are busy catching those worms and insects that destroy our fruits. We are not only benefitted by their labors, but also delighted with their songs as they cheerfully search for our enemies all the day long. True, they eat our cherries, but it was our fault that we did not plant more, that there should be enough for us and a few for the birds. Our kind treatment makes them gentle and tame. They make their nests all around us and rear their young, returning to us each year in increasing numbers. We have no tent caterpillars, for the blackbirds have destroyed their nests and eaten the inmates long ago. Ten years ago, before we had the charge of the orchards, the tent caterpillars had complete possession; the blackbirds were shot at and driven away, for pulling up corn, at the time they were making their nests. Now the corn is coal-tarred, and is not disturbed by birds, and they fill our orchards. So far this year, we have only found a single brood of caterpillars, or rather the remains, for the worms were taken before we found the nest. All kinds of birds are welcome. Even the despised English sparrow is keeping the canker worm in check.

FRUIT NOTES.

The Yellow Transparent apple continues to give universal satisfaction for an early summer variety. The Yellow Transparent is one of the few Russian apples that were introduced in 1870 by the Patent Office, that has proved of value in this country. Its fine size, beautiful transparent yellow color, good quality, and productiveness make it one of the best extra early apples in cultivation. The tree is very hardy, withstanding a severe climate in safety, and is also capable of successful culture in a hot, dry climate equally as well. The variety will prove a standard one.

We believe the Southern Limbertwig apple will prove, in most sections, a desirable, long-keeping variety. The tree, as its name indicates, has limber twigs, is a healthy, good grower, and is less drooping than would be expected of a tree of such limber branches and such an enormous bearer. The fruit is of medium or above medium in size, a dark red or crimson in color, and very heavy and solid in texture. The quality, when in season, April to June, is good for either the table or cooking. We know of, for the Middle States, no better keeper. The trees grow well on a diversity of soil, from the elevated mountain to sandy plain.

The Red Bietigheimer is a very large and beautiful fall apple that must rapidly take a place among the list of standard varieties for all sections. The tree is a rapid grower, with large dark-green leaves, making a beautiful tree. It bears large crops of fine, rich, red-striped fruit alternate years. It is very productive, but not an unusually early bearer. This variety is valuable for market, where its fine appearance will always attract buyers, and its good cooking qualities will make it one held in high esteem everywhere. We believe the tree will prove hardy in most sections, and will prove a popular and valuable fall apple.

We learn by *Our Country Home* that Mr. H. L. Moody, an extensive orchardist of Lockport, N. Y., finds that the use of Paris green in orchards, after a two years' trial, destroys the curculio effectively. After two years' use he finds it to be almost exterminated. We know from experience that the foliage of the trees are much healthier from the use of Paris green, are more green in appearance, and the growth of the tree more rapid and satisfactory. We expect that the day is not far-distant, so rapidly are orchard insects increasing, that the use of arsenical poisons will be deemed a necessity in all orchards if fine perfect fruit is desired.

This month and next the peach borer deposits its eggs on the peach tree, near the root. A strong wash of potash or soda lye—one pound of caustic soda or potash dissolved in a gallon of water, and the trunks of the trees, near the roots, washed with it, will kill the eggs and young worms before they enter the tree and do any damage. Two or three washings will be sufficient if applied one early and one late, and if possible, one during mid-summer. The cost is small. Heaping lime and ashes around the base of the tree will do some good, but is not safe to depend upon. The borer will find a lodging-place above the lime and ashes.

We have been experimenting during the last four years, with various plans of pruning young trees. We have set many varieties for trial, and find a vast difference in the various plans of pruning. While some plans are worthless, others are positively pernicious, although highly recommended. We hope next year to be able to give full details of our experiments, fully illustrated by wood cuts, of proper plans for the most successful pruning. The subject has been before fully treated from general principles, but the details have been neglected. These can only be made plain by engravings, and should be fully illustrated. During the last four years we have given the subject special attention, and believe we can give some features not before in print.

Professor Budd, of Iowa, writes to the *Prairie Farmer* of the Bogdanoff apple, speaking of it in very high terms for its hardiness, color, size, keeping, and dessert qualities. During the last cold winter it bore the severity of climate exceedingly well, coming out with its wood bright and uncolored, while the Wealthy was discolored. He describes the Bogdanoff as similar in appearance to the Domine, but larger and higher colored, and keeps well until May. We make it our duty to learn all we can of fruit that promises well in each section, and describe them from those who test them. When we speak of hardy varieties, they are recommended especially for severely cold climates, and not for general cultivation.

We find the following in a conspicuous place in "Fruit Notes" in a recent number of an esteemed Western contemporary:—

"In purchasing trees, the greatest possible care should be exercised in the selection of the party from whom to buy, as it is extremely difficult to distinguish between some of the various races, and many are sold for Cyprian and Italian trees that are nothing of the kind.

Were the above *fruit note* set in a column headed Bee Notes, and the orthography a little changed, it would be good reading, and contain some excellent practical advice.

Old strawberry beds, if very grassy and weedy, may be renovated by burning the mulch off, if the bed is mulched. This may be safely done should there be a light wind to quickly carry the fire over the bed, as rapid burning will be safer. The space between the old rows can be deeply cultivated and kept clean until the runners start, then cultivation must cease to allow them to take root. This is a clumsy way of doing what should have been done in the spring, setting a new bed. Do not forget that strawberries want plenty of good fertilizers. Manure well.

No better way can be desired for cultivating raspberries, blackberries, and all the small fruits, as well as the orchard, than by the use of the Acme Harrow, which will pulverize the surface of the soil, keeping it moist below, and will not tear out and lacerate the roots, as would be the case if the plow or cultivator was used. The Acme Harrow, with its long, curved steel teeth, will loosen the surface-soil, making it light and friable, and when it comes into contact with larger roots, slides over them, doing no injury to either roots or harrow. Deep tillage is not desirable for the fruit orchard.

When the season of berries is over, collect all the crates and berry boxes and store them away for next season's use. The farm not only looks better from having the crates and boxes gathered from the field, but also indicates a careful and thrifty farmer. We passed berry fields last winter where boxes and crates were strewn in confusion everywhere, and about the railroad stations were piled crates and boxes exposed to wind and rain. With such management, berries do not pay. We also saw in many peach orchards baskets left over from last year's picking. The baskets are there yet we presume, ready for use, but such things do not pay or present a tidy appearance.

The soil will dry very rapidly and to a great depth if allowed to get hard and compact. There is but a small space left for air in solid soils, and from this fact they become hot and dry to a great depth in summer. While if air is present, as it is in loose soils, being such a poor conductor of heat, it will allow only a small portion of soil to become hot, which soon cools at night and is filled with a copious dew, not only retaining the moisture already in the soil, but adding to it at a season when moisture is especially desirable. Newly-set trees are always benefitted by cultivation, because all their roots are surface-roots, and cannot thrive in a hot, dry, compact soil. Hence the necessity of summer surface-cultivation of newly-set trees.

LETTER FROM NEW ZEALAND.

Charles Ryley, Taranaki, New Zealand.

May I begin by thanking Mr. Munson for his kind letter in your February number, replying to several of my questions. On the strength of his advice I am allowing the grass to grow around my pear trees, and hope to be able to report satisfactory results either next season or the following one. Apple trees I still keep a circle of from four to six feet diameter clean around each tree, as it enables me to inspect the crown of the root occasionally, in case there should be any signs of my enemy the "root fungus." My orchard, where I have my plum trees, I keep clean right through, as I find that course is generally recommended for plums. Mr. Munson's explanation of the root fungus or "root-rot" tallys to some extent with my own impression of the disease, but still there are features in the case which do not quite admit of the solution given, and which point more to its cause being inherent in the soil. If excess of moisture at the roots was the cause of their decay how could it attack as it does furze bushes planted on top of a bank of sods five feet high, and not over a foot and a half to two feet thick, in which there is no chance of the water lodging. In many cases where I have lost trees from it, they have been planted in light, porous soil on the edge of a bank where the natural drainage is so good that if you were to dig a hole three feet deep directly after a heavy rain you would not find a drop of water. I bear that the first importation of kainit has just been brought to New Zealand, at the port of Auckland, and I have written for a few hundred weight wherewith to experiment upon my trees and soil. The price asked is £8 per ton in Auckland, or about the same as superphosphate of lime or bonemeal, either of which have very beneficial effects when applied to the roots of fruit trees in our poor, light soil. I have been top-dressing some of my apple trees which suffer from the *Aphis lanigera*, or American blight, as it is generally called here, with a mixture of three parts sulphate of iron and one part of nitre, but fancy that I need not look for any result until the sap rises in the spring. We have at length been having some really fine weather almost warm enough for summer, though the days are beginning to get short and the nights frosty. We have not had such a spell of fine weather for over two years. Some of my apple trees have been blossoming a second time and a few of them have a second crop of fruit on them already as large as cherries. These are the early apples, such as the Irish Peach, which ripened their first crop in January.

John T. Lallemont, Denison, Texas, asks the cause of failure in grafting stone fruits. Answer—The most probable reason is that the grafting is done too late. Stone fruits must be grafted very early in the season, and even then, unless done by an expert, will fail. Budding is safer. Late grafting, even of apples, seldom succeeds.

Isaac T. Skinner, Clearfield, Ia., asks about the proper season to bud and graft, and how to make grafting wax. Answer—Grafting should be done early; as soon as the wax will spread. Budding is done in June, but more largely in August, and can only be done when the bark will readily separate from the tree to allow the insertion of the graft. No wax is used in budding, only a tie or flag to keep the bud in place. We shall have more to say next month. Will give recipe for grafting wax at usual time.

Henry Kolz, Arboles, Colorado, asks for the best work on budding, grafting, and fruit culture and varieties of fruit, etc. Answer—We would recommend Thomas' American Fruit Culturist, published by William Wood & Co., La Fayette Place, New York. Barry's Fruit Garden is also good. Downing's work, Fruit and Fruit Trees of America, will long be the standard authority in description of varieties. Any of them will be sent free, by mail, by the FARM AND GARDEN, on receipt of publishers' price.

E. G. Wood, Northview, Mo., asks: 1.-What is the best mode to keep off caterpillars from fruit trees. 2.-How is the best way to treat a tree when a large limb has been broken off by the wind. 3.-Can you give us any information on fig culture? 4.-If a seed advertiser sends poor seeds, how is the way to get your money back or get good seeds? Answer—(1). Allow the blackbirds and other birds to build in the fruit trees and rear their young. They will keep the trees free from the worms. Tearing the nests off with a long pole will also demoralize them. The yellow-necked caterpillar the birds will not eat, and are best destroyed by spraying the trees with Paris green and water. (2). Saw the limb off close to the tree, and let it alone. (3). Will answer later in the proper season for planting. (4). Seedsmen will do all they can to repair any wrong done customers, if they are made sure a wrong occurs. So many impose on them that they are not sure the party who claims injury is injured.

BOONSBORO, Washington Co., Ark., 5, 19, 1885.

My object in writing is to correct an error in an article in the May number in regard to the origin of the Shannon apple. It is not, as stated, a native of Arkansas. It was brought here in the fall of 1833, from Indiana, by a Mr. Rector, of that State, direct to my neighborhood on Cane Hill, in Washington county, some 230 miles northwest of Little Rock, and was never at or near the latter place until taken there from my Cane Hill nursery. Mr. Rector brought but a few scions of them. They were small, unsightly grafts, and as he had lost the label from them, he could not give their name or origin, but he thought they were European. They had not been grown to a bearing age in America up to the time he brought them here. Being unsalable, they remained after all the trees were sold from the nursery, except a small remnant, which was sold to one of my neighbors, a Mr. Shannon, and in the remnant was included this unknown apple. When the trees began to bear, the apples produced an excitement wherever seen, and the question, "What apple is that?" was asked by nearly every one who saw it. The answer generally was, "A new variety grown by Mr. Shannon," hence the name, the Shannon apple.

After the trees had been bearing some years, and a knowledge of the apple had been somewhat extended, Dr. J. A. Dibrell, of Van Buren, Ark., sent a specimen of the apple to the late Dr. J. A. Warder, then president of the Ohio Pomological Society. Dr. Warder undertook to find its origin, and he identified it with the Ohio Pippin. It is quite evident, from his own description of the Ohio Pippin, that there is scarcely a shadow of similarity between them.

Browning, of New York, and Phoenix, of Illinois, wrote to know if I could give them any information. I gave them the history of the apple as far as I had it, and sent them specimens of the fruit. They both concurred with me in the decision that it was not identical with the Ohio Pippin, and the fact that its origin has not been found in America, after a diligent search of nearly half a century, strengthens the probability that Mr. Rector was correct in supposing it originated in Europe. J. B. RUSSELL.

We give place to the very valuable letter of Mr. Russell, on the origin of the Shannon. We wish not only to accurately illustrate and describe fruits, but give also their true origin. We desire accuracy in all our statements, and if our readers have any information that we do not possess, we hope they will write us as Mr. Russell has done, and we will always be pleased to give the information we receive to our large family of readers. We desire to make the Fruit Department of the FARM AND GARDEN as valuable and reliable to the reader as the other departments are.

Mr. E. F. Babcock, of Russellville, Ark., writes us to correct the place of the origin of the Shannon. This Mr. Russell has done in this column. Mr. Babcock also writes that it was for the best plate of largest and handsomest apples, not a new variety, that it received the first premium of ten dollars at New Orleans. We always want to be correct in our columns, and we give place to the correction. We believe it is the duty of a journal to enlighten and not mislead people, and we always try to be correct in our statements. If we are sometimes in error, we hope our readers will inform us.

OUR FLOWER GARDEN.

PLANTS FOR GLASS CASES.

Fittonia Argyroneura and Eranthemum Sanguineum are two pretty variegated-leaved subjects that succeed well in a glass case, but care must be taken when watering not to allow any moisture to remain on the foliage. Peperomia argyrea is also a free-growing plant. Then there are the little Sonnerilas, charming jewels delighting in a close, moist, warm atmosphere, and to these might be added many of the Sarracenieas.

A REMARKABLE ROSE TREE.

Gardening, illustrated, speaks of wonderful Marechal Niel variety. It was budded on the Victoria stock in the year 1865, so that it is nearly if not quite 20 years old. For many years it produced regularly large quantities of roses of perfect beauty and rare perfume, but it was not until the year 1882 that the full number of blooms were accurately counted, when no less than 2500 single roses were recorded. This is believed to be the largest number ever grown on the tree during one season. In 1883 there was a falling off in the number grown of about 1000. Last year there was a further diminution to 850 blooms, and it was then thought that the tree had seen its best days, and that considering its age, its vitality was on the wane. Since last season considerable care and attention has been devoted to the tree, and there is now the best evidence of these being amply rewarded, for at the present time there is every reason to believe that this year the tree will be more prolific than ever, and the number of flowers is estimated at not less than 3000.

FREEZIAS.

We have found these a very great success, having grown them two years. We plant them at the end of August, six to eight in a pot, and put them in a cold frame. They have leaves in December, and throw up one or two spikes per bulb, each having from four to eight flowers. For window decorations they cannot be excelled. We have tried them in the open border, well protected during winter, and they are now showing flowers.

TEA ROSES

In pots, that have been forced and flowering for some time, if strong yet, will keep on making wood that will yield flowers. But to have them of large size and sufficient in quantity, the plants must be regularly and liberally fed with rich surface-dressings. Where any falling off occurs in this matter the after-growth will come too weak to flower, or if a portion does bloom, it will be thin and poor.

SOWING TROPÆOLUM LOBBIANUM.

For blooming during the winter months, the seed of this should be sown during August, in pots, which may stand out of doors until frost comes. All varieties bloom well in rich, light soil.

PRIMULAS.

Many amateurs raise young plants every year from seeds and throw the old plants away. This refers to the single kind especially. The double Primulas, of which there are now many beautiful varieties, are at this season cut to pieces, each cutting having a small crown of leaves. They are planted singly in small pots in sandy peat, and plunged in the propagating bed until rooted, afterwards grown under the glass, and moved to a cold frame in a shady situation in July, shifting them into larger-sized pots. Very choice varieties of the single kind may be treated in the same way, or they may be shaken out and repotted in pots of the same size and grown in a cold frame until the end of September.

EPIPHYLLUMS.

Often the leaves of the Crab Cactus become crinckled. This is caused either by too low temperature in winter or by defective root action. Epiphyllums should have a constant warmth of about fifty degrees in winter, with just enough water to keep the soil moist. If the roots have suffered either from too much water or through the soil becoming unsuitable, the roots will have a discolored appearance. This should be ascertained by turning the plant carefully out of the pot. If such be the case, remove as much of the soil as possible, without injury to the roots, and replace in a clean pot just about large enough to contain the roots, using for compost, loam (one-half), the remainder to consist of peat and leaf mold, with one-fourth of the whole of silver sand. Give good drainage, water only when dry, and grow in a light, airy place in summer. Epiphyllums cannot get too much sun when growing.

PÆONIES IN POTS.

We seldom see these grown outside of gardens, yet when carefully lifted with balls of earth and roots uninjured, and placed in pots large enough to receive them without crushing the roots, the Pæony will flower in a cool position under glass. When the flowering is over, harden the growth a little, and plunge the plants outside where water can be given freely.

MAMMOTH CHRYSANTHEMUM

If it be true that the flowers of the French variety named Mademoiselle Cabrol measures from nine to ten inches across, it must be a veritable sunflower.

DOUBLE BOUVARDIAS.

The young plants struck from cuttings in the winter, should be attended to in the way of stopping the shoots to prevent their getting long and straggling. Do not let any small stock of these suffer through confinement of the roots in little pots, for if this happens, they get into a stunted state. Where there is a large conservatory to furnish, some of the older plants that have been

HIBISCUS

cut back may, with advantage, be grown on to a considerable size. If given plenty of room space, say twelve or thirteen-inch pots, and the points of the shoots pinched in once or twice, they will make large bushes that will bear a profusion of bloom through the latter part of the summer.

HIBISCUS.

As pot plants these are unexcelled. The brilliancy of the large flowers always calls for admiration. Sometimes they do not have foliage enough to make a good show in a bed, but when they are

RHODODENDRON.

used for this purpose, other plants may be set pretty close to them so as to make up for this deficiency. Our cuts shows flowers about ¼ size, and illustrate the double, semi-double and single crimson. Then there is the single mauve. The double yellow is also a pretty variety. Small pots should be used, as they bloom better when pot-bound.

RHODODENDRONS.

June is the month for these plants to be in bloom. They have been rather late this season, but have made up for it in size and beauty of flowers. In parks and large gardens they should be more extensively used than they are.

Sometimes beds of them present a rather shabby appearance, but this could easily be avoided by planting tall-growing Lilies among them. It is just the place for Lilies; they will be benefitted in their young growth by the shade afforded by the Rhododendrons.

CHARCOAL IN POTTING PLANTS.

Charcoal is good for all purposes. For drainage, to keep the soil sweet, and to supply elements to the plant. For enhancing the color of the flowers it is especially valuable. It may be used, broken into small pieces the size of a nut, and mixed in proportion of one part charcoal to twenty of earth. The reason for charcoal being so useful a manure is very apparent. It has been demonstrated that plants have been rendered much more luxuriant and productive by having carbonic acid applied to the roots than other plants to whose roots no such application was made. Charcoal kept moist, as when buried in the soil, slowly combines with oxygen and emits carbonic acid; in fact, it slowly dissolves. For drainage in flower pots, nothing better can be employed than two inches in depth of pieces of charcoal about the size of a filbert.

NEW SEEDLING AMARYLISSIS.

These are becoming so popular in England that many of the prominent growers devoted whole houses to them. In this country they do not seem to be appreciated, probably on account of the very high prices asked for new hybrids (as much as $25 a bulb). Yet some of the older kinds, such as Johnsonii, Prince of Orange, the Vittatas, etc., deserve more attention than they have received, considering how readily they are made to bloom and how little attention they require after blooming. At this season of the year, when done flowering, we plant them out and let them make all the growth possible. Take them up in the fall and pot, keeping them in a mild temperature and just watered enough to keep the roots in good condition.

EVERGREEN IVY.

If you have a plant of this and want to increase the stock rapidly, plant it out. Take one or more long shoots and bury these lengthwise about half an inch below the soil. It will make roots at every joint and start fresh shoots as well. In this way a wall may be covered in less than no time.

ECHINOCEREUS ENNEACANTHUS.

This is a most handsome flowering cactus, having blooms of a vivid Magenta color, and measuring three inches across,—much larger than the famous E. Cæspitosus, and of a brighter color.

CACTUS.

In general, it kept in a warm place, must be watered regularly. If plants are not rooted they should be merely set on very sandy soil—pure sand still better—and in case of tall-growing kinds, they must be fastened to a small stick to keep them in place. Water but little. Cuttings of Night-Blooming Cereus may be left to dry on the soil until roots emit from the end of cutting, when it may be inserted slightly in the soil. If you can get cuttings with side roots attached, these roots may be buried in the soil, leaving the cutting simply lay on it. Then it is impossible for the plant to rot, and it will grow just as well. A cutting six inches long may just as well be cut in half and two plants made of it.

Cut flowers that have wilted, from having been plucked some time, may be revived by placing the stems in very hot water. Merely let the lower part of the stems be immersed, and after the water cools, that part of the stem may be cut off. This treatment is not recommended for white flowers, they generally turn yellow.

Plants for Living Rooms.

Many people, both in city and country, keep plants in their rooms, and not a few grow them there from one year's end to the other. Of course, plants do not thrive as well in dwelling-rooms as in green-houses, and a common impression exists that gas is particularly obnoxious to them—that is—gas light. The heat-drying effect of the gas flame no doubt affects plants, but not to the extent that it is supposed to; anyhow not much more than a lamp or stove would. This evil effect may be remedied, to a very great extent, by setting the plants on saucers inverted into others of larger size, and keeping these large saucers constantly full of water. This will gradually evaporate and keep the air around the plants in a moist condition, sufficient to counteract the evil effects of gas or stove heat. The inverted saucers should be large enough so that the base of the pot in which the plants are growing, does not actually stand in the water, although occasionally this is beneficial to the plant, especially when much drainage has been used. Maiden Hair Ferns, Acacias, and Primulas do first rate under these circumstances. Also the beautiful-leaved Marantas, if kept warm enough during winter. What really destroys room-plants is mismanagement and want of light and air. Few plants will thrive long unless they have both. But where there is plenty of both, almost anything may be made to grow and blossom beautifully. Geraniums, Fuchsias, Begonias, Gloxinias, and Abutilons will all give an abundance of flowers, and what is more, these will not be infested by insects, as Roses and Chrysanthemums would be. If flowers are not an object, we would suggest Aspidistra Lurida Variegata, Marantas, Ferns, the beautiful Sanseveria Metallica, Ficus Elastica, Areca Lutescens, or almost any palm. Even small Agaves look nice, and if kept in rather small pots, they will not outgrow your window sill very soon. Mentioning Agaves reminds us of Cacti. These are the plants just suitable for room-culture; neither gas light nor fire heat will hurt them. In fact, they will not require any heat at all during winter, providing frost is excluded. If flowers are expected from them in spring, they should have plenty of sun during winter, but they will not want any water except once in two weeks. Of course, you do not expect these to grow during winter, as this is their season of rest; excepting, however, the Crab Cactus or Epiphyllums, which, with good management, may be had in bloom from October to March. Many persons try to grow Crotons, Azalgas, and Camellias in rooms, but as a general thing the result is failure and destruction of the plants, as these require an abundance of syringing and moisture.

Climbers and Vines

Of all sorts are now making strong growth. In order to make them grow just where they are wanted, a little attention should be paid to these as well. If the runners are growing too strong, they should be kept in check. Vacant places on wall or trellis must be filled up. Do not tie them to a big nail, with a piece of leather or a strip of tin; but drive a few large-headed nails here and there, to which the branches can be fastened with small pieces of brass wire. This will last forever, and is very inexpensive.

Plants That are in Bud

Will be helped along considerably just now with a top-dressing of some well-decomposed manure or, if this is not handy, an occasional dose of guano water will answer as well. Twice a week will be sufficient.

Increasing Your Stock of Roses.

Roses may be propagated in several ways, viz.:—By budding, cutting or layering.

For layering, the strong new growth may be used as soon as it gets a little hard. Make a slit in the upper side of the shoot with a sharp knife, and bend it down into the soil; a strong wire bent at one end and pressed into the ground, will keep it in place. Budding is done by taking out a piece of bark with an eye, and inserting it under the bark of another kind, and then tying it in. In case the stock on which the budding is done throws out suckers, they should be removed

GERANIUM.

at once. Every one knows how to propagate by cuttings. A clean, shallow box may be filled with sand, or if not many cuttings are to be rooted, a flower pot will do as well, providing care is taken of the drainage. Fill your box or flower-pot with cuttings of half-ripe wood, then give it a good soaking of water, to make the sand firm, and place them in a shady spot where water must be given when required. When well rooted, take the cuttings up and plant them in sandy soil, using two or three-inch pots.

Geraniums.

For cut-flower bouquets, Geraniums are seldom used, and yet a graceful effect may be produced by them when the colors of flowers and foliage are chosen to good advantage. Look at our hunen of Geraniums. Is it not pretty?

Propagating Geraniums.

This is a good time to propagate geraniums for winter-blooming. For a small number of plants, the best and quickest way is to root them in tumblers of water. Place these in the sun, and renew the water, should it become offensive.

AMERICAN EXHIBITION, LONDON, 1886.

"Botanical Department.—Among the attractions of the American exhibition to be held in London next year will be a garden comprised solely of American trees, shrubs, and hardy plants; in fact, it is intended that the whole of the exhibition grounds shall contain no plants except those of North America. The intention is to make a representative gathering of the United States flora taken in latitudinal and longitudinal directions. The former will represent the charicteristic vegetation of each State taken seriatem from New York to California, the latter from the Canadian frontier to Texas and Florida. The Orange and Citron groves of Florida and other Southern States together with representations of their Cotton, Maize, and Tobacco fields, will be made. As the North American flora is of peculiar richness, such an exhibition will not only be novel, but attractive, for no country is so rich in beautiful hardy trees, shrubs, and herbaceous plants, and an idea of the resources of the North American flora will thus be presented to the visitor at a glance. From the opening day in May until the close of the exhibition in October it is hoped that the grounds will not only prove interesting and instructive to the visitors, but attractive also on account of the peculiar nature of American plants to flower in continuous succession. With the ordinary American flowering shrubs, such as Rhododendrons, Azaleas, Kalmias, English people are well acquainted, but it is hoped that this exhibition will comprise large numbers of trees, shrubs, and plants which are comparatively little known in this country. The wealth of the herbaceous plant flora of the States will be a special feature, and it is intended to import direct from the States representative collections of wild trees and plants, particularly of the most attractive kinds.

We copy the above from the *London Garden*, in order that our subscribers may prepare themselves for this great event—"There is a tide in the event of man, which, if taken as a flood, leads on to fortune."

The Society of American Florists will have its first general meeting in Cincinnati, on August 12th, 13th, and 14th. It will be a most important meeting; one that will benefit everyone in the rade. There will be a list of very excellent papers to be read and discussed, which will form an important feature. The exhibition of plants and flowers will be entirely unique in character, hffering materially from any exhibition previously made in this country. It is earnestly desired that all members having seedlings, novelties, or plants of merit, will not hesitate to exhibit them. No plant or flower of merit will be unrewarded. There will be very many implements and appliances belonging to floriculture. The progress made in the construction of greenhouses for all purposes during the past ten years, s of great value to the trade, and the latest and most improved models and plans will be exhibited, showing ventilation, arrangements of tables, ost, etc. In fact, everything of interest to the rade will be represented. Florists and those nterested, who have not already received a prospectus, should apply for one from the publishers of this paper. The president of the society is Mr. John Thorpe, Queens, N. Y. First vice-esident, J. M. Jordan, St. Louis, Mo. Treasurer, M. A. Hunt, Wrigh'- Grove, Chicago. Secretary, E. G. Hill, Richmond, Indiana.

LIVE STOCK.

SOILING HOGS ON CLOVER.

Quite a number of agricultural journals are disposed to recommend the clover pasture as the best place for the pigs. And this is true, to a certain extent, but it is much easier and cheaper to give the pigs a large-sized yard, and feed the clover to them instead of allowing them to roam all over the pasture. As the pigs root up many portions of the field, they do more or less damage, and as it is but little labor to cut the clover for them, they do not waste much. Ringing the pigs prevents them from rooting deep, but not entirely, unless the ringing is properly done. An advantage in soiling them is that they make a large quantity of manure, which may be easily saved; while in the pasture, the manure, though not entirely lost, is unevenly distributed. The best way of keeping the sow while suckling her pigs, is to feed clover to her in her pen, which should be given twice a day, with sloppy food morning, noon, and night. Do not wean the pigs too soon. The longer they can stay with the sow the better, and if she is fed on a liberal supply of clover, she will give a large quantity of milk, and the pigs will grow fast.

SHADE IN THE PASTURE.

During the extremely warm months, the stock often suffers for shade. In some sections, the persimmon, which does not deprive the land of fertility, as do some kinds of trees, are planted for the purpose of furnishing shade, and every pasture should be supplied in some manner. Sheep are so sensitive that they begin grazing very early, in order to avoid the excessive heat of the day, and their second meal is often deferred until after sundown. When deprived of shade, they suffer severely; and should disease attack them, they do not recover as quickly as when they are not exposed. Hogs, especially if in good condition, often perish from excessive heat, while the cows will fall off in milk. If there are no trees in the pasture, erect sheds. It is not necessary to have them close. Four posts, with a roof, will be found better in the summer than anything else, as the stock will be sheltered from the rain in stormy weather, also. Where a number of different kinds of stock are allowed in the same pasture, it is best to have several sheds, in order that they may not crowd. A few poles, with brush thrown over them, is better than nothing; but it is best to protect against the rain with a tight roof.

STOCK NOTES.

GROUND GRAIN FOR STOCK.—If ground grain is fed, give the horses ground oats; the cows in milk, a mixture of ground oats, meal and shipstuff; the sheep, ground oats; and the pigs, bran and shipstuff.

THE INSECT PESTS.—All the animals will suffer from insect pests now. The best that can be done for them is to darken the stables as much as possible, and keep them clean by removing the droppings every morning.

YOUNG STOCK.—When young stock become sick, they should not be given medicine, unless it cannot be avoided. If very young, confine them to a milk diet. If very weak, a teaspoonful of brandy in a little water will be found the best invigorator. Drenching young stock often does more harm than good.

LICE ON STOCK.—When lice secure a place in the stables or on the stock, they will remain unless driven away or destroyed. Dry dirt, used plentifully along the backs of animals, is an excellent remedy. A wash composed of a gill of coal-oil in a gallon of milk is harmless to animals, but also efficacious in destroying lice.

ABORTION IN COWS.—Should a cow in the herd abort, remove her at once from the others, and disinfect her stall, as well as cleaning up all matter that may spread the difficulty, as the disease is contagious. As soon as possible send the cow to the butcher, as she will not probably be a satisfactory breeding animal again, and may damage other herds if sold for dairy purposes.

THE WORK HORSES THIS MONTH.—Horses get but very little green food during the busy season, and yet it is necessary to their health and condition. In the morning they are harnessed for work, and at night they are consigned to their stalls, with dry hay, in the same manner as though they were under winter keep. If the horses are allowed to graze for an hour in the evening, after their day's work, they will be all the better for it. The grass furnishes a change, regulates the bowels, and gives them better appetites when they go in the stalls.

SELECT THE BREEDING EWES.—As the ewes should be good milkers, it would be well to cull out from the flock those that were deficient in that respect before the fall, filling their places with those that are younger. The ewes that bore twin lambs, should always be retained, as well as the ewe lambs from such, as the prolificacy of the flock will in that manner be gradually increased.

WATER IN PASTURES.—Unless the fields are supplied with running water, the stock must be provided with water. A pond in the field will not do, as it gradually stagnates and injures the milk. By driving a pump at the intersection of four fields, the water can be used for each field as desired, as the troughs can be so arranged as to be filled from the pump with a hose or other appliance.

FATTENING STEERS.—Steers will gain more rapidly on grass than on any other kind of food during this month, provided they are allowed grain at night. Prices have fallen, as is usually the case at this season, and it will be found more profitable to hold them over than to sell, if pasturage is plentiful; but if they are to be fed in the stalls entirely, the sooner they are disposed of the better.

FEEDING OLD HAY.—Old, musty hay should be used for bedding only. During the summer season, there is nothing better for horses than to cut a few armfuls of grass in the morning and allow it to wilt during the day. If fed at night, it will be found much more palatable than the hay from last year's crop. Many horses are supposed to lose appetite for hay when the difficulty is only due to their rejection of old material.

THE ROADSIDE GRASS.—Thousands of tons of grass (and even weeds,) go to waste annually along the roadside, which might be easily utilized. A farmer lately made a few movable hurdles, in which he placed sheep, and pastured them along the road, the farm-fence forming one side of the hurdles. The hurdles were moved forward daily, and the result was that the roadside was cleaned off wherever the sheep were hurdled, while quite an amount of mutton was secured at a trifling cost. It is worth practicing by others.

SUMMER DAIRYING.—The cows will give more milk in summer, but the price being lower, it is doubtful if the profits are as great. It is becoming a common practice to use the milk for raising calves as veal, which many dairymen find a profitable method of disposing of the milk, but the chances are that the cow will be somewhat spoiled by being accustomed to the frequent attentions of the calf. A cow will easily raise two calves large enough for first-class veal, if she is liberally fed; but she must be kept in the stanchions while the calves are drawing the milk, as she will kick the strange one. At first, an attendant must be present to prevent injury to the calves. Summer dairying is assisted by plenty of grass, but the best butter will only be obtained where the cows are fed with ground grain, also.

SHEEP AND DOGS.

By John E. Bond.

In many States the sheep interest is one of great importance. It it could receive suitable protection it would assume still greater proportions where it is already established, and would soon become a prominent branch of farm business in many places in which it has thus far been entirely neglected.

The protection which should be given does not involve any special fostering, by the State or nation, of this line of industry. It does not mean a government bounty for keeping sheep or an excessively high tariff on wool. It is not desirable to encourage the keeping of any class of stock, which, in a fair and open competition with other classes, is not able to maintain itself. What the sheep industry needs is an even chance. Give it a good opportunity for development, and it will take care of itself.

The great obstacle to the profitable keeping of sheep over a large area in this country can be stated in the one word—dogs. The figures are not at hand for representing in dollars and cents the amount of damage which sheep owners sustain from the ravages by dogs among their flocks, but it is universally known to be enormous. Yet, large as is the sum which careful inquiry has shown to be lost outright, the full extent of the injury cannot be represented by figures. Much of the loss is indirect and cannot be computed. It is sustained by multitudes of farmers who would like to keep sheep, but are deterred from doing so by fear that their flocks would be destroyed by dogs.

Now sheep are very useful animals. They are a source of profit to their owners, and it is a benefit to the country at large to have them kept in considerable numbers. In England they are considered absolutely essential to successful farming. In this country they not only return a fair profit, but also prove very useful in maintaining the fertility of the soil. The longer the land is cultivated the more important to the farmer these animals will become.

But, while sheep are profitable animals for the farmer to maintain, dogs are, as a rule, a source of considerable expense. A very few dogs pay the cost of their keeping and the trouble of looking after them, but the great majority cost far more than their services, both real and imaginary, are worth. The most noticeable thing about most of these curs is the almost total absence of all decent qualities. In every neighborhood such dogs may be found, and where they are kept in large numbers, sheep can be kept only at great risk. Where a better class of dogs is kept the risk is reduced, but it is by no means entirely removed. Neither does long immunity from loss give a perpetual warrant of safety.

In the latest case of injury to a flock of sheep by dogs which has come under my observation, the farmer who was the loser has kept sheep upon the same land for about thirty years. He has not kept a dog himself, and until this spring none of his sheep have been disturbed by dogs belonging to other people. His neighbors have not been so fortunate. But now his turn has come, and he is mourning the loss of some of his finest lambs, and awaiting the result of injuries inflicted upon others. The dog that did the mischief, and concerning whose identity there could be no mistake as he was caught in the act, had been kept on an adjoining farm for some time, and was supposed to be a moderately well-bred shepherd. To all appearance he was one of the most valuable dogs in the vicinity.

Wherever there are many dogs there will be considerable risk in keeping sheep. In the States which have the "dog law" compelling all dogs to be licensed, and from the fund thus created requiring payment for damages inflicted upon sheep by dogs to be made to the owners of the flocks attacked, there is an approach to a fair settlement of the question so far as the direct injuries are concerned. Not that any award which can be secured will fully pay the farmer for the loss sustained by having a flock of fine sheep harassed by dogs. But if does something in the way of compensation. The indirect damage, to which reference has been made is not lessened by this means.

A complete remedy for the evil does not seem to be within the power of the law to supply. It is evident that the farmer who is quietly pursuing a peaceful industry which tends to advance his own interests, and indirectly to promote those of the town and State in which he lives, is entitled to a degree of protection which will enable him to follow that line of business without molestation. But dogs cannot be entirely suppressed by law, and where dogs abound sheep do not thrive. As long as the majority of the people keep curs the sheep interest will languish. If they could be persuaded to keep more sheep and less dogs the change would be extremely beneficial to themselves and to the communities in which they live.

THE POULTRY YARD.

DIFFICULTIES DURING INCUBATION.

By P. H. Jacobs, Wayne, Ill.

Occasionally the seasons seem to present difficulties not before encountered, such as poor results from the eggs, deformities of chicks, and loss of adult fowls. This season the poultrymen appear to have had more than the usual share of drawbacks. Quite a number of inquiries have come respecting the failures, and yet, the majority of the troubles can be traced to one cause, which is overfeeding. When eggs are used from over-fat fowls, the chances are not favorable to good results from incubation. Nature teaches a lesson in that respect. It is seldom that a hen poor in flesh will set. She apparently stores up fat to a certain extent before going on the nest, and comes off somewhat reduced. She usually eats but once a day after beginning incubation, and imparts all her bodily heat to the eggs. Sitting is partly hibernation, and the hen makes preparation for the event as systematically as do those animals that become excessively fat and sleep away the winter hours. We may conclude, therefore, that the hens are not in a proper condition for laying when they are too fat.

Eggs from fat hens are sometimes very thin-shelled. We may feed lime, oyster-shells, bones, or any other substances, but such articles do not show any good results with over-fat hens, for the reason that they are in a diseased condition, and become egg-bound, while the organs of reproduction are in an unhealthy condition. When such hens lay, the eggs do not always hatch, and if they produce chicks, they are often weak and deformed. It is the same with live stock of all kinds. Mares, cows, sows, and ewes, when very fat, make poor breeders, and either remain barren or bring forth weakly offsprings. The cocks are also clumsy and impotent when very fat, being useless and unserviceable. When the fowls are very fat they become subject to diseases, make inferior layers, produce infertile eggs, as a rule, and their offsprings, if any, will be weak and inferior.

Among the difficulties is that of deformity. Chicks have their heads thrown back, and topple over, without the ability to stand, while others have deformed feet, the toes turning in. These difficulties not only come from the over-fat parent, but also from too much heat during incubation. When the heat in an incubator sometimes reaches a degree or two above the proper temperature for a few days, or even when the hens on the nests are very fat, and sit closely, we meet with those drawbacks. The large breeds are more subject to them than the smaller, while chicks from confined fowls are not as exempt as are those from hens running at large.

The reason why the seasons appear to operate in the matter is because during some years the spring is backward and the hens do not have the privilege of exercise as soon as at other times. The best remedy is to endeavor to so feed as to prevent the hens from becoming too fat. To do so, avoid corn, and at times wheat, also, making oats the only grain used, the feed being given in such manner as to compel the hens to scratch and find the grains. To keep the hens active, is as important as working a horse, for they become dissatisfied under confinement unless kept busy. During the spring and summer, if the hens have a grassy run, they may be given a feed of oats at night, with wheat and a little meat twice a week, which will keep them in a healthy laying condition, and the eggs will then hatch. For fowls in confinement, grass should be chopped fine and thrown to them. If allowed plenty of grass, they will need but little grain food, which should always be given at night.

DUCKS AND GEESE.

Ducks are profitable when entire attention is given them. As a rule, ducks are given full liberty to roam at will, and receive but very little care. Hundreds of young ones are annually destroyed by turtles, hawks, cats, minks, and skunks. Unlike young chicks, they are not kept under surveillance at first, as the majority of persons suppose they *must* have water for their comfort, in which to sport and bathe. The fact is that there is nothing more injurious to a young duck than water, not only from the ponds and streams, but also from the young grass. The same may be said of goslings, although the adult birds take them to the water as soon as possible. When ducks and goslings come out of the shells, they are covered with down, which affords no protection against dampness. After the down disappears, and feathers take its place, the case is different. When an adult duck or goose swims on the water, its skin is dry, as the feathers form a water-proof protection. If it dives under, the water runs off when it returns to the surface. But the young, having no such protection, becomes chilled, and soon succumbs.

Young ducks grow faster than chicks, and are subject to fewer diseases. At first, the ducks and goslings should be fed on bread soaked in milk, chopped onions, and hard-boiled eggs. When they are three days old, the feed may be varied, but no grain is necessary until they are one week old, when they may be fed anything they will eat. Keep them confined in a small, dry yard until the down changes, when they will be safe. The wet grass is more dangerous than ponds.

POULTRY FOR THE TABLE.

There are quite a number of persons who keep poultry for the purpose of having a supply for family use only, without regard to their qualities for market. Such persons care nothing for the color of the legs or other exterior qualifications, preferring a fowl of good quality only. The best breeds for the table are the Games, then the Houdans, Dorkings, Langshans, and Plymouth Rocks. A cross of the Game with a Langshan hen produces one of the best of fowls for the table, and the same may be said of a cross of the Game and Houdan. A regular succession of crosses may be made by crossing the Houdan with Langshan hens. The next season cross with the Black-red Game. Then follow with the Dorking, and next with the Malay game. The The Houdan may now be tried again, followed by the Langshan, when resort may again be had with the game. Occasionally the Plymouth Rock may be used. The constant change of new blood will give vigor, the chicks will grow fast, and the hens lay well, while the table qualities will be first class.

ERADICATING LICE.

It is sometimes an easy matter to get rid of lice on fowls, but the poultry house is not so easily managed. During this month the lice will be active, and increase rapidly. It is no use to attempt to rid the fowls of lice until the premises are thoroughly cleaned, as such labor is lost. If the houses are kept clean, the hens will, with the use of the dust bath, clean themselves. To rid the house of lice, first remove all filth from the roosts, floors, walls, and nests. Scrub the roosts with coal-oil, not overlooking a single spot. Take the nests outside, clean them out, and with a white-wash brush apply a light coating of coal-oil to them, inside and outside. Now touch a lighted match to the nest boxes and let them burn. No damage will be done, as the oil will be quickly consumed, but such work should not be done inside the houses. Now make a bucket of whitewash, and add to it an ounce of liquid carbolic acid, and a pint of tobacco water, which may be made by pouring boiling water over tobacco refuse, and allowing the water to remain over night with the tobacco. Apply the white-wash profusely, and dust Persian insect powder through the feathers of the hens, holding them by the legs for that purpose. Do not use grease on little chicks. Persian insect powder will remove lice from them. Little's chemical fluid is an excellent article to use in place of the carbolic acid, it being efficacious and non-poisonous.

POULTRY SCRATCHINGS.

THE YARDS.—A yard sixteen feet front and one hundred feet deep, is small enough for a cock and ten hens.

CROSSES.—A crossed fowl will always sit, and if non-sitters are desired for next season, they must be bred from pure breeds only.

CULLING THE STOCK.—Get rid of the worst specimens by culling, then select next season's breeding stock from the remainder.

MARKETING FOWLS.—Do not attempt to market dressed fowls this month, but sell them alive, and you will give the commission merchants no opportunity for selling out a low price in order to prevent decomposition.

FENCES.—Wire netting answers well, but the cheapest and most serviceable fence, in proportion to cost, is one made of plastering lath.

FEED THE WASTE.—Cabbage leaves, lettuce, raddish tops, and other refuse from vegetables will be relished by the hens, and should be carefully saved for them.

SAVE THE FEATHERS.—Save the feathers from all the fowls. Scald them thoroughly and dry them as quickly as possible, keeping them well aired until disposed of.

EXHIBITION FOWLS.—They are not always the best for breeding purposes. A prize pair may be well up in "points" but deficient in many other desirable qualities.

COAL-OIL.—A mixture of half a teaspoonful of coal-oil and a teaspoonful of castor-oil, is an excellent remedy for cholera, and will often cure roup and other contagious diseases.

SITTING HENS.—We would not advise hatching hens this month, unless with proper facilities, but should the hens desire to sit, make the nests in a cool place and the results will be more satisfactory.

MOULTING.—In about six weeks some of the hens will begin to moult. If so, keep them. Always dispose of the hens that moult late, but retain those that moult early, as they will begin laying before winter.

FATTENING FOWLS.—The adults will fatten more easily than will those that have not completed their growth. Chicks seldom become very fat. If the hens are very fat, market them before selling the young stock.

THE PROFIT.—One egg a week will pay for the support of a hen. As the first egg must be deducted for expenses, consequently, the hen that lays three eggs a week, produces twice as much *profit* as the hen that lays two eggs.

PRICES OF EGGS.—When eggs are low in price, the food is also more easily procured. Hence, in estimating the profit, not only the prices of the eggs should be considered, but also the expense of production in the shape of labor and food.

FEATHER PULLING.—This vice will grow among the confined fowls this month, unless they are kept busily at work scratching. There is no certain known cure for the difficulty, but it may be partially prevented by not feeding too highly.

DOUGLAS MIXTURE.—Though often repeated, in in answer to inquiries, we will state that it is composed of one pound of copperas, two gallons of water, and one gill of sulphuric acid. Give the fowls this mixture by adding a teaspoonful to every quart of drinking water.

YOUNG BRAHMA.—They will be "leggy" for a while, but after obtaining their height, they will thicken out. Do not, therefore, dispose of them on account of objection to long legs, which is a peculiarity of the breed. As a rule, the more "leggy" at first, the larger the bird when matured.

THE DRINKING WATER.—Of all months for providing pure drinking water, July is the most important. Impure water is a source of disease, inducing cholera, and preventing egg production. The fowls will often go thirsty rather than drink warm water in summer, and, therefore, it should be changed two or three times daily.

BANTAMS.—It is a good time now to hatch bantams, though the fall is better. The game varieties are the most popular, but the Sebrights are the prettiest. The Black Africans are the smallest, but not so hardy. Bantams will mate with the larger breeds, and should therefore be kept in enclosures separate from other fowls.

THE PRICES OF BROILERS.—Up to June 1st, the prices in the Chicago markets have not been below forty cents a pound, while at times they have reached $30 per dozen. The sizes most in demand were about 2½ pounds per pair. In the Eastern markets the seasons are somewhat earlier, the best prices being realized in April, while in Chicago, May is better.

THE HOUSEHOLD.

A GOOD SCAVENGER.

By Lois.

"The town has passed a law that no pigs are to be kept within the corporation limits. It will be a great improvement in some of these back streets, I think," said Laura.

"I am not so sure of that," said her cousin. "Though not much of a pork eater, I have a great respect for the pig as a scavenger."

"Why they are never allowed to run around in a village like this."

"I know that, but how carefully all the waste about those poor tenement houses in the back streets is saved for the pigs. Even the dish-water goes into his trough. Every paring, husk, or decayed apple goes into the same, and is worked over in his laboratory with substantial food, which goes a long ways in supporting these poor families. How industriously many of these people work to gather supplies from their neighbors; coming early with their barrels on a wheelbarrow, to take away the trash we are so glad to spare. I shall hardly know what to do when Hans stops coming twice a week to take our collection. It all this rubbish, which the pigs now eat up, is thrown out about back doors, as it will be in hundred of homes, I think we shall see the effect in the health of the place. A town in Pennsylvania has just been suffering from a fearful typhoid scourge, caused, the papers state, from just this refuse being thrown out on the ground during the winter, and then festering in the sun the first hot days of spring. I believe it is a good sanitary measure to let the poor people have their pigs, and feed them well with all the supplies they can save and beg. He may not be very aesthetic, but he is a useful member of the community in his line, and I believe he saves more disease than he causes. Scavengers of any sort, need to be encouraged in this year of anticipated pestilence."

HABITS OF DISORDER IN EARLY YEARS.

By Lottie.

"Dear me, Addie, do gather up these apple-cores and parings, and throw them out. They just draw a swarm of flies. Alex. should have known better than to leave them here. But that is just the way with all of you. It keeps me cleaning up the whole time, and the door-yard looks like a fright. I was so ashamed yesterday when Miss Irving walked out to see the flowers. Old papers blowing about, and caught in the rose bushes, and an old shoe, or two, and I don't know what else. I cannot see why you children do not take more pride in fixing up the place and making it look like other folks'. I am sure I have not the time; but you girls might, if the boys will not."

The reason of the disorder was not far to seek. The children had not been trained to neat ways from the cradle up. They had never been taught when they had fruit or nuts to eat, to take a plate and lay the parings or shells on it, and then dispose of them properly when through. They had not been called back the *first time* they had left such trash on the window-sill, to come at once and clear it away, and the same the second time and the third. It takes "line upon line" to fix a good habit, but once "set," it is there to stay.

This same habit of untidiness, is very general, as one may see by the appearance of our public halls, cars and waiting-rooms. I have seen a well-dressed woman eat a paper of peanuts in a ferry-house, and drop the shells down one by one on the floor beside her, as calmly as if she were dropping them into the bay. But it showed ill-breeding in the view of many who looked on. A true lady, is one everywhere, and her manners will correspond.

If children were taught little tidy ways, we should see a vast improvement in the appearances of our towns and villages, and also in, and about the homes of our land. Unsightly banana and orange peels would cease to disfigure the sidewalks, and a better resting place than the street would be found for old cans and tins and those weary wayfarers, old boots and shoes.

OUR FOUR-FOOTED FRIENDS.

By Edith.

Children cannot be trained too carefully to take most scrupulous care about throwing away broken needles, bits of glass or china, where no possible danger can come from them to man or beast. Many valuable horses in New York, are every year obliged to be killed because of nails or pieces of glass which have worked into their feet. The compost heap is the last place to throw such things, though I have seen all the refuse of the house carried out to such a pit and thrown in. When it comes to be spread about on the land, there it is, ready to pierce the foot of any poor horse employed to cultivate the land, or any bare-footed boy who trots over the field.

And while you are teaching the children to be kind and thoughtful to their four-footed friends, make the lesson spread out over all their dealings with them, even to the tones of the voice. Boys who speak to that faithful servant, the horse, in a harsh and brutal way, soon acquire a similar way of acting and feeling. I see an illustration of it before my window as I write, and it takes all the beauty from the pleasant summer landscape.

It seems as if some men had never pondered the text, "blessed are the merciful, for they shall obtain mercy." The converse of this is just as true, and it should bring solemn reflection to the minds of many I have known.

I would whisper this counsel to young ladies whose minds are not yet "made up." Never, never, accept a young man who is cruel to his horse or dog, or one who loses temper quickly at anything that crosses him, and vents his spite on them. As surely as you unite your destiny with such a person, you will see many sad and bitter hours, and shed many secret tears. A petty tyrant, even over brutes, can never be a pleasant home-maker. Oh, it is a sad sight to see little children inheriting such a spirit, and following in such ways in spite of all a mother's entreaties and labors. It is hard to make headway against a father's example. His daily walk and conversation will be an object lesson which all her words cannot gainsay.

TAKING A PLAY-SPELL.

By J. E. McC.

"I should say you had enough to do, Mrs. Levy, without digging in a flower-bed. When you get the spare time, I would rest if I were you."

"That is exactly what I am doing, Mrs. Hodge," said her neighbor, cheerily. "This is my play-spell. While the irons are heating and the kettle boiling, I run out here to refresh myself over these beautiful pinks and pansies. Did you ever see anything so lovely?" and she stepped back on the gravel walk and surveyed them with enthusiasm.

"Oh, they are well enough," said the other, indifferently, "but I should enjoy myself a great deal better sitting in a good rocking-chair and piecing patch-work for a play-spell. Like you, I can't be satisfied doing nothing, but I like to see some fruits of my labor that will last. A parcel of flowers die in a day, or two, and there are no fruits to follow them. It seems just a waste to me."

"We see things in different lights," said the other, pleasantly. "I confess that patch-work seems a waste to me, when you look at it from a merely economical point of view; but when it is a recreation, as in your case, I can see that it is really valuable. The flowers are a rest to me, and a joy forever. Charley likes them as well as I do. I pinned a carnation on the breast of his checked shirt this morning before he went out to the field, and told him it was to make a better man of him. He said 'he had no doubt it would.' I heard the men laughing over his 'posey' when he went to hitch up the team, and he replied that 'his girl gave it to him.' These flowers help to keep us old folks young, Mrs. Hodge, and are worth having, if only for that."

Mrs. Hodge could not but think how it would seem for "her old man" and herself to be trifling in that style But with all her dissatisfaction with her friend's choice of amusements, she could not help the uneasy conviction that she had the best of her. It was a far pleasanter home than she possessed, and the very faces of the children showed it. It is a good thing to be industrious and have one's mind on her work; but it is good at times to utterly lose sight of the cares, worries, and frets of life for a few blessed moments, and let the soul draw near to nature's heart in the beautiful works she has spread out before us.

TIME-SAVERS.

By Arley.

Emma was purchasing her tin-ware in company with good, practical Aunt Eunice, and she found her assistance very useful.

"But why were you so particular, auntie," she asked afterwards, "to have me take those oval-shaped dripping pans, instead of those with square corners? I see but little difference."

"Because they are so much easier to clean. You know how much quicker you can wash a round basin than you can a square one. It would take you some minutes longer to clean one of those square-cornered dripping pans after you had roasted a piece of beef in it. I have used one like yours almost daily for twenty years. Say it was washed three hundred times a year, and that I saved three minutes each time, that would surely be worth saving. In the twenty years it would amount to three hundred hours. I could accomplish a good deal in that saved time."

"Do you go on this plan in all your housekeeping, Aunt Eunice?"

"I try to, Emma; but though I have been studying over the problem for so many years, I yet find out some new improvement very often. I get a good hint from a paper, or a neighbor or a visitor, and at once put it in practice. Sometimes what suits one does not suit another, so I have to discriminate. I hold that it is a good policy, and a moral duty also, for a woman to save herself all the work she can, by handy contrivances and forethought. She can find excellent use for all the time she can make and save."

"Your science must be the reason why your work always seems 'done up' days ahead. I have often wondered how you accomplished so much, and had so much spare time to run around with me, for instance, as you did to-day. I mean to learn the art of saving time, too."

"You will need to save it piece-meal, as I do, in little things; but by making a study of it, the work will grow pleasant and easy. All the system you can bring to bear on your work, will be so much clear gain. I know that much will depend on others in this regard, and that even good order should be second to the comfort of a household. Cast-iron rules seldom add to home happiness. But come in with me Emma, and let me show you a few other time-saving devices I have not yet patented. I am sure you will like them, and perhaps they will be of service in your new home."

The farmer's trade is one of worth,
He's partner with the sky and earth,
He's partner with the sun and rain,
And no man loses for his gain.
And men may rise or men may fall,
But the farmer he must feed them all.

The farmer dares his mind to speak,
He has no gift or place to seek,
To no man living need he bow,
The man who walks behind the plow
Is his own master—what'er befall,
And king or beggar, he feeds us all.

RECIPES.

CONFECTIONERY CAKE.—2 cups sugar, 3 eggs (whites beaten separately), beat sugar and butter together, 1^2_3 cups butter, 1 cup sweet milk, 1 teaspoonful soda, 2 of cream tartar, 3^1_2 cups flour. Take one-half of dough, and add 2 tablespoonfuls molasses, 1 tablespoonful cinnamon, 1 teaspoonful cloves, 1 cup chopped raisins, 1 nutmeg; this will make two layers of light and two of dark. CHOCOLATE FILLING: 1 cake of chocolate, 1 cup sugar, one-half cup water. Boil until thick.

TEA BISCUIT.—To 1 quart of flour add 2 heaping teaspoonfuls baking powder, thoroughly mixed by sifting, 1 teaspoonful butter, 1 teaspoonful lard, rub shortning in the flour; 1 pint sweet milk, one-half teaspoonful salt; make a soft dough. Knead as little as possible. Roll out one-half inch thick.

CREAM COOKIES.—1 cup butter, 1 cup sour cream, 2^1_2 cups sugar, 2 eggs, 1 teaspoonful saleratus.

CHARLOTTE RUSSE.—1 quart cream, whipped stiff, 2 tablespoonfuls gelatine, dissolved in a little warm milk; two-thirds cup sugar; flavor. *Cake*—common sponge cake cut in pieces to fit a round dish. Cream whipped, gelatine put in a dish on stove with milk, gelatine stirred until it cools, then put with cream.

DELICATE CAKE.—1 cup white sugar, one-half cup butter, one-half cup sweet cream, 1 cup flour (heaping), 2 tablespoonfuls corn starch, 2 of cream tartar, 1 of lemon extract, the whites of 4 eggs.

SOFT GINGER BREAD.—2 cups molasses, 1 cup sugar, 1 cup shortning, 1 cup buttermilk, or sour milk, 2 teaspoonfuls saleratus, 1 egg, stir the egg in the last thing; it is an improvement to the cake. Flour enough to make quite stiff.

MRS. M. H. B., Marengo, N. Y.

✝

COLD SLAW.—Chop or shave cabbage very fine, and season with salt and pepper. Make a dressing of 4 teaspoonfuls sweet cream, 2 of sugar, and 4 of vinegar. Beat well and pour over the cabbage.

OYSTER PIE.—Line a deep pie-dish with a rich biscuit dough, rolled thin; dredge with flour, pour in a pint of oysters, fill up with the oyster liquor, and season with pepper, salt, and bits of butter. Cover with a crust having an opening in the lid, and bake in a quick oven.

LEMON PUDDING.—The juice and grated rind of 1 lemon, 1 cup sugar, 2 eggs, 3 tablespoonfuls flour, and 1 pint of milk. Line a dish with paste, pour in the custard, and bake until done. Whip the whites of 2 eggs to a froth, add 4 tablespoonfuls sugar, spread on top and brown.

ODDS AND ENDS

None are so old as those who have outlived their enthusiasm.

A calamity is easier borne for not being previously dwelt upon.

He who loves to read, and knows how to reflect, has laid by a perpetual feast for his old age

A man too busy to take care of his health, is like a mechanic too busy to take care of his tools.

Mr. Beecher says "a helping word is often like a switch on a railroad track; but one inch between wreck and prosperity."

It is said that the pine tree serves as a refuge for more than four hundred species of insects. They must be fond of turpentine.

"No, sir;" said a practical American, "No bric-a-brac on the mantel for me! It's a nuisance. Where's a man to put his feet?"

"I wonder," said Jonas, "why the captain of a vessel can't keep a memorandum of the weight of his anchor, instead of weighing it every time he leaves port."

The law of the harvest is to reap more than you sow, Sow an act and you reap a habit; sow a habit and you reap a character; sow a character and you reap a destiny.

A man remembered in his will a miserly old uncle, whose favors in his youth had been few and far between, by the following bequest:—"To my mother's brother, a gun-flint, and a knife to skin it with."

A gentleman on his travels once observed two Austrian officials endeavoring to make out his name from his traveling trunk. They succeeded at last in deciding that it was "Mr. Veronti Solazer." The trunk was "Warranted Sole-leather."

SOAP TREES.—Among the vegetable curiosities of Florida, are soap trees. They bear berries the size of a marble, which have a yellowish, soapy look, and hard, black seed. They boil the berries to make the soap. But folks in a hurry use them just as they pick them.

One day an English farmer's wife was cutting a large loaf of bread, when she saw a hole in its side. Following it up, she found it led to the centre, where there was a snug mouse's nest made of paper torn into shreds. There reposed in comfort nine little mice, about as large as thimbles. The bread was only one day old.

Cheerier and cheerier grow the days,
And the storms are fewer and fewer,
Warmer each day grows the sun's glad rays,
And the skies grow bluer and bluer,
And the wife with only a shawl to her back
Has ceased her buflabaloo,
And cries no more for a seal-skin sacque,
And a fur-lined circular, too.

No woman can be a lady who would willingly wound, or mortify another. No matter how rich beautiful, or cultivated she may be, if she is one of those who delight in "taking down" another, the innate coarseness and vulgarity of her nature shows itself here in unmistakable signs, and you naturally infer that she has sprung from a long line of similar ancestry.

When General Grant was in France, he would not go to see the tomb of the great Napoleon. He regarded it with no more esteem and admiration than he would that of any brigand. The plain republican soldier could not be dazzled by the brilliant career of the great conquerer. He felt only abhorance for this monster who could sacrifice millions to his own ambition.

A street-car stopped to take in a passenger. A little boy on his knees at the window, saw a well-dressed gentleman crossing over, whose immense white beard flowed down over his breast and stood out in every direction. Throwing up his hands he screamed in a frenzy of excitement:—"Oh, ma; here comes Santa Claus!" The next instant the gentleman stood in the door, and there was a tableaux in the car.

BURIED LIKE A DOG.—A little, Fifth Avenue dog died after being the household pet for twenty years. A beautiful casket, covered with white satin and ornamented with ribbons, was ordered for him. It was taken in the hearse to the family vault, and six carriages followed the remains. The nonsense of the affair has a slight offset in the proof it offered that the dog was appreciated. At the same time, it puts a frightful discount on the common-sense of its owners.

Dog parties are the style just now in New York. Young ladies in upper-tendom, meet in each others houses and bring their darling pets, and the conversation is highly intellectual and improving. "Dear, dear," said a beautiful blonde at one of these gatherings, lately, "what a horrid little doggie mine is!" "What has he done?" "Why he has eaten up the pretty little seal-skin sacque I had made for him this winter." Chorus of fair ones:—"The bad, bad doggie!"

A Vermont man missed wood from his pile, continually. So one night he resolved to watch. As he suspected, it was the work of a near neighbor. Carefully gathering an armful of dry wood, he stole away with it. As noiselessly, the owner picked up an armful of green wood and followed quietly, and just as the thief threw down his load, he did the same, saying:—"There, you must burn green wood part of the time, I have to." Then he departed, leaving the other to his own reflections.

DINNER WAITING.

The destruction which overwhelmed Pompeii eighteen hundred years ago has enabled modern students to study the home-life of the Romans of the first century under peculiarly advantageous circumstances. The city was buried up and preserved, and when the covering is dug away we discover just how the inhabitants lived.

A house recently unearthed in the excavations at Pompeii was evidently undergoing repair when the volcanic storm buried it. Painters' pots and brushes and workmen's tools were scattered about. Spots of whitewash starred wall and floor. Pots and kettles had been bundled up in a corner all by themselves.

Dinner, however, had not been forgotten. A solitary pot stood on the stove, and there was a brown dish in waiting before the oven, and on the dish a sucking-pig, all ready to be baked.

But the oven was already engaged with its full complement of bread, so the sucking-pig had to wait. And it never entered the oven, and the loaves were never taken out until after a sojourn of seventeen hundred years.

The pig and bread had been there since November 23, A. D. 79. M. Fiorelli added the loaves to his museum at Pompeii,—twenty-one of them rather hard, of course, and black, but perfectly preserved.

THE POULTRY YARD.

(Continued from page 9.)

GUINEAS.—They can be hatched in July to advantage, as they do not roost in the poultry houses. They arrive at a suitable age by November, and pick up the best part of their subsistence in the fields. Late guineas always do well.

THE GAMES.—Of the games, for farm purposes, the Malays are the best, being very large, with full breast meat. A cross of the Malays and Langshan produces an excellent market fowl, and one of the best for table purposes. Next to the Malay the Belfast Reds, and Black-breasted Reds may be used.

THE RESULT OF COLD.—When the days suddenly become damp and chilly, the chicks often have diseases of the bowels, due to being chilled. The best remedy is to change the feed, and keep them warm and dry until the weather becomes warm again.

SHADE.—During July the heat will sometimes be very oppressive, but where the fowls have a run in an orchard they can make themselves comfortable. In confinement, however, the case is different. In narrow yards, a strip of cheap muslin or calico stretched across the top of the yards by fastening the ends to opposite fences, will cost but a trifle, and be very serviceable.

YOUNG TURKEYS.—They are now past all danger, and should be given as much range as possible, especially where grass is plentiful and insect food abundant. Always give them a good mess of wheat and corn at night, and they will come up regularly without missing once. By feeding them at night, they will grow much faster, and as *size* is very important in a turkey, this should not be forgotten.

BUILDING POULTRY HOUSES.—In building a house, always endeavor to get as much room on the floor as possible. Place the windows on the south side, and make the roof tight, in order that the interior may be dry. The nests should be movable, and the roosts all on a level with each other and as low as they can be placed conveniently. A board floor is the best, while tarred paper should be used for lining the walls.

SAVE THE LAWN GRASS FOR POULTRY.—Lawn grass, being cut when only a few inches high, should be cured and stored away for winter use. It usually contains a variety of grasses which is an advantage. In the winter a few handfuls cooked will be found invaluable, and it may be fed in the shape of dry hay also, if preferred. Any kind of green food may be grown and stored away for winter use if cut when young and tender. The difficulty with matured hay is that much of it is hard and woody, which is not the case with lawn grass, but even ordinary hay can be made serviceable by cooking. Quite a large quantity of winter food may be stored up from a small lawn, and this is an excellent time for doing so.

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EDITORIAL COMMENT.

July. "Ready for the reaper stands the golden grain." Harvest time has come. The wheat crop is greatly injured by drouth and winter, and the yield not as large as we would wish it to be, yet there is plenty for all and to spare. Will you grumble because it is not more?

The (probable) advance in price will gladden the heart of the wise grower, and make up to him the loss in quantity. Everything will turn out all right in the end.

Wheat cut when in the "dough" state generally makes the plumpest kernel. Cure well, and draw at once to the barn.

If you have to stack wheat out-doors (which is the common practice in the large wheat-growing sections of the South and West), employ *good hands* to do the stacking. The stack should shed rain as well as an umbrella or a shingle roof. Top out with coarse hay. Thresh it at an early date, and sell when you can.

We prefer *shallow* and flat cultivation for corn. Nothing is gained by excessive hilling. Much moisture is lost if the season be dry. Cultivate early, often, and late.

A few pounds of strap-leaf turnip (purple-top is good,) sown broadcast on the corn field after the last cultivation, will make fine pasture for late fall, and one particularly valuable for sheep.

Weeds are still growing, and insects and bugs are bent on their work of destruction. Do not tire of fighting them.

Protect your stock from flies and the heat. Give them shade, or stable horses and cows during the day, and if you pasture, do so at night. Provide *good* water for your animals—plenty of it and often. Do not work your teams between the hours of 11 and 3, unless you are obliged to do so.

Your hen house must be inspected often, and kerosene applied as soon as you notice signs of vermin.

Feed your chickens regularly and often with a variety of food. Chickens but a few days old soon learn to eat wheat, millet, sorghum, all of which are excellent food for them. Chickens need water (or milk) to drink, and should have it, if some people and poultry journals do deny it.

The best use that can be made of skim milk, sour milk, and butter milk is to let your fowls have it.

Cats are often very destructive to chickens and turkey chicks. Kill the robbers!

You can catch hawks with a steel-trap fastened upon the end of a tall pole or post erected in the middle of a treeless lot. But it will do no good to set such a trap where tall trees and woods are near. In that case the shot gun must do the work.

Protect all insect-eating birds and their nests from cats, crows, and squirrels, and no less from mischievous boys.

There is no danger in good, sound vegetables and *ripe* fruits; avoid those not fully matured.

Eat plenty of berries and let your children have all they want.

The judicious use of water, both internally and externally, and the removal of all filth, fungus, and fermentation from, in, and around the house,—in short, cleanliness and moderation are sure preventives of cholera in its malignant form.

True temperance is moderation, and should be exercised even in the use of water, particularly *iced* water, during hot weather. Water kills as many people as whisky, if not more.

Buttermilk is an excellent harvest drink. So is a mixture of milk and water, or water flavored with lemon juice (or vinegar with a trifle of ginger), with or without sugar.

Set out celery now. Almost everybody likes it. Plant in very rich soil or soil heavily manured with well-rotted compost, not in deep trenches (unless required in a hot climate) nor on top of a ridge, but in the bottom of well-rounded-off furrows, say three or four inches below the even surface of the soil. Get *good plants* or let them alone. Shade with boards or leaves for a few days, if necessary, and water often.

We were pleased to meet during a recent visit at Richmond, Va., and quite accidentally, the famous small-fruit man, J. T. Lovett, and his brother. These gentlemen evidently believe in the superior climate and other advantages of that State, and were looking for "Golden Opportunities." J. T. Lovett has found that section admirably adapted not only to grape culture, but also to the introduction of an excellent quality of grape roots. We wish him success.

Does the preservation of long sprouts on seed potatoes promote earliness in the crop? Only in theory. The facts, which we have gathered from our own observation and experience, show that some of the still undeveloped buds generally overtake and outgrow the earlier long sprouts. We would not take the least trouble to preserve them.

Some of our agricultural contemporaries are very kind indeed. They keep on telling us that with our liberal premiums of seeds and plants, we might do an injustice to and offend our seedsmen and florists, and consequently lose the patronage of that class of advertisers. Our brethren, in their anxiety for our welfare, would deeply regret such a loss to us, and almost consider it a calamity.

Have no fear. The FARM AND GARDEN is the grandest advertising medium out, and our advertising seedsmen know it.

Do our premiums really hurt their sales? Far from it. Regular seed buyers buy seeds of their own selection, whether they receive our seed premiums or not. But nine-tenths of our subscribers who do receive them have never bought seeds directly from the advertisers.

By giving to them a collection of valuable seeds, we show the advantage of getting such seeds by mail from a reliable source, and many subscribers will become regular seed-buyers. We claim that our advertisers are benefitted by our business methods.

Have no fear, brethren. We shall not knowingly do an injustice to our subscribers or to our advertisers.

A trip down the James River from Richmond to Norfolk, in May, is an enjoyable affair. We took occasion to stop off at Claremont, Surry County, Va., for the purpose of investigating the "colony." We never will regret the two days spent there. We met happy and contented faces everywhere, good society, every modern improvement, and unmistakable signs of thrift and prosperity. We expected to get into the "backwoods," but we were greatly mistaken.

Thousands of pounds and hundreds of bushels of next-to-worthless seeds and $32 in cash. That seems to be the ridiculous remnant of the $100,000 appropriated by Congress for the governmental free-seed distribution, and a fine showing for Dr. Loring's management of the Department indeed! What a senseless waste of the people's money! Yet Dr. Loring is not to blame more than Congress, who have made the Department more of a political than an agricultural institution. There is abundant room for reform, and if Col. Colman is the right man in the right place, as we expect him to be, we would, alone in consideration of the change in the Department, rejoice in the change of the administration which caused it.

If the Department will consume a vast amount of the farmer's money annually, we desire to be benefitted by it. Practical information is what we want, and what we pay the money for. Let us say, for once, "Full value received!"

Now, while village and city people sleep away the best hours of their lives, the farmer, who is early to bed, healthy, and wise, witnesses the glorious sunrise and breathes the fresh morning air. Life is short, and sleep consumes one-third of it, but this one-third should not be the very best part of life.

The husbandman's work compels him to be out in the burning sun more or less. He is always in close communion with nature, and not afraid of sunstroke, like housed-up and tender-brained city people. Yet, as he rises early, he can well afford to take a two or three hours' rest during the middle of the day. It will pay him also in strength regained.

When at work in the hot sun put a handful of clover or a cabbage or burdock leaf into your hat. It will keep you cool and comfortable. You need a firm muscle and a cool head.

It is not too late to sow fodder crops. The hay crop is quite short in many sections. Pastures will fail in the fall: prepare for it. You can still grow a crop of sweet corn for fodder, or a piece of Hungarian grass. You will probably need it.

There is a prevailing paragraph now illuminating the otherwise dull columns of many of our exchanges, declaring the English sparrows a nuisance, and citing numerous ways in which they are injurious. They say they drive away other birds, encourage the cultivation of insects, destroy fruit buds and grain, and propagate disease. Such foolishness can but amuse the practical farmer who remembers the measuring worm now never seen, who sees fruit set and mature in the very trees in which the birds roost, and who compares the amount of grain and ripe fruit consumed by the sparrows to that of blackbirds, robins or other native birds. Better get something new to grumble about.

Everybody who farms understands how to grow turnips, but everybody will not take the precaution to use plenty of seed. The fly is the scourge of this crop, and can only be beaten by using seed liberally. After the seed is up sprinkle ashes around the plants, but not in direct contact with them when very young. Gas tar, when used for impregnating water, which should be sprinkled over plants, is very obnoxious to all kinds of insects, and may be used freely on turnips, cabbages, squashes, melons, and other vegetables, as it is not injurious in any manner to plants.

We venture to say that those who had pigs farrowed in February and March are wiser than they were a few months ago. No possible advantage can be gained by having the sows come in so early, for the labor and care required to protect them from cold and sudden changes of weather cannot be compensated. A check to pigs in the beginning is a check until they are butchered. Better bring the pigs in during May, for they will overtake the earlier ones. Even April is too soon sometimes.

It is enough to make a granger smile to hear the average citizen talk about the weather and crops. Men who never lived a week in the country will gravely discuss the effects of this rain and that hot day on corn and wonder whether the cold snap will kill the buds on the wheat, and if it is too damp to sow strawberry seeds. The less a man knows the more he talks.

The Agricultural Department is rotten from one end to the other. If there ever was a time and place for a "clean sweep" in public office, this is the time, and the "Government Seed Shop" is the place. Mr. Colman has been in office over two months and like a majority of the Agricultural press, the FARM AND GARDEN has looked for and hoped for some change for the better. The first change, and one that could have been made at once, is the removal of all Employes and Subordinates in this department who have been assistants in its corruption, and a cause of its deficiency.

The month of June is a dull month for papers, and the year 1885 has not been considered a good one. Yet in June 1885 the FARM AND GARDEN received nearly twice as many subscribers as in June 1884.

CLIPPINGS.

It is our desire to make these so *full and varied that every reader of the* FARM AND GARDEN, *even though he takes no other paper can feel as a measure acquainted with all the leading publications.*

From "Turf, Field and Farm," New York.

HOW THE THOROUGHBRED IS RELATED TO THE TROTTING PROBLEM.

I do not advocate, that in order to get trotters you must breed a thoroughbred to a thoroughbred; but I do claim that to get the proper bone to stand hammering, to get the requisite stamina, to get size, silken coats, symmetry, and ambition, the thoroughbred is essential as a foundation. Having these, it is not necessary to breed further to the thoroughbred for a trotter, but to cultivate the trotting action by breeding to sires and mares in which it is strongly developed and that are highly-bred themselves. The trotter of extreme capacity must be rich in thoroughbred blood; and Governor Stanford will, in the near future, demonstrate this fact even more clearly than it is at present demonstrated.

From "Dairy Farmer," Chicago, Ill.

One of the much-vaunted remedies for consumption is now very largely sold in Chicago as an article of daily diet—for the healthy as well as the ailing. It is the "Kumiss," which originated in Tartary, where it is made from the milk of mares. The following is a formula for its preparation, given by a leading physician: "One cup of buttermilk, very sour; seven cups of fresh milk. To stand in a slightly warm place near the fire for twelve hours. Whip smooth, adding a little white sugar in powder. Bottle, and let it stand for twelve hours uncorked. Then cork, and wire. Keep in a cool place for two or three days, when it will be fit for use. Beware how you uncork, as it is often very much up." There appears to be no reason why, if the article is really as beneficial as is claimed, dairymen should not make and bottle it in large quantities, and make it a staple article of trade.

From "Our Country Home," Greenfield, Mass.

BELIEVES IN TWO LITTERS A YEAR.

Many persons are of the opinion that it is the more profitable plan to have sows rear but one litter of pigs per year, and have those come early in the spring. An Illinois correspondent thinks otherwise, and tells how he does with Poland-Chinas, by saying: "Two years ago my pigs were farrowed the last five days in March and the first fifteen days in April. I crowded them all they would bear until the middle of July, and then took corn from them entirely until the middle of September. This two months I had them running on wheat stubble and clover fields, then I began feeding corn again, all they would eat, until the 12th of January. I sold at that time, drove three miles to station and weighed, and my bunch of 62 weighed 312 all around. I always raise from 100 to 125 pigs, and sell down to that number for breeding purposes, and that always calls for the top of the herd. My second litter is farrowed the last half of September and the first half of October. I feed my pigs sparingly during the winter season, until put on grass in the spring. I sold them, 65 in number, the 22d of June, and they averaged 265. I have two crops of hogs into market before you get ready to feed yours. Now I have 577 pounds to another man's *probable* 400. It looks to me as though it would be very expensive to wait until I see my pigs more fully develop themselves before I fatten."

From "Poultry Yard," Hartford, Conn.

LEGITIMATE BUSINESS.

The poultry business has long passed the trial stage and become as much a legitimate one as any form of industry that can be cited. Entirely apart from its fascination for the amateur (and in this word is embraced old a new breeders), is its strictly business phase. Most breeders go into poultry raising for two distinct causes—love of the beautiful fowls and all that pertains to them, and the desire of making some money. Of late years many men have gone into poultry breeding on a large scale, and with a definite purpose of making all the money they honestly can by selling fowls and eggs. There has been a disposition to sneer at such undertakings, and prophesy their failure. As if, forsooth, no business that was not banded down from our grandsires could be legitimate and profitable. Many a pale bank clerk or "counter jumper" in a dry goods store who looks down scornfully on the poultry raiser, might far better, provided he has brain or energy left to do so, drop his ill-paid and unhealthy calling for one as much more profitable and substantial, as is poultry keeping. This business is already an important one, as any one who will take the pains to find out what is yearly paid for eggs and poultry, can learn. It is as much a legitimate business as handling dry goods or keeping books. The poultry keeper is his own master; does not get to work on the notch of an hour; is not "whistled in and out" like the workers in machine shops and factories, and has altogether a pleasanter life than those who follow a stated round of common toil. At the expiration of ten years in the business, he will with ordinary care, have more health, money, and comfort to show than the average workman in any branch we have named.

From "Farmers' Review," Chicago, Ill.

One of the embarrassments with which the new commissioner of agriculture was confronted on assuming his office, was immense stocks of seeds purchased by his predecessor, but without the means of distributing them—almost the entire appropriation for seeds had been used in their purchase. Among other varieties were several hundred bushels of early amber cane, which for years has been grown in almost every county in the United States, and is a staple with every seed dealer in the country. There is about the same need for its being distributed by the department of agriculture that there is for a distribution of red clover seed. As a matter of fact, this whole system of seed distribution by the department is largely a humbug. Every new variety giving promise of excellence is tested by the seed dealers, and if found valuable, is grown to supply their trade. It is only as this is fully supplied and they have a surplus, that they have any to sell to the department. All new varieties are widely distributed before the department can get a pound of them. The seeds they do purchase are largely the old and refuse stocks which the dealers dump upon a credulous agricultural commissioner, reserving their new and choicest stocks to supply their own trade. It is to be hoped that the practical common sense of Commissioner Colman will lead him to put an end to the farce of seed distribution.

From "Prairie Farmer," Chicago, Ill.

FANNY FIELD'S SENSE.

I suppose I am as near sanctification as a poultry writer ever gets in this world; but still, I do get mad sometimes about the stuff that the chaps who hardly know one breed of fowls from another, and who have not yet mastered the alphabet of poultry-raising, tell us about the different breeds, the care of chicks, management of laying hens, etc. One man, who has had one season's experience with one or two breeds, gets up, puts one hand under the hind part of his coat, sticks the thumb of the other hand into the arm-hole of his vest, clears his throat, and with an air that would carry conviction straight to the wooden heart of a cigar-store Indian, gravely informs the congregation that the Brahmas are the "best fowls on earth." Next, another chap, who knows more or less generally less, about Brahmas, gets in his work by remarking that he "never keeps the Asiatics after they are a year old, because they never lay as many eggs the second year as they do the first." Before our digestive organs have fairly settled down to work on this last chunk of information, another brother whose sitting hen came off with eleven chicks from thirteen eggs, while the home-made hatching machine only produced three chicks from one hundred eggs, astonishes us by declaring that with his manner of caring for sitting hens he could care for three hundred sitters, covering four thousand eggs, in a "half-hour's time." What everlasting nonsense!

From "Home and Farm," Louisville, Ky.

I quoted in my last letter from that of a friend in Sorrento. Here comes one from his wife with a passage so entertaining that you must have the reading of it:

"Speaking of Rome reminds me of a most interesting thing we heard a few days ago about the discovery of the ashes of some the Cæsars, and the curious use to which they were put. You must know that Rome, under the new government of United Italy, is undergoing no end of modern improvements. A few days ago, digging down to remove some old foundations to make and widen a new street, the workmen came upon a sealed chamber with urns full of ashes, and an old columbaria (a chamber in which the ashes of the dead were kept), wherein were some beautiful antique bronzes and vases. These workmen were not honest enough to tell the owner of this discovery, and they disposed of some of the pieces at fabulous prices. At last, the knowledge coming to their rightful owner, he took possession, and scholars discovered, from inscriptions, that the urns and the great marble coffins were in the tomb of the Roman Emperor Galba. Asking what had become of the ashes in the urns and coffins, the head workman confessed that there had been a lot of ashes which he did not suppose were of any value, and so he had taken them home to his wife, who was a washwoman, and she had made soap with them. The ashes of a Cæsar to make soap for a nineteenth-century washing! To what base uses may we come at last!"

From "Times," Chicago, Ill.

COMMON-SENSE VIEW OF THE CHOLERA.

A medical journal gives an extract from a lecture delivered by Dr. Hugo Engle, in which there are some hints of universal importance in regard to cholera prevention. After relating a number of instances in which animals had died from cholera after having had some camma-bacili injected in the upper portion of the duodenum, he proceeded to show how the king of Italy had visited with entire impunity the cholera hospitals of Naples. The reason of this is thus stated: "All his food and all the water and wine he drank were sent to him from Rome in hermetically-sealed bottles and boxes. As he could not become infected by way of inhalation, but only by the food and water swallowed, care was simply taken to have the food and drink pure, and free from camma-bacilli."

Near the conclusion of his lecture the doctor gave some practical advice which may be of use in this locality in case we should have the outbreak which is threatening us. He said that people should have their main organ of digestion in the best possible order, and that errors in diet should be avoided. The plainest food should be selected, and every particle of food to be eaten and water to be drank, boiled thoroughly, and in this way there would be no danger of infection. These are common-sense views, and their application is substantially within the reach of every family. Cleaning the streets will assist in preventing the spread of infection, but at the same time it will not keep cholera out of a city.

From "Iowa State Register," Des Moines, Ia.

DOING GOOD TO THE SMART ALECKS.

"Are you doing your neighbors any good?" said a visitor at the farm last week. "Are they adopting your methods?"

Our answer was, "Some are and some are not, but we are doing all of them good."

For instance when seven years ago we brought to this farm the ancestors of more than half a dozen herds of thoroughbred hogs in the county and of a large proportion of the grade hogs, for a good many miles around, we were voted a foolish fellow who had more money than he could take care of, and was trying to throw it away.

"I dot you vas von pig fool," as an honest German told us afterwards, "but now I see dot I vash de fool."

When we commenced sowing grass seed, certain failure was predicted, but we notice that these prophets of evil are "going to grass" as fast as possible. And then we are doing lots of good in furnishing subjects for conversation in the neighborhood. Just now they are having fun at our expense over our Russian poplars and willows and Scotch alders, and they think the Ag. Ed. is clear crazy when he hires men by the day to plant trees in a slough that a horse cannot cross.

So we think we are doing a great deal of good and following the scripture injunction "Do good unto all men, especially to them that are of the household of faith;" we would say especially to the smart alecks.

We are very hopeful of these chaps who do not believe in agricultural papers or books.

They watch us very closely, and that is a good thing for both of us. They learn to be close observers, which is the first condition of progress. If we fail in anything, as we sometimes do, it makes them very happy, and it is a good thing to be happy. When we succeed, they will, in time, follow, and that is a good thing.

We have watched this thing for thirty years.

When John Wallace introduced tile drains on his farm thirty years ago, he was supposed to be crazy, but the land is all drained in that neighborhood now.

When he brought the first reaper into the neighborhood, his old hands refused to work for him because he was taking the bread out of their children's mouths by using machinery in the harvest field.

We all laugh at the blunder now, but they were just as wise as the man who thinks tree planting a foolish thing, or are skeptical about blue grass pastures or octagon barns.

From "Poultry Keeper," Chicago, Ill.

POULTRY AND EGGS.

It has been stated that the census returns placed the poultry and egg production far in advance of the facts, but we believe that only a part of the true numbers and values are ever obtained. The Massachusetts *Ploughman* has been searching the tenth census to see if certain wild statements about the value of the annual poultry products were warranted, and this is what it found:

Until the tenth census was taken we had no reliable means of knowing the number of fowls kept in the United States, or the eggs they produced; but in taking the census of 1880 the poultry statistics were included. The result shows that while the poultry interest is very large, it does not overshadow all others, as was believed by some enthusiastic poultry-producers.

The whole number of barn-yard fowl, not including chicks, in the United States, in the year 1879, was 102,772,135; other fowl, 22,235,187; a total of 124,007,322. It is fair to presume that with the chicks raised for meat, the whole annual product for poultry meat would be at least 372,021,966 pounds, which at ten cents a pound, would be $37,202,196 as the yearly value of dead poultry.

The number of eggs produced from the above number of fowl was 456,910,916 dozens, which at 15 cents per dozen, would be $68,536,637, making a total income from poultry in the year 1879, of $105,738,833.

Massachusetts contained in the year 1879, of barn-yard fowl 914,371, other fowl 48,554, total 962,928; the product of eggs was 6,571,353 dozens, of meat 2,888,780 pounds, which at 10 cents would be $288,878. The eggs at 15 cents would be $985,732, making the total value of the income from the poultry in Massachusetts during the year of 1879, $1,274,610.

It is estimated that the laying hens in the several States produce yearly as follows:

Maine,	89	eggs to each hen.	
Massachusetts,	86	"	"
Connecticut,	85	"	"
New Hampshire,	81	"	"
Rhode Island,	76	"	"
Vermont,	69	"	"
Pennsylvania,	62	"	"
Indiana,	60	"	"
Ohio,	57	"	"
Tennessee,	55	"	"
Kentucky,	52	"	"
Iowa,	51	"	"
Illinois,	42	"	"
North Carolina,	42	"	"
South Carolina,	37	"	"
Louisiana,	36	"	"

Thus it will be seen that the Northern and particularly the New England States, get the largest number of eggs from a given number of hens. This cannot be because the climate is better adapted to the production of eggs, but probably because the demand for eggs in manufacturing districts is such as to bring prices up to a point to make it an object to give the hens extra care and a greater variety of food.

In farming districts, away from manufactories, the demand for eggs is limited, so the farmer gets all the eggs he wants without giving the poultry any particular attention; he only feeds them with any regularity a few weeks before he desires them for meat.

The forest products of the United States in the year 1879 were $95,774,738, or $9,964,098 less than the product of poultry and eggs.

CORRESPONDENCE.

HARRISONVILLE, Kansas.

I have a kind of moss that I would like to introduce in some State where there is none. I was out walking one day when I found it. Then it was an inch high. I took it up, set it in some rich ground, and watered frequently. Now it is about three inches high. It grew half an inch and then branched out at the top. It is partly covered with little yellow blossoms. It has been blooming for five weeks, and I have not noticed that they fall. I would like to make exchange for some house-plants or a package of mixed house-plant seeds. MRS. M. W. E. PARKS.

BLUFFTON, Llano Co., Texas.

In my April number of FARM AND GARDEN you describe the cactus premium. The Echinocereus Cæspitosus are quite plentiful on our ranch. They are in full bloom and are royally magnificent. We have another very desirable Cactus, found single and in bundles of as many as 144 stems, and these had an average of three blooms to the stem. The whole has the appearance of a huge rose two feet in diameter. We also have the Main. App., and several others, but they do not approach the first two in beauty of flower. I would like to supply you with a thousand or more each of the first two in exchange for fruit trees, flowers, etc. F. M. RAMSEY.

In the June number of the FARM AND GARDEN the question is asked, "What is the matter with the incubator?" I do not know as I am competent to answer the question, but I will give my experience with the Savidge Incubator. I started mine in February, and have run it ever since, and have hatched as high as 90 per cent., never less than 75 per cent. I use eggs from my own fowls and they are always fresh. That is one important point. I run my heat at 106°, and give the eggs a good cooling off every day. I supply plenty of moisture with small cups of water, and a small piece of sponge in each cup. Do not sprinkle the eggs. I have hatched a better per cent in the incubator than I have with my hens. I have two running; one is hatching now. I have just taken 50 chicks out. My theory is that a top heat incubator requires a higher degree of heat than one that has top and bottom heat. F. E. MORSE.

James G. Dayhoff, Riggold, Md., says:—I received the plans for Savidge Incubator, and made one as directed. March 9th, I set it with seventy-five eggs; March 30th, hatched out fourteen nice chicks. Of the remaining sixty-one, there were thirty not fertile, and thirty-one had dead chicks in, about one-third hatched. April 3d, I set it again with seventy-five eggs. Seventy-four proved fertile. Out of these we hatched fifteen chicks, and the other fifty-nine were one-third hatched. The thermometer is correct. I kept it at 105° the first week, and then 104°, and the last three days at 102°. I never saw it over the mark, and never below 102°. Please tell me why the chicks die in the shell. I think the fault is in the ventilator. I have only three half-inch tin pipes, and I think there should be more. I keep three sponges in the drawer, and a pan in the ventilator.

A correspondent under the heading "What is wrong with the incubator," in June issue, states that he did not allow the heat to go "*below* 98, nor *above* 108," and that he "*sprinkled*, turned twice a day, and cooled once." Now "what is wrong with the operator?" Mr. Savidge does not recommend *sprinkling*, does not allow the heat to go up to 108, and directs the use of wet sponges for moisture. The correspondent says he "kept the heat at 104, 103, and 102," but, as he further says, he "did not go *over* 108," it implies that he went up to that degree, which conflicts with the first statement. If he will carefully *follow directions* he will have no occasion for his inquiry. The incubator is so sure, compared with others, that Mr. Savidge always receives them and returns the money when they fail to hatch. He has only had one returned from all he has sold. As the mistakes of the correspondent does injustice to the manufacturer, this is written in order to explain the matter. It has been proved that not one operator in a dozen *will* follow directions, and if the correspondent made as many mistakes in *making* his incubator (he states that he made his own,) as in *operating* it, he alone should bear the responsibility.

AN OLD OPERATOR.

FISH LAKE P. O., Esmeralda Co., Nevada.

I was much pleased with your "Cactus Talk" in the April number of your paper. I used to keep Cacti in variety years ago in Illinois, and am a great admirer of them. I am an old lady now, and settled in a little valley, the altitude of which is six thousand feet. The foot hills and sand washes on either side, contain some fine kinds of Cacti. I send you a specimen of one kind that I think very paculiar and lovely. The most of this kind of Cacti are too large to send by mail, being generally from four to six inches in diameter, and a foot in height; they often have six and eight flowers open at once. There are some varieties of Mammilaria, with crimson flowers, and an Opuntia, with rose-colored flowers. I have a small green-house, and am preparing to keep flowers again, and wish to get some of the old favorites. Tell me if any of the florists you know of make a specialty of Cacti, or where I could get them best, and could I exchange some of the varieties here for some of the old sorts? I used to have fine blooming plants of the old Creeping Cereus, with its lovely, crimson flowers; the Truncate Cactus, the Cereus Speciosus, Cereus Speciosissiums, and a triangular Cereus, with a red flower the size of a coffee cup; the Echinocacti, or Melon Cactus, with a white, sweet-scented flower ten inches long. The Creeping Cereus or Caterpillar, as we used to call it forty years ago, I want especially to get, as it will look to me more like an old friend than any plant I know of.

There is also growing in these mountains a curiosity in the elderberry. In growth and appearance it is like our elderberry of the east, but the fruit is entirely free from that sickening-sweet taste, and is a fine acid, just like a currant. We buy them dried, of the Indians, and they are in all respects as to taste, like a currant. Would they not be a valuable acquisition to the small-fruit list if introduced east?

MRS. SOPHRONIA MCAFEE.

J. C. Taylor, Parkersburg, Ia.: Will some one tell me, through the FARM AND GARDEN, where I can get the Sebastopol geese?

✝

Mrs. Addie H. Kelly, Helena City, Montana Ter., asks how to make cucumber pickles with whiskey. Answer—We see it recommended to use one-third whiskey and two-thirds water for the pickles. Pack green cucumbers in a tub and cover with pickle. Use no salt.

✝

J. F. Bishop, Logansport, Ind., asks: What is Garden Rhu, which is recommended to put in the drinking water for chicken cholera? Answer—We presume there is a typographical error in the article you read, and it should have been garden rhubarb. The remedy is useless.

✝

Belle Robinson, Belmore, Ohio, asks for a sure remedy for the black fleas that are so troublesome in gardens. Answer—Use Persian insect powder as directed above. Paris green, 1 ounce to 12 pounds of flour, well mixed, and dusted on the plants when wet with dew, will kill every flea and bug. We use it freely.

✝

Otto L. Nichols, South Brookfield, N. Y., asks: Is the Newton patent method of fastening cows practical in home dairying where we milk in the stables and turn the cows to pasture during the day? Are they as handy as common stanchions fastening with a latch? Answer—Who of our readers can answer the inquiry.

✝

Mary Winkle, Algona, Iowa, asks how to keep off the yellow beetles from squash and cucumber vines. Answer—Use one part, by weight, of Persian insect powder and twenty-five of Plaster of Paris, and dust the plants with it every few days. We find it pays us to use small, open boxes covered with mosquito netting, over the plants to keep off bugs. We also find they will benefit plants; make them grow more rapidly, and protect from frosts.

✝

J. D. B. R., Millersburg, Pa., asks: (1) For the address of some good commission merchant in Philadelphia. (2) Is the Warren strawberry a profitable one for market and home use? (3) What sorts of old varieties would you recommend for a near-by market? Answer—(1) There is but little difference in any first-class merchant. Sell at home when you can. (2) Not particularly so. (3) The Wilson; Sharpless will do well. Some do better one year and another the next. More depends on manure than variety.

✝

N. S. Margeson, Marcus, Iowa, asks: What to do for a running sore on a colt. Answer—Wash well with castile soap, and for a simple remedy dust air-slacked lime on it. Keep flies away from it. We use air-slacked lime freely dusted on sores made by galling and chafing, and find it excellent to dry up and heal them. Always wash the sores freely with water, and keep them clean. If there is proud flesh in the sore, sprinkle fine white sugar on it, which will cleanse the flesh. After being on awhile, wash off clean.

✝

Elwood S. Cooper, Columbia, Pa., asks whether it is best to let the tomatoes lie on the ground and ripen, as is usually done, or tie them to stakes. Answer—The tomato is of much better quality and flavor when tied to stakes and kept from the ground, but it is too much work to tie them up where many are grown. We find that staking them with brush, the same as peas, is a good plan, only have heavier brush. Master Cooper is only 11 years old, writes a good hand, and we predict will have a good garden.

✝

H. E. Skinner, Albert Lea, Minn., asks how to grow and care for Bantam chicks. Answer—Set the hens as late as possible in August. This will be a good season if they are ready. Keep the sitting hens and chicks free from lice. The hens will come off daily, or at least often enough to air the eggs. Best not disturb them when sitting. Keep the young chicks from damp weather. Bread makes a good food for young chicks, and also coarse-ground corn meal. Allow them plenty of liberty in dry weather. Wheat is a good food for the old hens as well as the chicks. Keep plenty of fresh, clean water by them. Earlier-hatched chickens grow larger, and for that reason the later hatching is desirable. The smaller and healthier a Bantam the more valuable it is. We have had hen bantams that only weighed fourteen ounces.

✝

PRAIRIEVILLE, Arkansas Co., Ark.

I have received your blanks for subscribers, but cannot get one. People here do not like farm papers; they go in for politics. Bless me! I do not read about politics, there is no money in it. Give me something that tells how to get more from the orchard, garden, and farm. I have been doing my grafting for four years on large stocks, like your cut (figure 3) in April number, and do not lose more than three or four per cent. They seldom fail to grow if well done. I have a seedling pear that I grafted into a bearing tree four years ago; it has born two years, and ripens the first week in June. Fruit large, deep straw color; when soft, rather dry and mealy, but sweet. They are two or three weeks earlier than any that I know of. Why do not Southern nurserymen advertise, or are there none in the South? I like the FARM AND GARDEN, and will renew when my time is out. W. D. WESNER.

✝

Beginner, Olyphant, Pa., asks: (1) Can you recommend the Kieffer pear, and what would be the cost per tree seven feet high, also cost of Flemish Beauty? (2) My soil bakes in summer; would you advise sawdust to fertilize it? (3) What hardy strawberry could you recommend, of large size and productive? (4) Can you recommend better pears for our vicinity than the Kieffer and Flemish Beauty? Answer—(1) The Kieffer with you, if it should prove hardy, will be very good for canning, but not very good for eating. The Kieffer, to ripen, needs plenty of sunshine and warmth; the pear is then fair for the table. The cost of the trees will be about 50 cents each. The nurserymen who advertise in the FARM AND GARDEN will write you prices of them and cost of delivery. (2) Would not advise sawdust. It sours and injures the land. Burn the sawdust and use the ashes, which are good for fruit trees. (3) Wilson, and perhaps Sharpless. Manure and cultivate well. (4) We would also name Bartlett, Osband's Summer, and Lawrence; perhaps also Beurre d'Anjou. You will find something every month that will aid you in fruit growing. Glad you are pleased with the FARM AND GARDEN.

✝

Samuel Vickers, Darlington, Wis., asks: (1) How long does it take oranges to ripen from the blossom? (2) How many crops are on the tree at once? (3) Which is the best time to plant apple trees, spring or fall? Should pasture land be broken up before or after grass starts? (5) How is the best way to raise tobacco plants from seed? (6) How should young turkeys be cared for? (7) Is there any way to kill twitch grass, and how? (8) When is the best time to cut hazel brush to kill it? Answer—(1) In Florida about 9 months, in the tropics not so long. (2) In Florida and all the sub-tropical sections one crop only is produced; in the Torrid Zone the crops are continuous. (3) In the North spring, in the Middle section spring or fall, in the South fall. (4) Depends upon what is to be planted. Should it be corn, you will have to plow early before the grass starts. If the soil is full of worms, plow in the fall. If you want to manure the land, plow after the grass has grown and in blossom. (5) Start the seed in March or April for your section, in a hot-bed, and transplant in the field when the danger of frost is over. (6) Keep the young turkeys dry and free from lice. Feed well on curd cheese, with plenty of pepper and coarse-ground corn meal. When larger, allow them full liberty. (7) Yes; cultivate well. Half tillage will be useless. (8) August, when the weather is the driest and hottest. Never mind the moon when you cut the brush. It has nothing to do with it.

I see Judge Biggle is going to use ice water for the cabbage worm. If that does not eat into the profits of the crop very materially, I shall be mistaken. Is there any instance where "high farming" has paid? If so, when and where?

B.

In the June number of the FARM AND GARDEN Mrs. Zuver asks, what roses, shrubs and climbing vines are most desirable for a door-yard. Such questions are difficult to answer satisfactorily within the limits of a newspaper article. The list of desirable roses offered by florists is *now* very long, and is yearly increasing. Roses, like all cultivated plants, are more or less affected by local influences, such as soil, climate, &c.

As I lived for many years in northern Indiana, in about the same latitude as Woodhull, Ill., I think that the following list will give satisfaction. With the exception of the tea roses they are all hardy. First on the list I will place the old and well-known favorite, Gen. Jacqueminot, a strong, vigorous grower, and profuse bloomer; flowers very large and fragrant, color rich crimson. Baroness Rothschild is becoming very popular, color a delicate shade of pink. Coquette des Blanches is probably the best white, of the hardy perpetuals. Magna Charta is a strong grower, and usually does well in all soils; flowers very large and fragrant, color rich, dark pink. Princess Camilla de Rohan is claimed to be the nearest approach to a *black* rose that has been produced up to the present time.

The *Moss* roses are all hardy, and are especially desirable. The following are good: Glory of Mosses, Jas. Veitch and perpetual White.

I would *not* be content without some of the tea roses. They are *not* perfectly hardy, and would need some protection during the winter, either by taking up, and putting in a light dry cellar, or by covering with earth in the bed where they grow.

But their exceeding beauty, exquisite fragrance, varied and vivid coloring, and constant daily bloom from spring to fall will much more than repay the extra care and labor necessary to grow them out of doors. I should want at least the following: Bon Siline, Cornelia Cook, Hermosa, Niphetos, Perle des Jardins, Isabella Sprunt and Safrano. I do not attempt to describe them, because a full description may be found in the catalogue of almost any florist who advertises in the FARM AND GARDEN.

The above list is by no means full, and many would make changes, and perhaps improve it, but these are good, and will be sure to give satisfaction.

Among shrubs, every one wants the *true Syringes*, commonly called lilacs. Some new varieties are offered by florists, one that has *double* flowers, and others that bloom quite late in the season, after the old varieties are done.

Then there are the numerous varieties of Philadelphias, commonly called *Syringa*, or mock orange, which are all good. The new *double* variety I have not seen, but feel sure it must be very desirable.

One of the earliest flowering and also one of the showiest and most beautiful is Cydonia (*Pyrus*) Japonica, the common Japan quince, which is always an attractive sight when covered with its blaze of scarlet blossoms. The white variety Cydonia Alba, makes a good contrast. There is another shrub, not so well-known in the West, which should always be found accompanying the above. I mean the Forsythia, of which there are several varieties, all yellow and all blossoming very early in the spring, usually before the leaves appear. Calycanthus Floridus, strawberry tree, or sweet-scented shrub, has dark purple, and very fragrant flowers.

The numerous varieties of Spirea are all desirable, they range in color from pure white to *deep* rose color, and bloom at various times from early spring to late summer. There are several named varieties of Weigelia, all good; but the common W. Rosea, W. Hortensis Nivea, pure white, and the variegated-leaved, are enough for an ordinary collection. Deutzia Gracilis with its long drooping racemes of pure white flowers is almost a necessity. Some of the other Deutzias are nearly, if not quite, as beautiful, but are not perfectly hardy. The Altheas are shrubby members of the Malvaceæ or hollyhock family. The flowers are large and closely resemble hollyhocks, and have the same range of colors. There are single and double-flowering varieties, and all are good.

There is one old shrub, that is not seen nearly as often as its beauty and fragrance deserve. I mean Daphne Cneorum; though a true shrub, it trails on the ground, and seldom exceeds six to twelve inches in height. It should have a place in every garden.

Last on my list, but not least in value, I name Hydrangea Paniculata Grandiflora. The old Hydrangea, so commonly grown as a house-plant, is well known. This one is a large shrub, and is perfectly hardy. The flowers resemble those of the old variety in shape, but are white and are borne in large, long, cone-shaped panicles late in the summer.

Among desirable climbers, I place first, the hardy climbing roses, such as Prairie Queen, Gem of the Prairies, Seven Sisters, Baltimore Belle, Pride of Washington, Boursalt Elegans, &c.

Next in value comes the Chinese Wisteria, which is a very strong, vigorous grower, and covers itself with clusters of purple, pea-shaped flowers very early in the season, before the leaves appear.

There are several Honeysuckles, such as Chinese, Japan, Red Coral, &c. &c., which are all beautiful, and usually very fragrant. All of the different varieties of Clematis are desirable, but specially so are C. Jackmanii C. Coccinea. Bignonia Radicans, often called Trumpet honeysuckle, is a rampant grower, and the flowers are very showy. It is excellent for hiding old unsightly buildings, but should not be set in a lawn as it has a very undesirable habit of sprouting from the roots almost as badly as a blackberry plant.

Some of our native vines are equally as good as many foreign varieties, but are not always attainable. Specially valuable is Celastrus Scandans (bitter-sweet,) its brilliant orange-colored and red berries are very conspicuous in fall and winter. Clematus Virginica is found growing wild in all parts of the North and West. Its clusters of small white flowers are not very showy, but each flower is followed by a *bunch of seeds*, each of which has a long, plumose tail, making the head of seeds look like a bunch of curled feathers.

This article is already too long, and yet it is very incomplete. The list is more noticeable for what is omitted than for what is mentioned. Some things are not very common, but I believe everything can be found in the catalogue of some florist who advertises in the FARM AND GARDEN.

✝

Two cures for ivy poisoning are given in June number of FARM AND GARDEN. Allow me to give a third, which may be available sometimes when neither of the others can be had. It is simply bi-carbonate of soda, common baking soda often sold in groceries as salaratus, wet with water just to a paste, and applied to any part poisoned. Keep it wet as it dries out. This is also one of the very best remedies for a burn.

✝

On page 2 of June FARM AND GARDEN, third column, eleventh line from the bottom, Northern State should read Southern State.

W. C. STEELE.

FOR THE HOT WEATHER.

A dude looking at a camel. "If I only had such a neck what a collar I could wear."

"What is an epistle?" asked a Sunday school teacher of her class. "The wife of an apostle," replied the young hopeful.

A little boy on tasting his first lemonade of the season, remarked, "Mamma, doesn't this lemonade taste strong of water?"

A Quincy, Illinois, debating society has decided that there is more pleasure in seeing a man thread a needle than watching a woman's attempt to drive a nail.

"Pa," asked Walter, "what is a Buddhist?" "A Buddhist, my son," replied pa, "is a—well—a sort of horticultural chap—you've heard of budding fruits, you know."

"No," said a New York belle, who had just returned from a tour of Europe and Egypt. "No, I didn't go to the Red Sea. Red, you know, doesn't agree with my complexion."

Here is a boy story: A lad sat on the floor playing. Suddenly he set up a howl. "Henry, what is the matter?" asked the mother. "The cat scratched me." "Why, the cat is not here; when did she scratch you?" "Yesterday!" "Well, why are you crying now?" "Cause I forgot it then."

"Mr Jenkinson's wife must be awful jealous!" said Miss Smith; "he gave me his seat in the horse car, and when I thanked him he begged me not to mention it."—*Boston Transcript.*

"Johnny," said the editor to his hopeful, "are you in the first class at school?" "No," replied the youngster, who had studied the paternal sheet, "I am registered as second class male matter."

TEACHER:—"Suppose you had two sticks of candy, and your big brother gives you two more, how many would you have then?" Little boy shaking his head:—"You don't know him; he ain't that kind of a boy."

"Pa, who was Shylock?" Paterfamilias (with a look of surprise and horror)—"Great goodness, boy! you attend church and Sunday school every week, and don't know who Shylock was? Go and read your bible, sir."

"This milk is rather warm for such a cold morning," said a customer the other day to a milk boy. "Yes, father put hot water in it, instead of cold, to keep it from freezing," was the simple and truthful reply.

They were expecting the minister to dinner. "Is every thing ready, my dear?" asked the head of the house. "Yes, he can come now as soon as he likes." "Have you dusted the family Bible?" "Goodness gracious! I forgot that!"

A gentleman was giving a little baby boy some peanuts the other day. The good mother said, "Now, what are yoo going to say to the gentleman?" With childish simplicity the little fellow looked up into the gentleman's face and replied, "More."

A GOOD JAM.—Place one finger in the crack of a door. Shut the door slowly but firmly, and keep it closed for at least ten seconds. Then open the door and remove the finger, and add plenty of spicy interjections. Never use your own finger if you can avoid it.

Man is a harvester. He begins life at the cradle; learns to handle the fork; often has rakish ways and sows wild oats, thrashes his way through the world, and when he arrives at the sere and yellow leaf, time mows him down, and his remains are planted on the hillside.

"William, my son," said an economical mother to her boy, "for mercy's sake, don't keep on tramping up and down the floor in that manner. You'll wear out your new boots." (He sits down.) "There you go, sitting down! Now you'll wear out your new trousers. I declare, I never saw such a boy."

Little Jim: "Ah, ha! I've heard something awful bad about your pop!" Little Jack: "Who cares fur you? What did ye hear, anyhow?" "I heart your pop got sent to jail." "Pooh! Guess you forgot what they done to your pop last year." "What?" "Your pop got sent to the Legislature."

The postmaster at Lickskillet, Ark., writes as follows: "Don't send your paper any more to Oscar Hallum, fur he's dead. He wuz a mighty good reader, he wuz, and would sometimes read one of your jokes in such a funny way that folks would laugh. 'Twant what was in the artikle, but it wuz the way he read it."

At the breakfast table. Mother—Always say "please," Bobby, when you ask for anything. Never forget to say "please" even to the servants. Father (getting ready to go down town)—yes, Robert, my son, bear in mind what your mother has told you, and always say "please." It's a little word, my boy, but full of meaning; and the use of it marks the gentleman, Now, wife, my overcoat and hat, and be quick about it.

"Speakin' of productive soil," said 'the man from Dakota, "the half has not been told. A few weeks ago my wife said, 'Why, John, I believe you've took to growin' again.' I measured myself, and I hope Gabriel 'll miss me at final roundup, if I hadn't grown six inches in two weeks. I couldn't account for it for some time, till at last I tumbled to the fact that thar war holes in my boots, an' the infernal soil got in thar an' done its work."

PUBLISHERS' DEPARTMENT.

Daniel Hulshizer, of Doylestown, Pa., whose advertisement of Horse Powers and Threshers appears in this number, has made some decided improvements in his implements this year. You should send for his circular.

We called on Messrs. Heebner & Sons, Lansdale, Pa., last month. They have recently shipped their machine to India and Mexico, as well as selling them in every State in the Union. If you think of buying a horse power you should read their advertisement on the cover page, and send for their circulars.

DAIRYMEN PREFER IT.

MESSRS. WELLS, RICHARDSON & CO.

Since the introduction of your Improved Butter Color among my customers, it has given universal satisfaction. The leading dairymen of this section who have used it give it the preference over all other colors, of whatever name or nature. They are especially pleased with the fact that it does not become rancid, like other colors, and their product brings highest prices in market.

UNDERHILL, Vt., April 5, 1882. W. S. NAY, Druggist.

Messrs. Anton Roozen & Son, Overveen (near Haarlem), Holland, have sent us their catalogue of Dutch and Cape Bulbs for fall planting. It is a handsome and interesting book, profusely illustrated, and gives full instructions by which you can import your own bulbs direct from the growers in Europe. Messrs. De Veer & Boomkamp, 79 Broadway, New York, are agents, and will send this catalogue free to any of our readers who will write them.

Mr. C. L. Kneeland, of Unadilla, Otsego Co., N. Y., manufacturer of the Crystal Creamer, sends us his circular, which describes the construction of the Creamer, directions for operating, its good points, plan of skimming, etc. It also gives, from among a large number of testimonials from all parts of the country, the following:

KORTRIGHT, August 14th, 1881.

C. L. Kneeland:—I hereby certify that the Crystal Creamer I bought of you gives entire satisfaction. We have never made better butter. We use water upon the creamer only; we have not found it necessary to use ice. Any one should know the superiority of glass over tin. For ease in skimming, neatness, and durability, it is ahead of any other I have seen. The glass cans will not rust, and I think will not break except by careless ness.

DAVID MITCHELL.

When in New York last month, Mr. F. F. McAllister, of 22 Dey Street, showed us some pansies over 2½ inches in diameter. They were of the Trimardeau variety the characteristic of which is a dribbled blotch on each leaf. They were very beautiful, and we recommend our friends to try them.

A. G. Spalding & Bros., Andrews Building, Chicago, and 239-241 Broadway, N. Y., offer the readers of the FARM AND GARDEN, who will mention this paper in writing, a free catalogue containing descriptions and prices of the following goods:—

Bicycles for boys 2 to 5 years old, $5.00; 5 to 7 years old, $6.00; 7 to 9 years old, $7.00; 9 to 14 years old, $8.50. Tricycles—the "Pedrie" for children 4 to 7 years old, $9.00; 7 to 9 years old, $12. Bicycles from $35 to $140. Sundries of every description. Lawn Tennis—Rackets, tennis balls, nets, tennis sets, tennis shoes. Spalding's Library of Athletic Sports. The following is a list of some of the hand-books on athletic sports, which will be mailed post-paid upon receipt of price: No. 1, Spalding's Official B. B. Guide, 10 cents. No. 3, Spalding's Hand Book of Pitching, 10 cents. No. 4 Spalding's Hand Book of Batting, 10 cents. No. 5, Spalding's Hand Book of Fielding and Base Running, 10 cents. No. 8, Spalding's Hand Book of Lawn Tennis, 10 cents. No. 11, Spalding's Hand Book of Manly Sports, 25 cents. In addition to the articles mentioned above, we carry a complete assortment of Sporting Goods, and shall be pleased to send catalogue or quote prices to any one desiring anything in this line. *Note.* Any one ordering goods from the above list, and not being perfectly satisfied with the article received, can return same to us before using, and either exchange for other goods, or we will refund the price paid, after deducting the amount of the express charges.

A circular containing a full description of our Neverslip Shoe, and its adjustable, steel-centered and self-sharpening calks with wrench for applying them, is now ready for distribution, and we shall be happy to mail it to all who are interested. The Neverslip Horse shoe Co., 36 India Wharf, Boston, Mass.

Wm. F. Peters & Co., agents for the Perfect Hatcher Co.'s Incubator and dealers in poultry supplies, have removed from 709 Sansom Street, Philadelphia, to a large store at No. 221 North Ninth Street. They are a reliable firm. If you cannot call and see them, you should send for their circulars, and mention where you saw this notice.

Mr. John Thorpe, of Hallock & Thorpe, Queens, N. Y., president of the Society of American Florists, sends us word that the date of the Annual Exhibition of the Society, to be held in Cincinnati, is August 12th, 13th and 14th, 1885, and not the 19th, 20th, and 21st, as announced in our June number. In all other particulars our program of last month is correct.

The Farm and Garden.

Vol. IV AUGUST, 1885. No. XII.

INSTRUCTIONS TO CORRESPONDENTS.

Subscriptions may begin with any number, but we prefer to date them from January, of each year. Price fifty cents a year, in advance.

Renewals can be sent now no matter when the subscription expires, and the time will be added to that to which the subscriber is already entitled.

Remittances may be made at our risk by Post Office Order, Postal Note, Registered Letter. Stamps and Canadian Money are taken, but it sent in ordinary letters are at your risk. We do not advise you to send money or stamps without registering. See instructions on page 12.

Receipts.—We send a receipt for all money sent us. If you do not hear from us in a reasonable time, write again.

Addresses.—No matter how often you have written to us, please always give your full name, post office and State. We have no way to find your name except from the address.

Names cannot be guessed, so write them plainly and in full. If a lady, always write it the same—not Mr. Samantha Allen one time and Mrs. Josiah Allen next. If you do not write Mr. or Mrs. before your signature, do not be offended if we make a mistake on this point.

Errors.—We make them, so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us any way. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

THE LAST OF VOLUME IV.

The August number of THE FARM AND GARDEN completes the fourth volume. As many of our subscriptions expire with this number, we take this opportunity of asking every friend of the paper to renew his own name, and get the subscriptions of his neighbors. The question is this: Do you consider the FARM AND GARDEN worthy of a wide circulation? If you do, let your answer be a club.

The motto, "Honest pay for honest work," should be the guide for fixing the salaries of our postmasters. The plan now in vogue,—extravagant pay for inferior work,—is the cause of the disgusting spectacle now to be witnessed in thousands of smaller towns. We believe it to be as disgraceful for democrats to persistently fight for the post-office as it is for the Republican incumbent, who has done all in his power to prevent the success of the present Administration, to piteously beg of the victors to spare him, and to promise his unconditional support if spared.

The adaptation of the motto, "honest pay for honest work," will tend to decrease the number and persistency of office-seekers.

We would suggest one more reform in postal matters. Wherever practicable, the post-office ought to be separated from other business pursuits. Store-keepers are apt to favor their individual customers, and let Uncle Sam's customers wait. Applicants who intend and promise to attend to the post-office business personally, and without the assistance of deputies, should have the preference. In many smaller towns there are too many persons handling the mail.

Prof. Riley, Entomologist of the U. S. Department of Agriculture, we see recommends the trial of ice water for the green cabbage worm. We were advised a few years ago to use hot water. This vibrating between hot and cold is the more amusing to us, as it does not hurt the worms any. The green cabbage worms, as every practical cabbage-grower knows, will stand the frost and cold—they will even live through winter in the larval state, ready for another season's duty. The ice or ice water has no terrors for them. The worms are found so concealed by the leaves that neither hot nor cold water can reach them. And while water hot enough will kill them, it will also do the same to the cabbage. We advise Prof. Riley to go slow on ice water. It may do very well for a summer drink to those who have it, but it will be useless for the farmer to carry around the cabbage patch. For the tired farmer it will be poor amusement.

Every farmer who believes in high tillage and keeping land full to the standard of fertility, should be on the alert for a chance to plow in a green crop. Although we are prone to regard August as a month of harvest to a certain extent, old observances should be discarded, and the restoration of fertility aimed at while it is growing time. As the rains are more favorable this month than last, a good, thick sowing of buckwheat, corn, or millet, to be turned under at any time most convenient, will be quite an advantage in preparing ground for the spring crops, and especially if a good liming follows immediately after the green stuff is turned under. It is not necessary to harrow or roll, for the rough plowing leaves the ground in good shape for the frost. Millet and buckwheat grow quickly, and are excellent agents for this purpose. If desired, rye can be sown, without injury, for spring pasturage, and will be eaten off in time for corn.

We need a few copies of the FARM AND GARDEN for 1881 and 1882. If any of our readers who have them, will send them to us we will credit them with additional time on their subscription.

FARMER'S HOME GARDEN.

By Joseph.

I out-witted the hens at last, and I will tell you how it was done, even if the information may not be of use to you for this season. Put it away in your memory for the future; you can do it as easily as I could.

We had some late plantings of cucumbers, mostly of the quick-growing "Green Cluster" variety. Idle curiosity induced a lot of pesky hens to investigate our work; chance for mischief and cucumber seeds afterwards proved attractions which they found irresistible. Every hill was dug over and robbed of the seeds. We replanted, but met with no better success. At last I planted the hills for the third time and at once soaked each of them thoroughly with about one half-bucketful of hot soap suds. The hens came again and scratched nearly the whole patch over, to which proceedings I could offer no objections, as they left the newly planted and soaked hills, which were too wet for them.

The cucumbers had nearly all come up the fourth day after planting, and are doing nicely. If hot soap suds are not handy, cold water may answer every purpose, though the heat of the suds probably hastened germination, and the suds themselves, acting as a fertilizer, gives luxuriance to the vines.

✝

We have given the James Vick strawberry another trial, this time under high cultivation and under the single-plant system. Yet, the yield was anything but satisfactory. The plants were very large and thrifty, the fruit stalks numerous and well loaded, but the berries hardly medium in size, with only few large, and many small and imperfect ones. The berry is firm and solid, good for canning, which is about all that I can say in its favor. Under the matted-row system, the James Vick has proved of no account everywhere I met with it.

✝

Even experienced potato-growers would hardly recognize the Early Ohio potato in our patch. The plants of this very dwarf sort, which were grown from whole potatoes, are so unusually large and dark-colored that they might be mistaken for a late, tall-growing variety. The bugs, numerous as they are, affect these plants very little. The patch promises a very large yield.

✝

The difference in color of plants grown from whole tubers and from less seed, even from as much as one-half of whole tubers, was very marked, particularly in the early stages of growth. The plants from smaller seeding appeared decidedly yellow, compared with the rich dark-green of the whole potato-plantings.

✝

In many localities, celery for winter use may still be planted. It needs a great deal of moisture. The farmer having but a few plants, can well afford to give his celery row an occasional thorough soaking. Keep free from weeds. A top-dressing of salt is beneficial, and this vegetable can stand right smart of it, without suffering injury.

✝

Persons who are fond of salads—we are—should try corn-salad or "fetticus." Sow a bed of it this month or next. Cover at the approach of winter with coarse litter. The corn-salad will come handy in winter or early spring.

Our experimental potato plot shows off well at this writing. We expect to gain very valuable information from this year's experiments, and to be able to decide this fall which is the best combination of distance in the drill and amount of seed, for early as well as late varieties. The soil used for these experiments is rather rich—rich enough to grow a 1500 bushel crop of mangels to the acre. Next year we shall repeat the same series of experiments on poor soil, or on soil of *less* than medium fertility.

We do not expect to grow a crop of 1390 bushels to the acre, nor will we brag about what we think we can do. The yields will be carefully measured and correctly reported.

OUR SPECIAL WHEAT NUMBER OF THE FARM AND GARDEN.

The September Number of the FARM AND GARDEN will be the third of our series of Special Numbers, and the following brief announcement will partially outline its contents.

WHEAT: Its Early History and Primative Cultivation.

Its Names and Characteristics in all Countries and Climates.

Varieties: Bearded and Bald, Red and White, Spring and Winter.

The growth of the industry in the United States and in Foreign Countries.

Soil and Climates suited for Wheat.

Diseases of Wheat.

Saving and Preparation of Seed.

Planting.

Breeding and Hybridizing.

The Effects of Inbreeding, Climate and Soil upon Varieties.

The Advantages of Broadcasting and Drilling.

Manures and Fertilizers An Exhaustive and Interesting Account of the Effects.

Composts for Wheat.

Effects of Different Manures on Grass following the Crop.

A Review of the whole Fertilizer Question.

Spring and Fall Seeding.

Facts and Theories about Cultivation after Planting.

Harvesting—Methods and Improvements of the Present Day. The California Headers.

The Western Threshing Rigs.

Cleaning, Grading Wheat. Markets for it.

Storing. Handling in Elevators.

The Railroad Question. Its Effects upon Prices and Profits to Growers

The Experiments we Desire our Readers to make.

Probable Wheat Lands of the Future—South America, Manitoba, India, Russia, and Mexico considered as Possible Competitors of the United States.

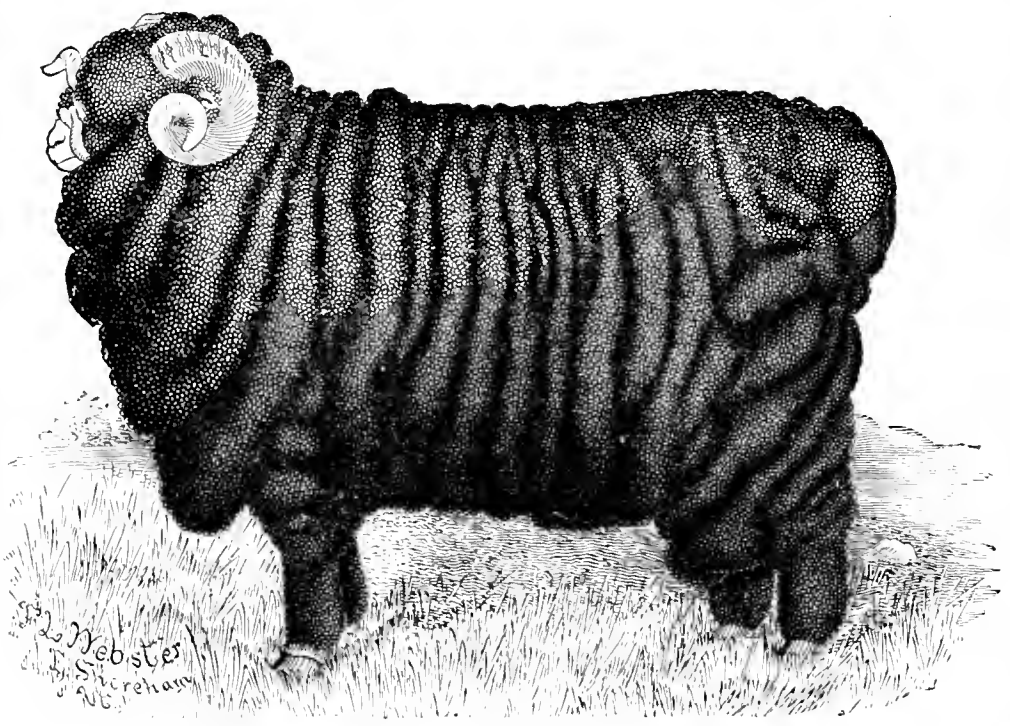
SHEEP.

Every branch of stock raising has its periods of prosperity and depression. At the present time, owing to the large increase of wool-growing in Australia and other countries, added to our own large production, a depression in prices of wool was caused, which was still further increased by the changes in the tariff. This depression should not work permanent injury to the sheep interests of the country. Wool-growing alone, may not be so profitable as formerly, yet, the growing of finer muttons, and consequently the greater demand for them, will tend to make better prices for mutton, and while wool-growing exclusively may diminish, mutton-growing will increase, and the interest in sheep will again assume an active state. No stock yields so early and regular profits as the sheep. Even at the present low price of wool, the value of the fleece materially reduces the cost of the keep, and at the long continued good prices for early lambs in eastern markets, adds largely to the profits of the stock. There is a vast difference in the sheep industry of the East compared with that of the West. The East has dear land and a good market for early lambs, and the wool crop has the lesser place in the profits of sheep-growing. The West has cheaper lands and unlimited range, and from its remoteness from markets, must rely largely on wool for income and the increase of stock. We shall keep in mind this diversity of interests, and shall consider the subject in all its bearings, suited to each section, and also what appears to us to be the true and proper solution of the sheep question. We shall consider first:—

BREEDS.—Why the sheep should be clothed with wool, unlike all other of our domestic animals, is a question of no easy solution, as it is so wide a departure from the hair of other animals. The division of sheep into different breeds is of easy solution, for careful breeding for years for special purposes, will finally fix a permanent type in any animal and establish a breed. In countries where *fine wools* were formerly in so great demand, the *fine wool* breeds were the type to which all breeders turned their attention, to the exclusion of all other points, and *fine wools* were the result.

In situations where *mutton* was demanded, *mutton* was the object, *mutton* breeds were established. On the cold barren heaths of England and Scotland, a hardy race of sheep became the type From these causes we have as the representative breed of the fine wool class the Spanish Merino, from which has sprung the French, Saxon, Silesian, and American merino, which differ from each other in but few points of breeding, but all unite in general fineness of wool. The wool of the finest bred Merinos, rivals silk in texture, and can be spun in the finest of threads and woven in the best broadcloths. It is this breed that furnishes the wool for the best cloths and the finest woolen goods. This breed has been bred to wool alone, at the sacrifice of the muttons. We give a cut of a fine buck of the American Merino, whose form and life-like appearance shows so well the excellencies of this type, and the differences in some points that are especially valuable to this country and climate. The peculiar appearance of the Merino will be seen by observing our illustration. The loose, shaggy skin, much too large to cover the animal, hanging in folds and wrinkles, giving the appearance that nature could not find use for all the wool without enlarging the skin to make room for it. It will be observed that the wool also covers the legs down to the hoofs, and extends over the face almost to the tip of the nose. The prevailing idea seems to be *wool*. The Merino is the most widely distributed breed, and can endure the oppressive heat, and dry weather better than the mutton breeds. They will thrive on the scanty pastures of hill or dale, but not in wet soils as well as the English breeds. From their active roving habit, and indifference to kind or quality of feed and pasture, they are called the poor man's sheep. No breed, perhaps, is so widely disseminated, or grown in larger numbers than the Merino. They cover the vast plains of the West, either in pure breeds or in crosses, and are the great majority of Australian sheep. In almost all the common sheep of our farms, we find strong marks of the blood of the Merino.

THE DOWNS.—Under the general name of Downs, we have several English breeds of fine size, making excellent muttons. We divide the English breeds into three classes, the long, medium, and short-wooled. Of the first class,—the long-wooled,—we include the Cotswold, Leicester, and Lincoln. The medium-wooled are the Oxfordshire, Shropshire, and Hampshire, and the short-wooled the Southdown. The first class are noted for the excellence of their long wool, valuable for many kinds of manufactures, while the short-wools furnish the finer muttons, and the middle-wools combine the excellencies of both, to a large degree, making each breed valuable for particular purposes. We will take the first class comprising the Cotswold, Leicester, and Lincoln, and describe them as they appear to the common observer, leaving all the finer points for the stockmen to investigate and discuss. Our aim is to entertain and instruct the general reader, rather than to consider the points of merit in the different breeds.



"VENGEANCE," No. 53 Missouri Register, owned by H. V. Pugsley, Plattsburg, Mo.

COTSWOLD.—This breed gains its name from the Cotswold Hills, a range of mountains which rise to an elevation of 1200 feet in Gloucestershire, England. They are a large and hardy breed, can endure cold and exposure, will thrive on rough pastures, and mature early, producing a large mutton. When fed freely they are apt to become so fat that the mutton will not be of use to the butcher. They often exceed 300 pounds in weight. The breed is at once distinguished by the long wool that grows from the forehead and over the clean, small head, almost covering the eyes. The absence of horns and the freedom of wool from the legs will be noted. The carriage of the animal is bold and fearless; in build it is broad and deep. It is valuable for crossing, as it carries its good points in its crosses.

LEICESTERS.—This breed resembles the Cotswold, and differs only in being of more delicate frame, somewhat smaller, and there is the absence of wool on the forehead. The bald head and white face are marks that clearly distinguish it from the larger Cotswold.

THE LINCOLNS, a breed originating in Lincolnshire, England, are quite similar to the other long-wooled Downs, and are, as yet, little bred in this country.

OXFORDSHIRES.—This breed, also called Oxford Downs, belongs to the class of medium-wool sheep, and combines the qualities of both a wool and mutton breed. This breed is popular in England, and is rapidly increasing in favor in this country. It originated some fifty years ago, to combine the best qualities of both a good wool and a fine mutton breed. To the county of Oxford, England, belongs the honor of the idea of combining both qualities in one breed in the greatest perfection, and the breed at once, when well established, received the name of Oxford. They are a large sheep, rivaling the Cotswold in size and shape. They have a well-polled forehead, the wool of which is not so long and conspicuous as in the Cotswold. The color is a trifle darker, fleece shorter, but set thickly, and hence but a little inferior to that breed in the production of wool. The legs are dark, free from wool, and the general appearance of the animal indicates a thrifty and vigorous stock.

SOUTHDOWN.—This is preeminently the mutton breed of England, and while the carcass is of smaller size than that of the other breeds, yet in quality of mutton it exceeds them. The breed had its origin in the downs of Sussex, which are only of moderate elevation, and afford a scanty, though rich pasturage. The size of the sheep is medium and bone small. The wool short and thick; legs and face smutty or almost black, and free from wool. The characteristics of this breed are so well marked that they will, when once seen, be easily distinguished from all others. They carry well their good points when crossed on other breeds, and are not only of value as pure-breeds, but also for crosses. This is true, especially on the larger and coarser breeds; for while they do not decrease the size of the crosses, they add largely to the value of the carcass for mutton purposes. Scotland produces some excellent breeds of sheep suited to a rough, cold, and rigorous climate, and of good quality for wool as well as mutton. Of these the Cheviot may be taken as one of the finest. Our limits will not allow us more detail of the individual breeds, but we think enough has been given to enable the reader to form an intelligent opinion upon the subject.

CLIMATOLOGY.—We now come to a subject that exerts a great influence upon the successful breeding and the longevity of sheep. The natural effect of a torrid climate is to produce hair in place of wool. In fact, take any breed of sheep to a hot climate, and the wool will gradually be replaced by a growth of fine hair in the finer-wooled, and coarse hair in the coarser-wooled sheep. So great is this tendency that all sheep native to the tropics are destitute of wool. The temperate or milder climates are remarkable for finer wools, and the colder for long and coarse wools. These facts were well known to the Greeks 2000 years ago, and as cotton and silk were not known to them, and linen but a little cultivated, to make the finest of wool the finest

wool sheep were not only selected, but were fitted with clothes in cold weather to keep the wool from injury. Since the introduction of silk and cotton, the finer grades of wool are less in demand, and coarser, long wools have taken the lead in the market. The different breeds are not of similar constitutions. The Merino will thrive in the heat of plains and flourish on the driest sands; while it can be reared on the highest table-lands, it will also thrive in low altitudes. So long has the breed of Merinos suffered climatic changes, and been bred in ages past, that they suffer perhaps less from varied climate than any other breed, which may be due from the half-wild character of the people, whose herding from plain to mountain, in wild, savage life, produced a strain of sheep that are but little affected by climate except by moisture and wet, in which respect they are inferior to the English breeds.

Among the influences of climate as affecting sheep, may be mentioned a wet one, producing foot rot; while a hot or dry one is injurious to the English breeds. All breeds bear removal better in parallels of latitude, although, with care, any breed will bear a reasonable change.

BREEDS FOR SPECIAL CONDITIONS.—The stockman who keeps vast herds on the range, or the breeder on the plains, where pasturage is short and flocks must all be herded, needs sheep of gregarious habits, who will keep in flocks and not wander away; otherwise herding is difficult, not to say almost impossible. For that reason the Merino has the advantage over most breeds for large ranges. While for the rich lands of the farm, where grass grows in luxuriance, the Merino will, from its roving habit, trample and waste more than it consumes. In such localities the English breeds are very desirable, not only for their large size and valuable wool, but also for their quiet habits. Being restrained by fences, their desire to separate into small bands does not affect their keeping. The Cotswolds and Oxfords waste but little grass by tramping over the fields, and that is a valuable characteristic of the English long-wools and Downs. Where pastures are extremely wet, the Leicester is perhaps best suited, if sheep must be kept, but we do not advise sheep-raising under such circumstances.

EASTERN SHEEP BREEDING.—We in the East, with dear land, and smaller farms than other sections, dear feed and hay, lands well fenced, also have a good market for lambs and a growing demand for mutton. Under these conditions, grade Merinos are purchased in summer and bred to full blood Southdown bucks. The sheep are well cared for and the early lambs are disposed of to butchers in the large cities, at good paying prices, which good, early spring lambs are sure to command. The business pays well for the outlay, for the sheep in the fall consume much of the waste pastures,—briars and weeds that the cattle refuse,—and if kept a few years in succession will do more to eradicate useless weeds from a farm than any animal in the farmer's field. We know of farms overgrown by briars and bushes and fences overgrown with bramble, that were entirely subdued by sheep, and the farm appeared as if possessed of a new owner. The large amount of excellent manure sheep produce must not be lost sight of in the East, where manure is so valuable and difficult to procure. Next to hog-pen manure, that of sheep is most valuable, and will more than pay for the care of the flock. By the use of sheep as manure-makers, the farm will be rapidly improved. The poorest of the old sheep are sold, after lambing, as soon as fit for market, and the best are kept over another year. Then such additions are made by purchasing of the drovers as the farmer can handle and keep. This industry, though in proportion is small, yet, it is a sure and profitable investment.

WESTERN SHEEP GROWING. Where farms are larger and feed and pastures more abundant and cheap, the soils rich, deep, and fertile, and the area more extended, the Majestic Cotswold is at home, and the Oxfordshire and other large breeds arrive at their highest perfection. This section from its evident advantages can produce the best wools and muttons at lowest possible cost. Here also we look for the large breeds that weigh from 250 to 300 pounds each and shear fleeces of wool weighing from fifteen to twenty pounds. Here the growing of the larger breeds can be carried on with few or no drawbacks, and the large breeds arrive to such perfection that the growing of large sheep is made easy and profitable.

SHEEP-RAISING ON THE PLAINS.—Large ranges, dry climate, elevated plains and mountain ranges, wild and isolated, are the features of sheep-growing in the far West. The absence of water, scantiness of herbage though rich in feeding qualities, makes the sys- tem different from the ones above described. Frequently the [illegible] tion of a watercourse or even a depression [illegible] pond of water may give the control of large territory near it to the fortunate claimant. For without water herding is not possible, and he who controls the water in such cases also controls the pasturage of leagues of adjacent government land. Woe to the unfortunate herder who trespasses with his flocks, dying with thirst it may be, upon the water rights of his neighbor. Such freedom is never permissible. It may be said that he who owns the water holds all the lands that lie around it. Here the warfare between sheepmen and cattlemen wages the fiercest, and complaint of the cattle herder that the sheep eat the pasture so closely that they kill the grass, is a frequent cause of disturbances, and the quarrels are so interminable that they afford all the excitement so desirable in border life. The grass on the plains, from the almost continued absence of rain, grows in bunches or round spots a few feet to a few inches in diameter; very short, but as nutritious as grain. These spots, or patches of grass, rise above the level of the plain, leaving the bare alleys or walks between them, and when cropped too closely, fail to grow again, and the pasturage ceases for years. If these areas were not so vast, herding would be impossible for such vast flocks of sheep. The usual shelter from winter storms and cold, is the south side of sheltered hills or that of the open corrall. Sheds are too seldom seen, in fact, the range is so large and the distance so great that it is not easy to shelter the sheep. Yet, here sheep are grown at less cost than anywhere in the United States, and if, as it frequently happens, thousands perish from cold and snow in the winter, yet the increase is so great that the flock-master does not appear to regard it as a matter of serious consequence. In Texas and New Mexico rains occur more frequently, and the two rainy seasons give moisture enough to raise mesquite and grama grasses that afford the richest of pastures. While the sheep husbandry of the plains may be rude, yet, the profits are great, and if the location is a good one, fortunes are speedily made. In California and Oregon, the mountain ranges and valleys so traverse the country, that the [illegible] of the ancient shepherd is revived, that of driving the sheep in summer to the mountain ranges, in winter, seeking the valleys for pasture and shelter. In southern California, drouth decimates the flocks frequently, yet that State produces thousands of sheep that are sent to the North-west and distributed over the country. A vast amount of wool is produced on the Pacific slope, and the sheep are very healthy and are, perhaps, more exempt from disease than anywhere in the Union.

FOREIGN SHEEP GROWING.—We shall deal with foreign sheep-growing, that the American reader can see where the competition of foreign wool hurts him. No one who has not investigated the increase of the sheep and the area extended, can form a just idea of the vast increase of foreign territory now devoted to sheep. Australia takes the lead, not only for the vastness of its flocks and limitless territory, but the numbers owned by one person. As many as 300,000 sheep are credited to a single owner, and there are many others who have flocks nearly as large. The sheep runs or stations are leased from the government in large sections, at the low rate of about $2.50 per square mile, and on long leases. Some of the larger runs embrace as much as 2000 square miles, an area nearly as large as some of our smaller States. These sheep runs or farms are so numerous, and the amount of wool produced so enormous, that its effect on the market is felt all over the world. Buenos Ayres, Paraguay, and Uraquay in South America, are becoming important sheep districts. From the richness of soil, temperate climate, owners will

be able to grow the finest-combing wools, and seriously affect our markets. The lands in South America are fine for grazing; rich, and generally well watered, and must become one of the first wool-producing countries of the globe, when enterprising wool-growers take hold of it. The natural soil of these Republics is so fertile, and the pasturage so rich, and the climate so equitable, that were the government stable and sure, the industry would assume vast proportions.

MEXICO.—Good grazing lands can be leased in large tracts at a rental less than one-half a cent an acre, or be bought for ten cents an acre, or less, and were the government stable and good, sheep-raising would soon gain a foothold and be a rising competitor in the markets for wool. We do not mention other foreign wool countries, for all except Russia, and perhaps Spain, do not export wool in quantities to seriously affect the wool markets. They grow largely for home consumption, and supply the home demand and lessen our export market.

LAMBS.—The flock-master will find the most careful attention of the lambing necessary. In fact, if he profits, this period must not be neglected. While we do not propose to instruct the herder who has spent years in raising, yet, there are many who only grow small flocks, and where lambs are valuable, and to them the few hints we give will be of profit. The rule that the stronger and the healthier the stock bred from, the stronger and healthier are the lambs, is true, and the importance of good bucks for sires will be manifested in the vigor of the young. The ewes should be kept in good condition, but not fat, and allowed to run in the field in open weather during winter for exercise, or at least should be allowed the liberty of a large yard. Cold and needless exposure weakens the ewe, and also makes sickly lambs. Although they may find little or no forage in the bare field in winter, yet, the sheep are greatly improved by the exercise gained by it. Exposure to cold rains and snows must always be avoided.

LINCOLN SHEEP, as bred by T. Wilder & Sons, West Chester, Pa.

The period of gestation in the ewe, is five months (150 days), and shortly before that time the ewe should be put in a roomy, dry pen, free from cold draughts and from disturbances of any kind. If the sheep have been properly kept with a change of food, with a slight increase of grain, a month before lambing, and a small supply of clover hay added, the lambing will not only be easy, but the lambs will be fine and vigorous. But a small loss will occur, and the lambs will care for themselves with little attention. If the sheep have been kept and treated kindly, they will be easy to handle, and are easily caught and separated. After lambing, the ewes may be fed potatoes, turnips, pumpkins, &c., with the grain and hay, and the milk production gradually increased as the lambs increase in size. In sheep-breeding, care must always be taken to make no sudden changes of feed or pasture, but gradually if you want a sound and healthy flock.

When a lamb is taken to the fire to warm, and the ewe will not own it when returned, usually, if the lamb is wetted by milking the mother, the smell of the milk will reconcile the ewe to the lamb, even if it be a strange one. Lambs frequently die of constipation when a week old, this seldom occurs in cases where the ewes have been well kept, and the milk rich and healthy, or where the feeding of roots is practiced after lambing. Roots fed before will occasionally cause too free a flow of milk, and many breeders think also abortion. Where ewes are too free milkers, they are to be carefully and regularly milked, until the lamb can consume all the flow. Young lambs will soon learn to eat ground feed, which is best fed in a separate enclosure, with round slats or stakes set far enough apart to allow only the lambs free access. The enclosure will soon be found by the inquisitive lambs, and will soon be filled with them, and the older ones will consume more feed than one would suppose possible, and will make a rapid growth. The youngest lambs will soon imitate the older, and be found with them nibbling at the grain. Equal portions of oats and corn ground together is the best. The ewes should be kept well-watered wtih fresh water daily, and regularly salted, either by keeping a lump of rock-salt in the pen, or sprinkling the fodder with salt-water. Caution should be used not to keep a lump of rock-salt long at first before a flock of sheep, for some of the stronger ones will be so greedy for it, that they will eat so freely of it that the salt will kill them. After they have become accustomed to it, a lump should be kept by them always. Castration and docking of lambs should be done early, as early as the first week, if done at all.

Lambs are usually weaned at four months, or earlier, and should, when they are to be weaned, be turned on some short, rich pasture, freely watered, and should short pasturage require it, be fed somewhat on grain. The intelligence of the farmer must be his adviser in feeding, for any neglect on his part will run down his flock and lessen his profits. Corn fodder does well for sheep with a feed of hay for a change; but always so feed that the animals are kept active.

Sheep pens should be kept well littered, and if a smell of ammonia is perceived, the pen should be cleaned or land-plaster freely applied to it. Care should be taken that the ewes, when the lambs are removed in weaning, do not suffer from the continued flow of milk. The English breeds are such excellent milkers that they especially require attention. All they need is to be occasionally milked, and if done timely, no caked udder will result. The spring lambs destined for the butchers, should be forced into growth by judicious feeding, as rapidly as possible, while those intended for breeding, should be kept in only good, healthy growing condition, if you desire a healthy, rugged breed of sheep.

WOOL.—We shall pass by shearing, for it cannot be taught only from a practical shearer. The eye is to be taught, not the judgement, and hence the eye must see the performance to become an adept in the art. We will only say, good fleeces can only be grown by a regularity of feeding, and a proper protection from excessive cold. Sheep in poor condition, if given an abundance of rich food, will cause a new growth of wool to take the place of the old, stunted growth, which, as the new growth starts, will fall off and leave the sheep bare in the midst of winter. The same may occur in changing from the coarse or scanty feed of winter to pasture in the spring. The wool increases or decreases according to the condition of growth, and will be uneven in fineness and break up into short pieces at the places where the changes occur. Such wool is poor and worthless to the manufacturer, and does not merit a price. Exposure to colds and storms act similarly on both sheep and wool.

DISEASES.—We shall carefully consider diseases, not only to enable the breeder to aid in their cure, but what is of far greater importance, to enable the grower to know how to prevent them. We shall give the cause of the diseases and the usual symptoms of them, and point out a radical means of cure, but would say at the outset, that prevention is better than cure.

FOOT ROT.—This is one of the troublesome diseases that is likely to occur on wet soils or damp pastures. The disease is contagious, and will run through a flock. If neglected, as its name indicates, it will rot the foot so that the hoof will come off, and the sheep perish. The common observer will not fail to notice that the foot of a sheep is very much smaller than is in due proportion to the size of other domestic animals, and by a continued running in moisture, it becomes softened, and spreading under the weight of the sheep, ruptures the union of the hoof to the foot, and causes the inflammation that produces the disease. Such a view is rendered more probable from the fact that the first appearance occurs at the top of the cleft over the heel of the foot, where the greatest strain occurs, and follows the walls of the cleft until the inflammation penetrates between the fleshy sole and the hoof, which finally ulcerates and comes off. If wet pastures are to be used, drive the sheep to them, and when they cease feeding, take them away to a dry pasture or to the fold, where the pen is dry and well littered, and then when they need feeding, drive away to grass again and back to the fold. This will reduce the exposure and lessen the danger. Foul, dirty, and wet pens and runs are also to be avoided by the frequent use of litter. When contracted, separate the sheep at once and immediately examine the feet. The first indication will be a little inflammation and soreness, which we have described. At once clean the foot well, pare off the diseased portion of the hoof carefully, and apply a mixtrue made of one pound of blue vitriol (sulphate of copper), and a half pound of verdigris (acetate of copper), pulverized finely, and mixed with one pint of linseed oil and one quart of wood-tar. Apply every 3 days, until a cure is affected. Wash clean before each application. The hoof must be

kept well pared, that the mixture may reach the disease, or the remedy is useless. Sometimes a scald or foul foot is mistaken for the foot rot. The symptoms are very similar, and it may be regarded as a mild form of the disease. It is not contagious, but in some cases, if it is long neglected, it may run into the contagious foot rot. A very simple plan to cure the scald or foul, is to separate the hoofs and sprinkle in the cleft, some finely powdered blue vitriol (sulphate of copper), which will usually be sufficient. In more severe cases, soak the foot ten minutes or more, or until it is thoroughly saturated in water, in which has been dissolved all the virtiol the water will hold. This will usually cure the disease. Keep the sheep, after they are taken from the vitriol, on a dry floor for a few days, and if the symptoms do not abate, dip again. Feed well while the cure is being effected. Where many are to be treated, it is best to make a shallow box, large enough for several sheep, and cover the bottom with two inches of the vitrioled water. Then gently drive the sheep into the box, which should be so covered that they cannot jump out, and let them stand fifteen minutes. The feet will then be well soaked, and a fresh lot can be put in. This plan is safe, easy and effectual. Care must be taken that the sheep do not drink the water, for it will poison them.

SCAB is another contagious disease, and is generally neglected until the sheep are all more or less affected and the flocks run down. The disease is caused by a small spider that burrows in the skin, and is similar to the itch that affects the human family. These insects increase very rapidly and soon make large sores, which are still further increased by the rubbing of the sheep against any projection they may find, and the constant rubbing increases the spread of the disease and loosens the wool from the sheep. The cure consists of poison that will kill the insects and their eggs effectually, and not injure the sheep. This may be done by tobacco, arsenic, terebane, mercurial preparations, and many others. The use of poisons that are like arsenic, mercury, and tobacco are not to be commended, for they are dangerous to use, and frequently injure the sheep. We give what we deem the best remedy, if properly prepared and used, as it will be a certain and sure cure at one application. Take a gallon of terebane, which is the liquid residue left after the distillation of carbolic acid, also called cresylic acid; it is not only better, but cheaper than the pure carbolic acid; and two pounds of hard soap, and set them in an iron or earthen vessel; set the vessel in a larger one, the space between to be filled with water. The whole gradually heated to dissolve the soap and terebane. Do not allow it to boil. When mixed thoroughly, cool and add a pint of oil of turpentine. The use of the soap is to form an emulsion that will dissolve in water, as the terebane alone will not mix with water. The terebane must not boil, and for that reason water is used between the two kettles to prevent it. The kettle must be carefully watched, and as soon as the mixture is complete, set aside to cool, and when cold add the turpentine; put away in carboys for dilution and use. The soap should be cut up into fine pieces, to make it dissolve, or finely shaved, which is better. The mixture, when completed, should be diluted with 100 gallons of water, and the sheep dipped into the solution. If the terebane is not dissolved, it will float on the water, and the first sheep that is dipped will receive all the terebane, and would probably be killed by it. Should the sheep be at all injured by the dip, wash them with warm water and soap. The mixture will kill the scab insect in two minutes.—*P. O. Rep., 1869.*

Mercurial ointment, thoroughly mixed with four times its weight of lard, and rubbed on the head and the wool, parted every four inches in straight lines from the head backward toward the tail, and the ointment rubbed in well, is good. For a full-grown sheep the mixture should not exceed two ounces, and for a lamb half an ounce will be sufficient. A second slight application may be necessary.—*Youatt.* This ointment will injure sheep if they are not carefully housed from the wet for a few days after use. One pound of sulphur, gradually mixed with a half-pound of oil of tar, well rubbed down with two pounds of lard, and applied the same way as the mercurial ointment, is not poisonous, and is sure and effectual.—*Randall.* The arsenical dip is made by dissolving one pound of white arsenic (arsenious acid) in twenty-four gallons of water, and used as a dip. After shearing, the strong tobacco solution may be employed. All these dips must not be allowed to get in the eyes or nostrils of the sheep, for being powerful enough to kill the scab insect, are also powerful enough to greatly injure the sheep, and if not carefully done and the sheep cared for afterwards, flocks may be lost.

Ticks are removed the same as scab, but much weaker solutions will suffice. The grubs in the head are small worms hatched from an egg laid by a fly in the nostrils of sheep, that crawls up the nose, and will finally kill the sheep if allowed to remain. The sheep affected with them make very violent efforts to expel the worms by sneezing, protruding their tongues, and frequently rearing on their hind legs as if in great pain, and die of exhaustion. Among the many remedies, the easiest and best is to use a long-nozzled syringe, the nozzle at least six inches in length, small and very smooth on the point. Take a half-teaspoonful of turpentine and insert the nozzle in the nostrils of the sheep, and quickly inject the turpentine as far up as possible.

PAPER SKIN. is a disease that affects sheep mostly east of the Mississippi. The disease does not appear to be well understood, but is supposed to result from intestinal parasites in the sheep, which causes yearlings to be of a waxen-white color, and general debility and loss of vitality of the lambs or young sheep. The best remedy, so far, appears to be to take equal quantities of turpentine and whiskey, well mixed by shaking, and give a teaspoonful at a dose, either by a syringe, down the throat, or from a small, strong, long-necked bottle. The use of finely-powdered copperas with the salt in salting, is highly recommended. The usual proportions are one-twentieth part of copperas (protosulphate of iron) to the salt. This sometimes increased to a tenth or more in severe cases. Other diseases will be treated in our stock notes in future numbers of the FARM AND GARDEN, which include flukes or fluke-rot, dysentery, diarrhœa, colic, loss of digestion, scours, and similar diseases.

SHEEP-GROWERS' POINTS.

Avoid wet pastures as far as possible.
Avoid rough usage and rough keep.
Avoid needless exposure to storms and rains.
Avoid sudden changes of different feeds.
Avoid diseases in buying new sheep.
Be sure and sell old sheep early.
Be sure to feed fattening lambs well.
Be sure at night that no dogs are about.
Be sure to get good bucks for crosses.
Be sure to water them well.
Care is repaid in sheep as in other stock.
Care should be taken to avoid colds.
Care in turning noses of sheep prevents bots.
Care in shearing avoids cutting and sores.
Care in lambing season will save lambs.
Do not promise a boy a lamb and yourself the sheep.
Do not allow a pond of water in the sheep pen.
Do not sell all the best sheep.
Do not keep all the poor ones.
Do not waste grain in feeding without boxes.
Early lambs bring the most money.
Early purchasers pick the best sheep.
Early doctoring cures most diseases.
Early castration of lambs is desirable.
Early serving the ewes makes early lambs.
Freedom from worms, lots, and scabs.
Freedom of pastures from poison laurel.
Freedom of all fodder from ergots and smuts.
Freedom from vicious rams and sheep.
Freedom from a lazy shepherd.
Get all the best works on sheep.
Get a thorough knowledge from them.
Get a good sheep shed.
Get bucks of the best breeds for crosses.
Get all the manure possible from sheep.

We give an illustration of the Scotch Colly Shepherd Dog on page 3. They are of medium size, very gracefully shaped, and have long, silky hair. They are noted for their great intelligence and affectionate dispositions. They are valuable in herding sheep and driving cattle and can be taught many other useful habits. The subject of our illustration, "Bobby," was imported by Mr. W. Atlee Burpee, the noted seedsman and live stock dealer of Philadelphia, who brought him from Scotland, while on one of his numerous trips abroad.

MERINO SHEEP.

Our illustration on page 2 represents the ram, "Vengeance," of Missouri Register. He was sired by H. S. Brookins "Rip Van Winkle," the heaviest shearing ram ever in Vermont. $8\frac{3}{4}$ pounds Vengeance sheared at a public shearing April 2nd 1885, $37\frac{1}{2}$ pounds. We are indebted to Mr. H. Y. Pugsley of Plattsburg, Mo., for cut and description.

ORCHARD AND SMALL FRUITS

Conducted by Eli Minch, Shiloh, N. J.

DOWNING'S EVER-BEARING MULBERRY.

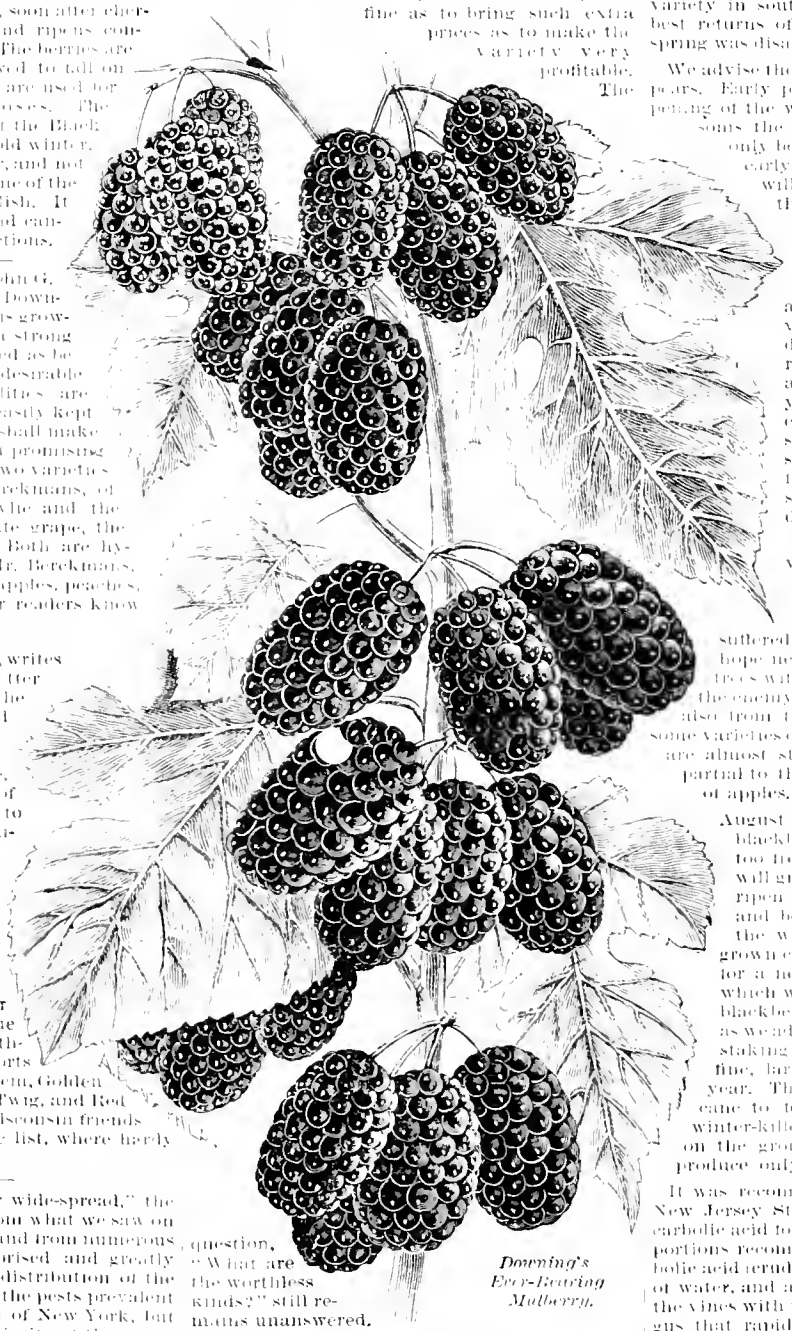
We give a cut of a much-neglected fruit, Downing's Ever-bearing Mulberry, which originated from the seed of the Multicaulis, at Newburg, N. Y. Mr. Downing says of this mulberry: "The tree is very vigorous and very productive, and is surpassed by none except the Black English, and possesses the same rich, subacid flavor. It continues a long time bearing. Fruit cylindrical, an inch and a quarter long, and nearly half an inch in diameter. Color a purplish or an intense blue-black at full maturity. Flesh juicy, rich, and sugary, with a slightly vinous flavor. It continues in bearing a very long time." The Downing is called ever-bearing because the berries begin to ripen in July, soon after cherries, and bears very freely and ripens continuously for a long time. The berries are usually not picked, but allowed to fall on clean grass as they ripen, and are used for the table or culinary purposes. The Downing has the advantage of the Black English, it being hardy in a cold winter, and being also a better grower, and not liable to canker, which are some of the drawbacks of the Black English. It is not as hardy as we wish, and cannot be safely planted in all sections.

We have received of Mr. John G. Burrow, of Fishkill, N. Y., a Downing grape for trial. The vine is growing finely and appears to be a strong grower. The grape is described as being a most excellent and desirable large one. Its keeping qualities are said to be remarkable, being easily kept until after the holidays. We shall make a careful note of this new and promising variety. We are also testing two varieties of grapes from Mr. P. J. Berckmans, of Augusta, Ga.; the Peter Wylie and the Berckmans. One a fine white grape, the other an excellent red one. Both are hybrids. We also have from Mr. Berckmans, for trial, several varieties of apples, peaches, and plums. We shall let our readers know about them.

B. S. Hoxie, in the *Iowa Rural*, writes that in answer to a circular letter of his to the members of the Wisconsin State Society and others in the Northwest interested in fruit-growing, he received very general response, and finds the following list of eight varieties best adapted to Wisconsin, on account of hardiness, productiveness, and quality of fruit, viz.: Duchess, Wealthy, Fameuse, Pewaukee, Plumb's Cider, Walbridge, Tallman, Sweet and Wolf River. Of the above list, the Duchess and Wealthy are spoken of as being *iron clad*. This list is very similar to the one we gave sometime ago. In southern and southwestern Wisconsin the reports are favorable to the Roman Stem, Golden Russet, Fall Orange, Willow Twig, and Red Astrachan. We advise our Wisconsin friends to pay attention to the above list, where hardy apples are so desirable.

Under the title of "Danger widespread," the *Rural New Yorker* says: "From what we saw on a recent visit to the country, and from numerous letters received, we are surprised and greatly alarmed at the wide-spread distribution of the canker worm. Not only are the pests prevalent in New England and in most of New York, but they have spread into a majority of the States and Canada as well. Thousands of orchards are scourged and blackened as though visited by fire, and in others ten thousands of trees are more or less bare of foliage, as in winter." We are not surprised, neither are our readers who read our "Orchard Insects, No. 3," in our number of August, 1881, where we said the canker worms were gaining headway rapidly; and again last May we said of the canker worm that "if no late frosts occur, they will be a scourge to the apple orchards." We always give our readers earlier information of insect pests, and how to reduce them.

Hon. T. T. Lyon, of South Haven, Mich., read a paper at a recent meeting of the Mississippi Valley Horticultural Society, on "How to get rid of worthless fruits." We know of no better way than to cut down or grub up all the worthless kinds, and plant no more. This, we think, would get at the root of the evil. But the question, "What are the worthless kinds?" is a more serious one to answer. While the Baldwin is valuable for the New England States, Northern Michigan, and New York, yet farther south it is only a fair late summer or early fall apple, and worthless as a keeper. All fruits vary with soil and climate, and become valuable or worthless as affected by surrounding conditions. Thus it often happens that some varieties do well certain seasons and fail, and again become fruitful. These changes are often sudden and unaccountable. How then, are we to tell what will be the valuable or worthless kind? Some varieties of fruit are often worthless from their habit of overbearing; the fruit in such cases is so small as to be worthless. Others are very light bearers, and the fruit, from that cause, is so fine as to bring such extra prices as to make the variety very profitable. The question, "What are the worthless kinds?" still remains unanswered.



Downing's Ever-Bearing Mulberry.

At a recent meeting of the Western New York Horticultural Society, the merits of the Kieffer pear were discussed. Mr. Willard spoke highly of the Kieffer as a fine-looking pear, selling well in the market, and of better quality than the Clargeau. Mr. Green said he should be sorry to have the society recommend the pear. Mr. W. Brown Smith, of Syracuse, said he ate some last fall, and was surprised to find them so good, and agreed that they were better than the Clargeau. Mr. Moody found them quite good. Mr. Ellwanger had it in his office and no one would eat it. Mr. Coleman would as soon have a well-ripened Kieffer as a Bartlett. Mr. Hammond liked it eaten in December. Mr. W. C. Barry called it an inferior pear.—*Western Rural.*

These opinions appear, coming as they do from well-known, practical fruit-growers, to be very conflicting. As we have said, the Kieffer pear, to be of good quality, requires thinning severely, and also must not be so closely planted as to keep out the warm suns. The pear is such an enormous bearer that it cannot ripen in good condition all its fruit, and thinning it must be practiced. By so doing, the flavor and quality of the pear is greatly improved. The way the pears are grown and ripened will account for the great diversity of opinion regarding it. We believe cutting back the rampant growth of the Kieffer, as is done in the peach, will largely increase the size and improve the quality. We hope our friends will try our recommendation on a few trees and write us the result.

FRUIT NOTES.

We see the Sucker State strawberry is very highly recommended by the *Farmer and Fruit Grower*, of Anna, Ill. This berry appears to bear a cold, unseasonable spring better than any other variety in southern Illinois, and is giving the best returns of any for that section. The cold spring was disastrous to the tender varieties.

We advise the early picking and marketing of pears. Early picking allows the growth and ripening of the wood and making buds for blossoms the coming year. The fruit is not only better in quality for being picked early and house-ripened, but the tree will give a better crop and finer fruit the following year. The prices for early shipments are also better.

The Salome apple seems to be growing in favor in Illinois, being very hardy, productive, and a long keeper. The apple is of very good quality, size only medium, color from a light to a dark red or nearly so. Bears well annually, but more heavily alternate years. Keeps well until May or even June. The *Western Rural* says in the issue of June 17th, that samples received at that office from Mr. A. Bryant, were then as sound as bullets, and gave evidence of being good keepers.

The rose bugs, with us, have very materially injured the fruit prospects. Of some varieties they have consumed all the young fruit, while other varieties have suffered more severely in foliage. We hope next year to be able to spray our trees with arsenic, and materially reduce the enemy. Grapes and cherry trees suffer also from their attacks, and the foliage of some varieties of apples, such as Hyde's Keeper, are almost stripped by them. We find them partial to the foliage of only a few varieties of apples.

August is a good month to pinch back blackberries and raspberries that grow too freely. If kept in check the canes will grow stalky and well-branched, will ripen up their wood very thoroughly, and be in fine condition to withstand the winter. Do not pinch back overgrown canes too freely late in the season, for a new and tender growth will form which will be sure to winter-kill. When blackberries and raspberries are cut back as we advised last month, very little if any staking will be required, and a crop of fine, large berries will be assured next year. There is no use in allowing a long cane to form, the end of which will be winter-killed, and when in bearing will fall on the ground for a want of support, and produce only a few small, sandy berries.

It was recommended to the members of the New Jersey State Horticultural Society to try carbolic acid for the grape rot. The proper proportions recommended were one ounce of carbolic acid crystals, to be dissolved in five gallons of water, and as soon as the rot appears spray the vines with it. The grape rot is due to a fungus that rapidly spreads when conditions are favorable, and rots the grape. It is claimed that carbolic acid is fatal to fungoid growths, and will destroy them. Those of our readers who can we hope will try this easy experiment and report to us whether the use of carbolic acid is of any benefit in the grape rot. We do not believe it will be of any practical use in the vineyard. The experiment is so easily tried, we hope to see it made and reported.

The *Gardener's Monthly*, in a recent number, says that the yellows of the peach occur in potash soils as well as in soils poor in potash; also that the yellows always appear to affect peach trees that grow in wood-pile dirt. We beg leave to differ. The finest, largest, and longest-lived peach trees are always found in soils richest in potash. In such soils the yellows will usually be

found to be the work of the peach borer, and not the ordinary yellows. We find, in every case we examine, that peach trees grown in wood-pile dirt are the healthiest trees. We have seen very many of them, and never saw the yellows among them. Peach trees come up freely around the logbanks of saw mills, and in the bark, chips, and rotten wood, and are always healthy. The supposed fungoid of the peach yellows is not bred from the fungus of rotten wood, as the potato rot may be produced from it.

No better season to cut off water sprouts, suckers, and *small* limbs from all kinds of fruit trees than August. Such is the growth of the tree in August that few new suckers are reproduced, and when once cut off the job is done for good. Cut at any other season, the sprouts are rapidly reproduced, and the work is all to do over again. It is only with difficulty, at other seasons, that such suckers and sprouts can be subdued. We do not advise the cutting off of large limbs, for the reason that trees will not stand such butchering in August, and all large limbs are to be left for winter or spring pruning. For the cutting off of all small branches and thinning out tops, no other month is so desirable. Cut all the water sprouts and suckers closely, and do not bruise or injure the bark of the tree.

We find the U. S. Entomologist recommends the preparing of insecticides with what appears to us to be too large a proportion of poison to the other materials used. The proportion of Paris green is given as three-fourths of a pound of Paris green to 20 pounds of flour, or the same amount to 40 gallons of water, when used in spraying. With such large proportions the foliage will be injured, and no better result will follow than if 50 pounds of flour or 100 gallons of water are used. Use weaker solutions and spray more thoroughly. The department also recommends one-fourth of a pound of hellebore with one gallon of water. We recommend one heaping tablespoonful to two gallons of water, which will be found, in practice, the proper proportion. The *Rural New Yorker* uses one heaping tablespoonful of hellebore and two of alcohol, and that used with two gallons of water.

The *Farmer's Review* says: "Pear blight is the source of much annoyance to fruit-growers. Of late years it has been recommended to seed down a pear orchard to grass as a preventive of blight." The editor of the *Germantown Telegraph* says: "We never had a tree to blight in grass, though they were of all ages, from three years up to one hundred and seventy-five, and of about ten varieties, while scarcely a year passes in which we do not lose one or more by blight in cultivated ground." We first saw grass mentioned as a preventive of blight in our columns in May, 1881, and more fully by T. V. Munson, of Denison, Texas, in our June number of last year. We are glad to see that the information we gave our readers at that time has been so fully wrought out by the experience of so many practical growers. We seldom advance new theories, and should not then have done so, had it not been so forcibly proved to us by repeated observation of the advantage of the plan to which we gave circulation.

We see advised the use of bottles filled with sweetened water hung in the trees to entrap the Codling Moth. The time is wasted in all such experiments. The Codling Moth belongs to the rather intelligent order of insects, and knows the difference between a sweet apple and a bottle of sweetened water. They are not taken in by it. We saw recommended, a few years ago, the use of sweetened corn cobs hung in plum trees to entice the curculio to lay their eggs on them instead of the plum; when by burning the cobs the eggs would be destroyed. We saw in some plum trees, when traveling, almost as many corn cobs tied as there were supposed to be curculios. The curculios from being so long in the business of stinging plums, knew at once that a fraud was being perpetrated on them, and stung the plums as usual. We hope the class of intelligent writers will increase, and all quack nostrums we see going the rounds, like tramps, and equally as worthless, shall be consigned to the waste basket, where they properly belong.

We earnestly advise in sections where there is any danger of fruit trees winter-killing, that the trees be cultivated not later than July. If weeds start or if the grass is troublesome, and clean culture desirable, use a hoe to eradicate them. Do not loosen the ground, but scrape the surface. The hoe needs to be sharp, and the surface soil only skimmed over. Later and deeper cultivation makes a late growth of new and soft wood that does not ripen, and will either winter-kill or be so much injured by the severity of winter that the grain of the wood will be ruptured by freezing and thawing. The immature wood being full of sap, the injury will be so great that in spring the flow cannot take place, as the cells and fibre are so destroyed that a stagnation of the sap occurs, and blight follows, which injures the tree. Make all the wood you can early in the season. Later check the growth and ripen the wood, and your trees will be hardy and not so liable to scalds and blights the following spring and summer.

We see going the rounds of our exchanges, the recommendation of a "Connecticut Farmer" to rid the orchards of the canker worms by the use of bands coated with some sticky substance, like printers' ink. This entraps the wingless females in their ascent of the tree to lay their eggs. It looks very well on paper, but in practice will seldom be found useful. The females of the Spring canker worms are often found ascending the trees, on a warm day, as early as February, if a thaw occurs, and when the ink is hardened by cold the female, which will endure freezing, will easily pass over the surface, ascend the tree, and lay their eggs which are not hurt by cold weather. The young worms are often all swept off by cold spells following their hatching. "Connecticut Farmer" also says: "There are two broods each year, and the bands should be used in May and again in August." What nonsense the poor farmer is entertained with! The canker worm is hatched and fully grown in May, at the time when he advises the use of bands to keep the eggs from being deposited. There is but *one brood* in a year of the spring or fall canker worm. Both appear at once in the spring. The Fall species lay their eggs usually in October and November, often during freezing weather, not in August or the *Connecticut Farmer*.

Our esteemed and valuable contemporary, the *Western Rural*, says somebody in the East has been criticising some of the excellent results of Mr. Peter M. Gideon's experiments in apple culture, and that Mr. Gideon has sent to the *Home Farm* a red hot reply. We have not seen the reply of Mr. Gideon, and do not know of what he complains. We know of no one in the East who does not give Mr. Gideon all the credit he is justly deserving, and who does not believe, with the *Western Rural*, that he is certainly entitled to his country's gratitude. We do know that Minnesota has not done fairly by Mr. Gideon, who has sacrificed *thirty-one years* of the best of his life to promote her pomological interests. Mr. Gideon struggled not only with the climate, to make Minnesota a fruit-growing State, but also against poverty, and spent all the little means he had to solve the problem of fruit-growing for that section. Has Minnesota done him justice? Has the State given him the honors to which he is justly entitled? Was Mr. Gideon allowed to once represent the State at any of the pomological exhibitions either at Richmond, Philadelphia, Cincinnati, Chicago, St. Louis, Kansas City, or New Orleans? He was compelled not only to wrestle with poverty, but also to see others fill the place he was justly entitled to fill, and gain the information he so eagerly desired to aid him in the pursuit of the problem to which he had devoted the energies of so many years. We did not see Mr. Gideon at the pomological exhibit at New Orleans as much as we desired, for no one could have done her more honor. We met Mr. George P. Peffer, of Wisconsin, who has done for that State something as Mr. Gideon has for Minnesota, and Wisconsin honored herself in naming Mr. Peffer to represent her at New Orleans. To our mind, when we met that sturdy representative of Wisconsin pomology, whose face was bronzed by exposure, and his hand hardened by toil. The hearty shake of it struck us that Wisconsin had sent one who did her more honor and her pomological interests a better representation than could have been done by all the political favorites or dudes that she could produce. We learn, with regret, that Mr. Gideon proposes to leave Minnesota, feeling that the State has not done him justice. We duly appreciate his sacrifices for her pomology.

COMMENTS FROM THE PEOPLE.

Harry Metters, Olyphant, Pa.: "I have learned more than five times the cost of your paper from the three numbers."

Mrs. R. E. Baldwin, Tionesta, Pa.: "I like THE FARM AND GARDEN very much, as it has such entertaining instruction and information on just such subjects as we need to know about. I take solid comfort reading it, although I have no means of gratifying my love of farming, only in rearing and caring for a few fowls."

J. W. Olds, Petersburg, Ill.: "I find since my FARM AND GARDEN ceased, that it was one of the brightest and best papers that comes to my reading table, and I cannot do without it."

W. B. Affleck, Chamberlain, Dak.: "I wish THE FARM AND GARDEN could be pushed. It is an invaluable little magazine. Everybody that either farms or gardens for profit should take it. It is pure, interesting, and wonderfully instructive."

Orville Bassett, Springfield, Ill.: "I think your paper is the best paper printed of the kind, and I have carefully distributed all the papers you have sent me, among the farmers that go by my place."

Mrs. L. E. Brubaker, Uniontown, Md.: "My roses arrived safely about a week ago. They were in excellent condition, unsurpassed by any I have yet received by mail, and I think every one will grow. Please accept my thanks."

Henry S. Slipp, Watsonville, Cal.: "THE FARM AND GARDEN is a most welcome and highly appreciated visitor around our hearthstone, and we await its kindly and monthly greetings with anxious and fond expectancy. Long may it live to cheer and instruct its many admiring friends and patrons."

Miss E. V. Callendine, Fowlers, W. Va.: "Your letter with enclosure received, for which accept my thanks. I feel quite proud to think I was one of the lucky ones in winning the gold. I am so well pleased, I will feel like working for such a reliable firm again."

John J. Dwyer, Plymouth, Pa.: "THE FARM AND GARDEN pleases me very much. It is a 'daisy.' Long may it live. It may come at the eleventh hour, but it is never too late to do good. I have enlisted with you for life."

Orders for our special Strawberry Number (April, 1885,) can be promptly filled. Send five cents in stamps.

LIVE STOCK.

ECONOMY IN FEEDING.

It is a common expression that a certain animal on the farm does not eat much, and this is considered as an advantage. Just the opposite should be desired. In feeding animals, the desideratum is the conversion of food into meat, milk, or butter, and the greater the feeding capacity of the animal the greater its usefulness, provided it *assimilates* its food. Like any other machine, the animal is intended to manufacture the raw product into a commercial commodity, and the more of the raw product it uses the better. We must not overlook the fact, however, that some animals do not give as good results on the same quantity of food as others, and it is there the farmer must look. He will then learn that something depends upon the *kind* of animal he uses, exactly as any manufacturer is affected in his production by the kind of machine he uses. Some machines will perform twice as much service as others with the same power, but with a first class machine he will not object to the power, if its capacity requires it to be great. An animal should be required to give equally as good results for its care as the machine does to the manufacturer. It is *business*, and does not pay unless conducted on the most economical system. Economy of feeding is that method which uses only those animals that are capable of digesting and assimilating large quantities of food —the larger the better, and the animal that eats but little and produces accordingly, should be discarded.

THE GROWTH OF YOUNG STOCK

But few farmers use the scales in determining the ratio of growth among their young stock, and but few of them can tell how much a young animal ought to weigh at a certain age. Of course, a very young animal grows faster than when further advanced, but up to a particular age it will increase more rapidly in weight than when very young, as it has greater feeding capacity. Using live weight as a comparison, some of the thoroughbreds will weigh a pound for each day's age if of hogs and sheep, and two pounds if of cattle. Berkshire pigs are not uncommon that reach 100 pounds when three months old, while lambs will attain equally as high weights if of the large breeds. A shearling ram was exhibited last season that weighed over 300 pounds, while hogs exceed that weight at ten months. Steers sometimes weigh 1,700 pounds when two years of age, while individuals in competition are even heavier.

Those who produce such animals use the scales often. They know exactly what progress they are making, and feed to overcome defects. They combine the qualities of the sire and the dam, and endeavor to get as much as possible in the shortest space of time. They know the breeds and use them. They are aware of the fact that some breeds assimilate more food and give off less waste than others, and as their object is to convert food into a suitable product, they endeavor to do so quickly and economically. Farmers, therefore, will find it to their advantage to frequently weigh the young stock, and note the ratio of increase in weight. By so doing, they will be enabled to discover the cause of any failure on the part of the stock, and to correct all mistakes. The time is coming when no farmer will be satisfied with less than two pounds a day from birth to his two-year-old steers, nor less than a pound a day to his lambs and wethers up to one year of age. After approaching maturity the gains are not so great, but previous to that time every young animal should be pushed.

STOCK NOTES.

HOG CHOLERA.—It is generally conceded that when hogs have plenty of grass, they are exempt from cholera. It is the sameness of diet that has heretofore done so much damage, and farmers have learned a lesson therefrom.

YOUNG STOCK.—Calves and colts should be turned into the pasture as soon as old enough at this season, as the matured grass does not disorder the bowels as is the case when they are turned upon the young grass in the spring.

BREEDING ANIMALS. The chances are that a very fat animal will not breed. This is true with nearly all classes. Should they breed, however, the young will be weak at birth, without sufficient vitality to help themselves. The cow is kept down, by being frequently milked, to near her period, but mares should be moderately worked, while sows and ewes must be fed on bulky food, such as grass, with no corn, and only a small allowance of grain of any kind. The thoroughbred animals are not as good breeders as the natives, owing to their tendency to take on fat, and hence great care must be taken in feeding them.

FLAXSEED FOR STOCK. Leaving out the real value of flaxseed as an article of food for stock, it will improve all animals to which it is fed by loosening the hide, regulating the bowels, and rendering other kinds of food more palatable and digestible when mixed with it. A handful daily to a horse or cow, will more than return a compensation for its use.

ENSILAGE AND CONDENSED MILK.—The opponents of ensilage claimed that the factories would not use ensilaged milk for their trade, but upon interrogating the manufacturers, they admitted they had no reason for such prejudice, and that all of them rejected the milk because one of the others did so. They admit, however, that they know nothing of its qualities.

FAT PIGS. Should the sow come in during the warm months, feed her on slop composed of scalded middlings and ground oats, with all the grass and weeds she can eat. Keep the pigs growing on the same kind of food, so as to have them in good condition by winter. They will need but little corn, which should be given once a day after the cold weather sets in.

MILK AND BUTTER RECORDS.—Although some journals ridicule the great yields on the part of individual cows, claiming that the value of the food is greater than the product, yet, it is gratifying to know that our domestic animals have attained a greater usefulness, the record indicating what *can* be done under favorable circumstances. Improvement is rapid, and the records of a few may be general among all in another decade.

BUTTER IN FAMILY USE. If you do not intend to ship your butter, try this method of using it on the table. As soon as the butter comes, draw off the buttermilk, and add strong salt and water. Give the churn a few revolutions, so as to wash out the buttermilk, draw off the water, take out the butter, drain off the water as much as possible, and place the butter on the table in the granular state, without working it. All the aroma will be retained, and it will be a perfect luxury.

JUDGING BY COLOR AND HAIR. Now that the scrub-and-thoroughbred has been eliminated from the Jersey standard, the claim has been made that the milking qualities of the Holsteins may be known by the light or dark color. The sooner these outwards gas be discarded, the better. The capacity of a cow depends on her digestive organs and the poor food and scant care on four milk veins and udder, and her record at the pail has nothing to do with her outward appearance, so far as color is concerned.

FEEDING HAY IN SUMMER. It may not be generally known that when horses and cows are kept on the pasture for a good length of time, that they will gladly accept hay as a change, especially if the pastures do not contain a variety of grasses. This fact demonstrates that the stock craves something of a different character, and should be supplied. A poor pasture will not afford sufficient nourishment to mares and cows that are nursing their young, and a liberal supply of grain should be given them at night.

HEAVY WEIGHTS OF OXFORDS. In a flock of Oxfords is a young ram four months old, a twin, that weighs 150 pounds. We witnessed the weighing of the lamb, and know its age. It, by the use of thoroughbreds, a young lamb will reach 150 pounds in four months, which is greater than the weight of some of the common sheep at maturity, is it not unwise to claim that sheep do not pay as long as the common breeds alone are kept? It is not unusual for the Oxfords, Shropshires, and Hampshires to weigh 75 pounds at three months of age.

ODDS AND ENDS

Said John Wesley, "I dare no more fret than I dare curse and swear."

It is exceedingly bad husbandry to harrow up the feelings of your wife.

Never speak of a man in his own presence. It is always indelicate, and may be offensive.

Men who go through the world in armor defend themselves from quite as much good as evil.

"I would not give much for that man's religion," said Whitfield, "Where rat and dog were not the better for it.

Children can be taught a thousand times more quickly, by example than by precept, to speak kindly, to acknowledge favors, to be thoughtful and generous toward the other members of the family.

"What is the worst thing about money," asked a Sunday School teacher. "Its scarcity" replied a boy promptly.

A man has no more right to say an uncivil thing than to act one; no more right to speak rudely, than to knock a man down.

Avoid the scolding tone. The tired mother may find it hard to do this, but it is she that will reap most benefit from following the rule.

The way to keep money is to earn it fairly and honestly. Money so earned is apt to stay by its possessor. Chance gains take to themselves wings.

Eli Perkins classifies his audiences thus:—"The fidgetyites, the interruptives, the all-attentives, the hard-to-tiffs, the wont-applauds, and the get-up-and-go-outs."

Dr. Holland says: "The loafer *lies* about 'the world owing him a living.' "It *owes* him nothing but a rough coffin, and a retired and otherwise useless place to put it in."

"Woman's rights!" said a man resentfully, "what more do women want. My wife bosses me, our daughters boss us both, and the hired girl bosses the whole family."

Men and women who follow one single line of thought are always narrower in mind and more circumscribed in powers than those who have a wider field of vision and larger culture.

Said the dying Scotch Laird to his son "Jock, when ye hae naething else to do, ye may be sticking in a tree; it will be a growing, Jock, when ye're sleeping." *Heart of Mid-Lothian.*

TO REMOVE RUSTED BOLTS OR NUTS.—Apply kerosene oil liberally, and allow a little time for it to penetrate. Build a little funnel of clay about the nut, fill it with oil, and allow it to remain a few hours.

Annual income twenty pounds. Annual expenditure nineteen pounds and sixpence. Result happiness. Annual income twenty pounds; expenditure twenty pounds and sixpence. Result misery. *Wilkie Mason, &c.*

Said Luther:—"That little bird has chosen its shelter, and is about to go to sleep in tranquility; it has no disquietude, neither does it consider where it shall rest to-morrow night; but it sits in peace on that slender branch, leaving it to God to provide for it."

"What makes Mrs. Jones so popular, I am sure she is very stupid, and can hardly see beyond her nose?" said one lady to another. "My dear, sharpsightedness is not what makes a person popular. It is what Mrs. Jones does not see that gives her popularity."

The Sultan of Turkey once wishing to raise money for traveling expenses, gave notice that all government officials, whose salaries exceeded a certain sum, would for one month receive only half pay, the other half going into the royal pocket. Who would not be a Turk!

"I should so like a coin dated the year of my birth," said a maiden lady to Jones. "Do you think you could get one for me?"

"I am afraid not. Those very old coins are only to be found in collections." And yet, he cannot see why, when he met the lady next day, she did not speak to him.

A Parisian dancing-master advertises a large stock of young men always on hand, well curled, dressed, gloved, with elegant manners, discreet and animated, to supply parties having an unexpected dearth of male guests. They are to "mix in" with the other guests as distinguished strangers, the fact that they are hired at so much a head, being kept carefully in the back-ground.

When the celebrated Dr. Potts was a clerk in Philadelphia, he once carried a bill to a Quaker, who looked at the signature at the bottom and blandly asked:

"What is that, my friend?"

"That is my name, sir."

"What is thy name?"

"William S. Potts."

"Well, William, will thee please write it down here plainly, so that a witness in court would know it?"

William learned a lesson that day he never forgot.

The Poultry Yard.

CULLING OUT THE STOCK.

By P. H. Jacobs, Wayne, Ill.

The fall is the season for culling out the inferior stock and disposing of the surplus. It is a very difficult matter to go among a flock and select the best. The desire is to combine beauty, vigor, utility, and hardiness, and in making selections there will always be found objections of some kind to the best in the flock.

The proper way to select the hens that are to be retained is to first cull out all that you are *sure* you will not keep, which will leave the better ones from which to choose. This being done, examine each hen closely. In the first place, do not dispose of your very early pullets at all, if it can be avoided, as they will be your winter layers. Examine the combs, and give preference to the ones that are small, in order to avoid having them frosted in cold weather. Discard all that show signs of scaly leg, or that are so fat as to be very heavy in the rear. Choose large hens, if possible, that are well feathered, and especially if the combs are red and healthy. Some of the hens will soon begin to moult or shed their old feathers, which process requires about three months. The earlier they begin moulting, therefore, the sooner they will get their new feathers, and if they finish the process before the advent of cold weather, they will begin to lay before winter sets in, and continue doing so; but should they be late moulting, they may not lay until spring. It is best to sell all the hens that do not moult before October. Whenever it can be done, give the early-hatched pullets the preference over the old hens. Do not waste time with those hatched after June, as the chances are they will not lay before spring.

Most persons give a large rooster the preference, which is a mistake. A medium-sized, active bird is better. Nothing is more ungainly than clumsiness, and if the hens are large, a Leghorn or Dominick cock is better than one from the large breeds. The eggs will hatch better, and he will induce the hens to take exercise by calling them from one place to another. If chicks are desired next spring, for market, give the preference to yellow legs and beaks, as buyers are partial to such. But it is suggested, however, that some of the best table fowls have dark legs, such as the Langshans and Houdans.

Another point to observe in hens intended for winter laying is to have them active. Hens that squat around and act in a lazy manner, will often lay well for a while, but they usually become too fat for service when confined during the cold months. Always sacrifice the lazy hens and keep those that are active. No hen will possess all the requisites, and something must be sacrificed, no matter how carefully one may select, and the judgment of the breeder must be used carefully. First cull out the inferior stock, then decide what you want, and keep such as will come the nearest to that desire.

FORCING YOUNG TURKEYS.

The young turkey is the best, but there are few persons who make a specialty of forcing them to attain great size, allowing them only the range of the fields during the summer and fall. They undoubtedly secure a sufficiency in that manner, but turkeys are no exception to the rule, and can be made to grow much faster and larger when fed early in the morning and late at night. When they begin their work in the morning they are usually hungry, and do not become satisfied until they have foraged over quite a space of ground. We are all familiar with the fact that by varying the food of chicks, and inducing them to eat often, they will grow fast. The same applies to young turkeys. Give them a good feed in the morning, before they go to the fields, and they will show the effects of it until time for marketing them. At night they should have a good meal of grain. Size is very desirable in a turkey, and the difference of a pound or two in favor of each member of a flock amounts to a considerable sum, and pays well for the expense. Late in the season, after the cold weather begins, feed them all the grain they will eat, in order to have them as fat as possible, which will also increase the price as well as the weight.

THE SOIL FOR POULTRY.

On old farms, where the hens have had the run of the farmyard for years, there is gradually accumulated a certain amount of decomposed matter from the droppings, which is not distinguishable from the dirt with which it is mixed. This condition is the cause of gapes in chicks and cholera in adults, as has been repeatedly proved by those who have tried the experiment of feeding chicks on board floors, by which means the gapes were avoided. We do not allude to yards in which fowls are confined, but the farm-yards, in which they are supposed to have plenty of room. Gapes and cholera are more prevalent in farm-yards than in the small yards used for confining fowls, for the reason that the small yards are frequently cleaned and turned up with the spade. If the farm-yards could be occasionally scraped over, and then thoroughly sprinkled with a solution of chloride of lime or copperas, it would do much to prevent disease. What is better, is to mix an ounce of sulphuric acid with a bucket of water, and sprinkle the yards, but it is not as easily handled as the chloride of lime or copperas water. A pound of chloride of lime to ten buckets of water, or a pound of copperas to four buckets of water will answer the purpose.

PROTECTION AGAINST DEPREDATORS.

What is meant by depredators are minks, skunks, rats, owls, and hawks. These enemies cause greater loss to poultrymen annually, than all other difficulties combined. They must be avoided at night as well as during the day. The mink is the most mischievous, as he will often destroy a whole flock in one night. He does not burrow into the coop, but usually finds entrance through a knothole or some other small opening, as he is capable of forcing his body through a space that would not be supposed large enough for that purpose. There should be no openings if minks are to be avoided. They live near small running streams, and venture to great distances in search of prey. The skunk will also enter, but only kills enough for a present supply. Hence, when a single fowl is found dead in the morning, the chances are that a skunk has been there, but if a number are dead, it is a mink or weasel. Rats do not often kill adult fowls, but are very destructive to the chicks. They will not be able to secure a lodging-place, however, if the floors are not raised for them to go under. Should board floors be used, have them high enough for a cat or small dog to go in and out under them.

At night the owl will go into the coop if he can, but precautions against minks will keep the owl out. The hawk does his damage during the day, and will even attack small hens. If there are plenty of low bushes under which the chicks can find shelter, they will be safe, but as the hawk usually surveys the surroundings before beginning work, he will alight on a tree or post for that purpose—the post preferred. Knowing the habits of hawks, some persons attach a trap to the top of a post, which is erected for their special accommodation, and thereby secure them without difficulty.

POULTRY SCRATCHINGS.

Novelties.—Frizzles, Russians, Silkies, and Sultans are poultry novelties, being almost useless except as oddities. For profit they should be avoided.

The Nests.—These are the best houses in which are bred the lice. Keep tobacco stems or refuse in them always, which will prevent the lice from infesting them.

Curing Feathers.—Place them in a bag, steam them thoroughly, and then expose them to the sun in a wire-netting box, until well dried. If they are fumigated with sulphur, it will be an advantage.

Preserving Eggs.—As we stated before, dry salt is as good as any material that can be used. Pack in boxes, turning the boxes twice a week, in order to prevent the yolks from setting to the inner sides of the shells.

Dressing Poultry.—Kill by sticking the fowl in the throat, first hanging it up by the legs. Pick while the flesh is warm. Singe off the pin feathers, and immerse the bodies in cold water for twelve hours before sending to market.

Geese.—With the exception of our common breed of geese, all others have the male and female alike in plumage. Where pure white feathers are desirable, the Embden serves best, but for the table a cross of the Tolouse and Embden is better.

Bantam Ducks.—The Call duck is the bantam among ducks, and the smaller it is the better. Like bantams, they should be hatched late, in order to shorten the time for growth. They are not as profitable as the larger kinds, but are very attractive.

Nest Eggs.—Medicated eggs are unnecessary. Rotten eggs should never be used. Glass eggs are now objectionable, as they often break the eggs in the nest. There is yet an opportunity for the invention of a nest-egg that will not injure the genuine ones, such as could be made of rubber or some other substance that yields to sudden pressure, and then reassumes its original shape.

Never Grease Fowls.—Grease is injurious to fowls, and they abhor it. Many hundreds of young chicks have been killed by greasing them for lice. It should not be used in any shape except on the top of the head and on the legs, but never on the body.

Veal for Poultry.—We are informed by a prominent poultryman that he finds it a cheap mode of feeding meat to use young calves that are sold to the butchers as "bob" veal. They can be bought at a very low price, and answer the purpose of poultrymen well.

Salt for Poultry.—The supposition that salt kills chicks is true, if they are fed too much of it, but the fowls require salt as well as animals, and a small quantity should always be given them in their soft food, especially where they have access to plenty of green material.

Brown Leghorns.—This breed is one of the most beautiful we have, and excels as layers. The only objection to them is their small size and large combs. Crossed on Partridge Cochin hens, the progeny are among the best for all purposes, being of fair size, active, and good layers.

Moulting Hens.—Feed moulting hens meat three times a week, as well as broken bones. Give them a little sulphur once in a while, and avoid feeding corn, as they fatten very readily while moulting, though debilitated by the process, as the new feathers take up all the phosphates and nitrogen of the food.

Cheap Foods.—There is always a quantity of broken rice, hominy refuse, and other waste, at the grocery stores that can be utilized for poultry, not excepting the bones from meat, cheese parings, and stale bread. Boiled rice and beans, mixed and thickened with ground grain of any kind, make an excellent egg-producing food.

Late Ducks.—Ducks may be hatched this month, if desired, as they grow very rapidly and sell well when about four or five months old. At this season, if they are left to the care of the old ducks, instead of to hens, they will pick up nearly all their subsistence, and cost but very little, though it is best to feed them once or twice a day.

A Good Lice Powder.—Grind one pound of tobacco refuse to a fine condition, and add two ounces of Persian Insect Powder. Mix thoroughly and dust over the chicks. Persian Insect Powder alone, is better, but more expensive, while a mixture of the two will often answer the same purpose, with the advantage of being much cheaper.

China Geese.—Though much smaller in size than some of the other breeds, yet they lay a larger number of eggs and hatch out a greater proportion of goslings. Being more prolific, they compensate thereby for lack of size, and have proved themselves profitable with those who have given them a place on the farm. There are two kinds, the brown and the white.

Bronze Turkeys.—The gobbler, when matured, should not weigh less than 25 pounds and the hen 16 pounds. They are a brilliant bronze in plumage, and the gobblers should not have a trace of white on any part. In young birds the legs are dark, but sometimes change to flesh color in adults. The edging of the feathers on hens is generally a dull white or gray.

Dark and Light Eggs.—The supposition that dark-colored eggs are richer than those that are light-colored, is only a popular notion. The shell gives very little indication of the quality of an egg. Dark yolks are sometimes preferred, owing to the deeper color, but very often the light-shell eggs will contain darker yolks than those that are dark-colored on the shell, and something depends also upon the feed.

About Buying Eggs.—No doubt our readers have patronized the breeders the past season, and in answer to inquiries in regard to what may be expected, we will say that seven chicks from thirteen eggs is considered a fair hatch. No breeder can *guarantee* his eggs to hatch, as that is beyond his knowledge. The best he can do is to send eggs from strong, vigorous birds. Much of the difficulty is with buyers, who suppose because a hen sits well, the eggs *must* hatch, when, in fact, some hens do not create sufficient heat from their bodies for that purpose.

Cut Off the Combs.—As soon as the cocks and pullets are four months old, they may be dubbed, if of the Leghorn breed, or where the combs give promise of being very large. To do this, use a sharp pair of shearers, or a razor. Cut the comb and wattles close, and bathe the parts with strong alum water. Coop the fowls until bleeding ceases, and anoint the parts with wood-tar, to which a few drops of carbolic acid has been added. If the bleeding is profuse, sprinkle fine pulverized alum over the surface of the cuts. This process, though apparently cruel, will save much pain to the birds during the winter from frosted combs.

THE HOUSEHOLD.

WHICH ARE THE HAPPIER?

By Alice.

"Oh, if my children could only have such advantages," sighs a weary mother, as she glances out on a smoothly-rolling carriage, with its coachman in livery, and dantily white-robed children posing so gracefully among the cushions, as they take their morning drive. Those vague "advantages" seem something to be had for the taking if one will but hand out the needful money in exchange.

But facts seem to rarely bear out the supposition. The world over, the people of true mark have always been "self-made." The term itself is misleading. There are no other young men or women worthy of consideration but those who gained their places by hard work. There is no royal road, nor are the pampered children of luxury as happy as you would suppose, in the midst of their abundance.

A little prince had just received from one and another of his doting friends many choice birthday gifts. The very smallest and humblest would have, no doubt, seemed to our children enough to fill to the brim the cup of a child's happiness. But the little boy, though courteous and thankful, seemed downcast and unhappy. He was asked the cause. Did not his beautiful presents please him? Was there something else he would prefer?

"I know what I would like best of all the things in the world," he said, "but you would not allow it, mamma," and he looked longingly down into the castle yard, where a group of barefooted gardener's children were sailing a little fleet of chips, after a recent shower. "I should love to go sailing boats with them." He would have willingly sacrificed all his costly toys for an hour of such delight. Gold and gems from the mine are cold and hard, compared with the riches that come in the wake of a summer shower.

> "Out from the earth fresh odors I bring,
> I fill up the tubs at the spout;
> While eager to dance in the puddles I make,
> The bare-headed child runs out.
> The puddles are sweet to his naked feet,
> When the ground is heated through."

Let us not be too nice and careful, dear mother, and cut off unduly these small pleasures. They can never grow up but once.

OUR HELP.

By Olive.

If all housekeepers were as considerate as "a working mother," whose views are given us in June number, we would not find so many poor girls who must earn a living, so opposed to earning it by housework. The golden rule is just as applicable in the case of hired help, as it is in any other social relation. How would we wish to be treated, is a question we ought all to ask ourselves. A haughty, insolent style, such as "Mrs. Newrich" is apt to assume, is not the kind to win cheerful or good service, or to impress any one favorably with regard to a lady's importance. Such manners are never found among well-bred people. But they can make life in a house very bitter and unendurable. It is no wonder that girls are averse to such service.

A good home-mother can make a situation with her very pleasant, even to the stranger within her gates; that too, without any unsuitable familiarity, which is so subversive of all respect and home comfort. A proper reticence about her own affairs, is always wise and best on the part of a housekeeper. The opposite course always places her largely at the mercy of her undisciplined and often unprincipled helpers, and there is no end to the mischief often wrought by such an unwise course. Yet, one may be in a sense, "one of the family," on perfectly friendly, kindly terms, her interests being kindly considered without her being taken to its inmost heart. Young housekeepers, in particular, need this caution. Too often, in unguarded moments, they talk over family matters, which should be kept secret; or make comments on associates, which work mischief enough when repeated by a thoughtless girl.

A good American girl in a house, with whom we can safely trust the children, is indeed a blessing in a household. It is a blessing to a working girl also to have a good, safe home in which she can earn her living, instead of being thrown on the tender mercies of a factory and factory boarding-house.

Where one has a sensibly educated "friend" in her hired help, like "Working-mother," she may well appreciate her, and make her stay pleasant at the time, and in remembrance afterwards. More *politeness* towards help, would make the household machinery move much more smoothly for all parties.

LAYING BY IN STORE.

By J. E. McC.

"Apples in the orchard mellowing one by one,
Grapes and pears upturning soft cheeks to the sun,
Mother's 'doing peaches' all the afternoon.
Don't you think that August's pleasanter than June?"

Though the days are so long and the work so warm and wearying, let us try and weave into them all the golden sunshine that we can. It will make the bitter days of winter all the more bright and our hearts the lighter, as we go along. The more of paring and hulling of fruit that can go on out of doors on shady steps and under trees in the dooryard, the better; and the more the childrens' help can be utilized the greater the advantage to them and you. There is nothing like taking stock in an enterprise to give one an interest in it.

There is nothing that gives a housekeeper a more comfortable feeling of available riches in the fall than sundry shelves well stored with fruits of various sorts, ready for any emergency. If she is not rich enough to put up a home supply for every day until fruit comes again, yet there are few who cannot eke out some stock of the sort, either dried, canned, or preserved, that will help materially toward varying the winter's fare.

A poor woman, I know, dried a bushel of elderberries last fall, which she made into pies through the winter. Her children picked cherries on shares, which she thriftily canned. Their lot was planted mainly in potatoes, corn, and pumpkins, and with her two fat pigs in the barrel, the family of eight lived on with but little suffering, though the father had but little work all winter. Other families in similar circumstances, with less thrift, were supported mainly by charity. So much is there in the wife's management, whether a family shall live in comparative comfort or in wretchedness and squalor.

While you are preparing these various stores, settle, once for all, that no positively hurtful supplies shall go into your store-room. If you are satisfied that blistering hot catsups and burning spiced fruits are an injury to your stomach and to the digestion of your household, do not throw away time and labor upon them. You can do better. No matter if "everybody else does." That is a weak argument. "To him that knoweth to do good and doeth it not, to him it is sin." Try and set up a better sentiment among your associates. "Just a little" is too much of anything we know to be hurtful, as brandied cherries and peaches or whiskey-pickled cucumbers.

MRS. TRUMAN'S HIRED BOY.

By A. at Lake.

"How time is flying," said Mrs. Truman, glancing hastily at the clock. "How I would like a little help just now. Ho, Benny Biggs! you're just the lad I wished to see. In a great hurry, Benny?"

"No, ma'am," said Benny, gazing wistfully at great bowl of sugared blackberries in the big "mixing bowl."

"I'm glad of that," said the other. "Now, can you dig potatoes, Benny, and not cut them with the hoe? Then I shall be very glad to have you fill this basket for me from the garden. You will see where they have been digging."

Benny set off cheerily, and soon returned with a fine basket of large, white potatoes.

"Well done," said mother, as she set the last blackberry pie in the oven. "There is just a saucer of fruit left over for you. But come first, Benny, while May finishes her nap, and we will gather the other vegetables. I guess she will sleep until we come in."

So, one took the large and the other the small basket, and it was not long before a kettle of beets was ready for boiling, and Mrs. Truman sat down in peace to prepare a pot of wax beans, so easy to clean, and so nice when done. "I shall be very glad of your help, Benny, if your hands are first 'spandy' clean;" and she examined them critically.

They were presently "spandy" clean, and Ben was helping industriously. What savory odors came from that brown roast when Mrs. Truman opened the oven door! It was not often the poor little fellow even sniffed such luxuries.

"I suppose you do not have much of a garden," said the lady.

"I guess we don't; not a bit of garden."

"Why, what can you get for dinners and breakfasts, without a garden to run to."

"Baker's bread and black molasses, ma'am, and coffee on Sundays. We are glad when we can get a big loaf for mother and Kitty and me."

Mrs. Truman looked astonished. Here was a poor neighbor only half a mile away, and she had given as little thought as to how she lived and how she fared, as if she had been at the North Pole. Here her garden was filled to overflowing, and if they were not actually perishing with hunger, they were suffering great needless privation for a christian land.

It did not take many minutes to pack a basket to over-flowing with things she would never miss; but, oh, such a blessing in that poor home. When the excited, happy Benny skipped home with it, he carried this proposition to his mother, that he should help Mrs. Truman a certain portion of every day about her house-work, in return for a good equivalent in vegetables, and his meals every day.

That was the way she came to have an efficient, little hired boy about the house, whom she sometimes thought almost ahead of her neighbor's big girls in usefulness; and that was the way the poor widow saved her scanty sewing money, and kept her children so well, besides laying by many little helpful stores for winter. How a little forethought, and a little going outside of ourselves at times, in our sympathies and interests, would set in train small enterprises that for some humble lives may be most far-reaching and helpful.

RECIPES.

PIE CRUST.—For pies with one crust, take a pie dish and grease it with lard or butter; then sift over evenly with corn meal. Pour in the filling and bake thoroughly.

A NICE WAY to use cold meats of any kind is to chop fine with a little celery and a small piece of onion. Season with salt, pepper, and salad dressing. This salad is a nice relish for lunch or tea. Garnish with the bleached celery leaves.

AN EASILY-MADE PICKLE and a very good one is made by chopping together half a head of cabbage, three onions, one bunch of celery, and one dozen small cucumbers. Chop fine; season with pepper, salt, and vinegar. Salad dressing improves it.

GINGER COOKIES. One cup shortening, one cup molasses, one-half cup sugar, one cup hot water poured over one tablespoonful soda, and one tablespoonful ginger. Stir in flour until thick enough to drop in spoonfuls in buttered pan. Bake in quick oven. Try them with half wheat flour and half graham flour.

BEAD GRIDDLE CAKES.—Take stale bread and soak it over night in sour milk. In the morning add, to one quart, the yolks of two eggs, one teaspoonful salt, one teaspoonful soda, two tablespoonfuls sugar, and flour enough to make batter a little thicker than for buckwheat cakes. Add last the well-beaten whites of eggs.

IN A SICK-ROOM, where it is so necessary that everything should be quiet, a nice way to replenish the fire is to put coal in paper bags, such as you get from the grocery, and lay one on the fire whenever needed, and there need never be heard that unpleasant noise of putting coal on the fire.

A CURE FOR DULL EVENINGS.—First, be sure you take the FARM AND GARDEN, and while mother and sister are mending or knitting, let brother read aloud to you from its many pages. There is something of interest for each one; for house work as well as farm work. It will give you new ideas and new ways of doing many things. There is nothing so welcome and cheering to housekeepers as a change in its monotonous round of duties.

MRS. D. S., East Orange, N. J.

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CHESSIE CAKE (for two).—Heaping cup of sugar, one-half cup of butter, five eggs, nutmeg to taste. Mix yolks, sugar, and butter together, and bake as lemon pie, then beat the whites and spread on top and set in stove a few minutes, until whites are browned.

COLD SLAW.—Chop a small, white head of cabbage. Prepare a dressing in the proportion of one tablespoonful of oil to four tablespoonfuls of vinegar; a teaspoonful of mustard, the same quantity of salt and sugar, half as much pepper. Heat; pour over cabbage and stir well; let cool ready for table.

SNOW CAKE.—Beat one cup of butter to a froth. Add one-half cup of flour, mix well, one cup of corn-starch, one cup of sweet milk, two cups of white sugar, and three teaspoonfuls of baking powder, dissolved in milk. Add the whites of eight eggs, well beaten.

HARD TIMES PUDDING.—One cup of sweet milk, one cup of molasses, one teaspoonful of soda, salt, tablespoonful of shortening, flour to make a stiff batter, and if you wish it, one cup of raisins. Steam one hour without, or one and one-half hours with fruit. Make sauce by rubbing one and one-half tablespoonfuls of butter with four of sugar and one of flour. Put in two tablespoonfuls of jelly, and pour over enough boiling water (stirring briskly) to make a thin gravy.

LEMON PIE.—One lemon, one tablespoonful of corn-starch, one cup of sugar, one cup of boiling water. Beat this together, put on the stove and let boil, and then put in yolk of one egg, roll out crust, put mixture in and bake quickly. Put sugar in whites for top.

S. J. W.

CORRESPONDENCE.

PLANTING GARDEN SEEDS.

GOSHEN, Lane Co, Oregon.

Enclosed you will find $1.25 for subscriptions to the FARM AND GARDEN, also the five new names. I will try and get more soon. I like the paper very much, and think the patrons of the FARM AND GARDEN ought to contribute all new ideas or experiences in the garden business to the paper for the benefit of its readers. I will give a little experience that I have planting small garden seeds. In the spring, when the ground is very full of weed seeds, for instance, for onion seeds, have your ground well pulverized. Take a plank six inches wide, lay it down, take a sharp-pointed stick, make a drill along the plank, put in your seed, then cover with fine dirt, one inch deep. Then lay the plank over the row, and in about six or eight days, raise it. When you see the seeds begin to peep through the ground remove the plank; in two or three days you can see the plants the full length of the row, then go to hoeing. Radishes and lettuce will come in five or six days. I wish some of the readers would tell me how they grow celery. That is something I have never raised, but want to learn how. We always have a fine garden. Success to the FARM AND GARDEN and patrons.

LIZABELTH LEY.

LIGHT ON THE INCUBATOR QUESTION.

Valuable Information and New Ideas from a practical experimenter.

I think the trouble with the incubator, mentioned in the June and July numbers can be explained. I am a mechanic, and made a Hydro-Incubator, which I filled with eggs, and made a very poor hatch at first. I have been experimenting with and changing the incubator until now I can depend upon an average hatch of 80 per cent. My experience has taught me that when the weather is severe you must close one half the air holes in the ventilator. I added two plys of fine burlap, one over the air holes, and one on the bottom of the drawer. Underneath the burlap, in the drawer, I put one thickness of butter muslin, resting the eggs on the burlap. I change the burlap in the drawer after each hatch. I have two bottoms and keep one clean to change with. In warm weather the frame over the ventilator holes may be removed. I am operating two Hydro-incubators, one of 74 and one of 120 eggs. In large incubators you must put your water in in three different places and arrange to draw it directly opposite the place it is put in. I found in my large incubator when I put water in one place that the heat in different parts of the tank varied 15°. This would easily account for failure. The water must circulate, and even in a small incubator I use two openings to pour in water. Here is another point. Plymouth Rocks, Wyandottes, or any large breed require heat 106° first week, 105° second, 104° third, while non-sitting breeds, as Leghorns, Polish, and Hamburgs, will hatch better two degrees lower each week. You cannot mix these two classes of eggs and hatch with success.

I. E. ROTH, *Daggett Ind.*

FOR ANSWER IN SEPTEMBER.

Will S. L. please tell us how often the dose for the Cholera should be given? I have been told that the eggs from the cross of a Muscovy with the Pekin duck would not hatch. Is it always so?

G. L. S., *California.*

CABBAGE FLEAS.

PLEASANT VALLEY, Michigan.

What can we do with cabbage fleas? They have eaten all our radishes, early turnips, rutabagas, a large bed each of Marblehead and Fiddlerkrawt cabbage plants, and have nearly spoiled our plants in boxes. We have tried everything we could think of or hear of. Soot and ashes, lime, tobacco tea, tea of white Cedar boughs, and I even put some toads in the boxes, with boards for shelter, but instead of eating the bugs, they dug up the plants preparatory to making themselves summer residences. The only thing that affects them is ginger, and enough of that to insure a crop would be worth more than the cabbage. They thrive and grow fat on Paris green and cayenne pepper; and now I do not know whether they are the real cabbage flea. They are black, with four light spots on the back, and when driven from the plants, they hop off and turn on their backs on the ground, where they look like little black bits of dirt. Is there no remedy? Would like to raise some late cabbage and turnips. Last autumn I found some clusters of lice on a nice cabbage plant, and in a few days it was entirely covered. I first thought to burn it, but on stooping to pull it up, I found all the plants near it had lice on. I would like to pepper you, I thought, and passing into the house I reached the bottle of cayenne pepper from the castor, and holding the leaves carefully, I literally peppered them. The effect was magical. There were very few lice on the plants next day, and another application entirely finished them.

PHILOMELA.

Philomela has the same trouble that others have. The fleas do not usually eat enough of the poisons to kill them, and when there are many of them, they do not drive very easily. A mixture of one pound of fresh Persian Insect Powder well mixed with twenty pounds of flour, and dusted on the plants will give temporary relief. Paris green and white hellebore will kill them sometimes, but so many new ones appear at the funeral that the dead ones are hardly noticed. The best plan is to make the plants, by heavy manuring, grow faster than the fleas.

EARLY POTATOES.

Elmer M. Buell, Twinsburg, O., asks why some Early Vermont potatoes he planted, came up over the whole patch from four to ten stalks to each hill, although but a single piece cut to three or four eyes was planted. He usually planted the same way, and only had one or two vines to a hill. Answer: The season was favorable for the growth of all the sprouts, and of course all grew. Usually, one or two only will have vigor enough to grow, but under favorable circumstances as to warmth and moisture all will start at once to root and grow, which is not usually the case. If the weather had been dry, the strongest only could grow, for it would rob all the others of nourishment, and they must fail. Cutting potatoes with long sprouts on them, when planted will tend to cause the trouble complained of to appear, but only does so in the favorable seasons that we mention.

TROUBLE IN THE ORCHARD.

FORT VALLEY, Georgia.

I am interested somewhat in the cultivation of fruits. I have out an orchard of six thousand apple, peaches, and plum trees, besides various other varieties of fruit. I like THE FARM AND GARDEN, and as long as Lake View orchards are a success, I expect to be a subscriber. We need a little light down here on the management of the Wild Goose plum and the Cuthbert raspberry. The plums, as a general thing, though sorry to admit it, do well with us one or two years in fruiting, then sadly fail. The Cuthbert raspberry puts on a most vigorous growth in spring, but is nearly all dead by early winter. To cut back severely first of August, do you think it would save them? We want a little information in this matter, and hope you or Uncle Joseph can tell us. Would like to hear from friends Munson and Minch on the subject.

I. W. LOVE.

We insert a query from I. W. Love, and any of our readers who may be able to answer will do so. We sent the letter to a prominent Southern pomologist, feeling the question was one we were not fully able to answer satisfactorily. He was not able to answer us, for he was not troubled as Mr. Love, and thought the trouble was local. We fear the raspberries may be attacked by fungus of some kind, and, if so, August pruning will do, and if there is an after-growth, it may escape the fungus. We had an apple-tree, the leaves of which were killed and dying, by a fungoid growth, early in June, and we stripped all the leaves off at once, and left the tree bare. It is now in full leaf, and has no fungus on the leaves. This cannot be done in a field of raspberries, of course, but we should try the plan of cutting back and burning all the old leaves, and perhaps the new growth would be vigorous and healthy. We thought, as we passed through Fort Valley, that perhaps the morning air might be warm and damp, from the undulating character of the country, and that would be apt to be very favorable for the growth of fungus. Will Mr. Love send us a leaf or two of the raspberries in a letter, and we will try to inform him more fully. Please send the leaves that are dying, not the dead or live leaf, but those that are affected.

SICK CHICKENS.

DOWNEY, Los Angeles Co., Cal.

I wish to ask a question or two. What is the matter with my small chicks, and what will cure them? They commenced the first week they were hatched with sore eyes; one or both would be full of matter, and swell very large. Very soon they are blind, and if you pick them up by the feet, an offensive matter runs out of their mouth and nostrils. I have done everything for them I could think of, read about, or learn in any manner. I have lost over two hundred, and other parties living near have lost over three hundred. Others have lost from a dozen up, so I am not the only loser.

HORACE L. SWIFT.

The chickens have a form of roup. The Douglass mixture of copperas we have always recommended is the best cure for the disease. As Mr. Swift is a new subscriber we repeat the recipe:—Take one pound of copperas (protosulphate of iron), dissolve in two gallons of rain water, or any soft water, add an ounce of oil of vitriol (sulphuric acid). Keep well corked in a jug, and use one teaspoonful in a pint of drinking water. We add, for our use, to the Douglass mixture, a half pound each of borax and alum, and we think it is of advantage also. We give a teaspoonful to a pint of drinking water, the same as the Douglass mixture. We advise our friend to renew his stock, for when the roup gets a hold of the old stock, the chickens are always subject to it also. New and healthy blood mingled in the old stock, will often make a flock healthy.

WHAT IS THE BEST VARIETY?

M. D. Stroud, Grahamville, Fla., asks for the best strawberry for a damp, black, tenacious, heavy soil, suitable for Florida, and asks if there is anything better than the Wilson. Answer—The American Pomological Society's last report only recommends the Wilson, giving it two stars, the only variety having a special notice. The Wilson is valuable on account of shipping so well. Other varieties will grow well, but will not stand up when they reach the Northern markets. You do not say, but we presume you ask for the best berry for you to grow for a Northern market, and hence we advise the Wilson. It can be set at any time excepting very dry weather. Cut the leaves away well for they draw so much moisture from the roots that the plants will be dried up before they can take root. The root should always be stronger than the leaves when plants are transplanted during the growing season.

STIFF LEGS IN HENS.

Hugh Martin, Woodland, Tenn., asks, "what is the matter with my hens? They appear well, and in an hour or two their legs are stiff and bend under them, and they appear to be in great pain." Answer:—The hens doubtless have the rheumatism. This often effects them in the way you describe. The only advice and cure is to keep dry and free from drafts in winter, when the disease is contracted. In will often appear in summer, although it is caused by cold in winter. No medicines are of much value.

HOW TO GET RID OF STUMPS.

Wm. Price, Manchester, asks, if a good way to get rid of stumps, "Is the old plan so often advised, to bore a hole in a stump and fill with saltpetre and plug, when ready fill up again with coal oil and burn?" Answer:—Like many of the remedies we often see, it is not practical, although beautiful in theory. To burn out a stump, carefully remove all dirt away from it, at least, 18 inches deep, and clean away the dirt from the roots. When very dry take some dry wood and set fire to the stump, adding wood until well on fire, and the stump will burn out. Have all the materials dry

ABOUT FRAUDS.

In answer to an inquiry sent to a friend in Chicago, we find the Chicago School Agency, 185 So. Clark street, is considered a fraud. No such party can be found at the number given.

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Yes, "The Reliable Manufacturing Company" of Philadelphia is a fraud. No doubt whatever about it. We have said so before, and lately we have recieved several inquiries concerning them.

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CONTENTS OF THIS NUMBER.

EDITORIAL COMMENT.

August. "Dog-days!" All the city folks who could afford to do so, have left their homes and hunted up safe retreats in the mountains and along the seashore, in order to escape the discomforts of heat and the danger of infection in the crowded city. *Poor* city people had to stay, *coûte que coûte*, and must brave all the ills, risks, and inconveniences of "dog-days" in the city.

The farmer, however, remains contentedly on his own domain. He has nothing to fear from the sunbeams, which are his friends. They purify his home and destroy the germs of disease. They ripen the good fruits, of which he partakes freely, and without fear of cholera and kindred diseases. Nature is his guide, and a sufficiency of both mental and manual exercise keeps him in good health and good spirits. Discontent is a good soil for sickness, but smiling faces and happy laughter repel disease. The wise farmer, therefore, does not grumble about small crops and bad weather. He cultivates a happy and contented disposition, and enjoys good health.

Let us repeat our last month's advice in regard to the stacking of grain. Thousands of bushels of wheat and oats are wasted annually, or badly damaged and reduced in selling value by poor stacking. *Never* let a careless or inexperienced hand do the stacking of grain, if you would save money.

Harvest your oats before they get too ripe, and thereby avoid waste by shelling.

When the Canadian thistle has once made its way into a locality, even a good farmer will find it up-hill business to keep it out of his grain fields. Repeated mowing will subdue the thistle in the end; and when an oat field is badly infested with the curse, we would rather cut the oats green and use it for fodder, than to let the thistles come to maturity. If thistly oats are to be bound, it is best to rake them in bundles and do the binding early in the morning or after sun-set. Use binding mittens.

Nice, bright oat straw is a good substitute for hay to feed to horses in the winter, and better than poor clover hay. Try to save it in as nice condition as possible.

If you have been victorious thus far in your fight against weeds, do not let up on them as yet. Drive the enemy to the wall. The progeny of one specimen which you have over-looked, may give you a heap of trouble in the future.

Are the road-sides all foul with thistles and other weeds, or over-grown with brush and briars? Cut down all that foul stuff, and improve the appearance and value of your farm.

Your pasture lots are now grazed down closely. If they are weedy, it will pay you well to go over them with the mower, rake the weeds into heaps with the wheel-rake, and burn them as soon as dry enough.

Cut down and remove the burdocks in the fence corners. The burrs may trouble you in your horses' manes or sheeps' pelts. Milch cows should now be put in new pastures, or receive regular and liberal rations of green fodder, (or new, sweet hay), and some bran and meal. It will keep up the flow of milk and save fences, your temper, annoyances to yourself and neighbors, and bad feeling all around.

Keep your chickens growing. Feed a variety of food regularly, and not less than three times a day, all they will eat up clean, and give all the milk or buttermilk they will drink. Animal food, bone and meat, is a great help. Cooked food should be *dry and crumbly*, not *sloppy*. Wheat should be fed liberally. The more you force the growth of your pullets, the earlier they will commence to lay.

Keep the runners off your young strawberry beds; and the new raspberry canes well trimmed.

Turn your sheep or hogs into your orchards.

Pay as you go. Do your work when you ought. Enjoy yourself while you may. If you do not let your work get the better of you, you can well afford to attend your neighborhood school and Sunday-school picnics. Your wife wants you to go, and if she is truly a farmer's wife, you cannot find better company. Go and feel young among the young.

The following is said to be a sure cure for the foot-rot in sheep:—

Dissolve 5 ounces of arsenic and 1 ounce of salt in one gallon of water. Put this in a trough so as to have it cover the bottom two or three inches deep. Now jam the sheep's hoofs, and let it stand in the trough for a few minutes. Repeat, if necessary.

The present wheat crop is the shortest that we have had for years. As soon as the harvest will have made this fact a dead certainty in the eyes of the buyers and consumers, who are, or pretend to be, still doubting Thomases, the price of wheat must materially rise. We are, however, not looking for excessive prices. Some of our esteemed contemporaries are always in dread of some prospective calamity, and choose to paint our agricultural future in the darkest colors. This time they are whining and taking on terribly, because there will be no wheat for export, and seem to have entirely forgotten that our last year's crop was more than 200 million bushels in excess of the home demand. Only a small part of this vast amount has found foreign buyers, and as this year's crop is fully equal to our annual home demand, the previous season's surplus, now partly held by the producer, partly stored in elevators and ware-houses, is available for export, and will probably meet a fair foreign demand, and at prices which are acceptable and profitable to the seller. On the other hand, the large oat crop, and the unprecedented, enormous corn crop, while making up in part for the shortage in the wheat crop, will have a tendency to put a brake on the too rapid upward movement of wheat prices.

Kill cats, dogs, crows, hawks, skunks, weasels, squirrels, raccoons and the like wherever and whenever you can. Save and protect snakes, toads, and particularly all insecteivorous birds. Quails as insect-eaters, are very useful. Invite the city huntsman, with his dogs, off your premises.

The new postal law, which took effect on the first of July, and which fixes the letter rate at two cents per ounce instead of per one-half ounce, as heretofore, benefits writers for newspapers more than any other class of people. We believe that this is good enough for a beginning, and furthermore, that all manuscript intended for publication, should be rated as third class mail matter, at one cent per each two ounces.

Mr. E. S. Goff, of the New York Experimental Station, in summing up the results of experiments with the White Star potato, which were conducted with a view to determine how much, if any, of the substance of the tuber or cutting, serves as food to the plant, comes to the conclusion "that even on very fertile soil, the stored nutriment in the potato tuber furnishes a more congenial food for the growing plant, than fertilizing elements in the soil. That upon poor soils at least an advantage may be gained by planting whole tubers, or large sections." We have been preaching the same doctrine for years.

As early as July, 1881, we predicted—and a safe prediction it was, too—that the law by which the New York solons attempted to suppress the manufacture and sale of oleomargerine, "being unconstitutional, would not be upheld by the courts, and must prove ineffectual and entirely useless to both the farmer and butter consumer." The Court of Appeals, the highest legal authority of the State, has recently declared the unconstitutionality of that law. From the decision, which was written by the noted Judge Rapallo, we quote the following paragraph:—

"This prevents competition, and places a bar upon progress and invention. It invades rights, both of person and of property, guaranteed by the constitution. The sale of a substitute for any article of manufacture, is a legitimate business, and it effected without deception, cannot be arbitrarily suppressed."

This is the only fair and just position. We must consider it not only useless, but decidedly harmful to further urge farmers to continue fighting it out on the line indicated by these prohibitory laws. We want no class legislation, no laws for the purpose of building up one industry at the expense of another.

There is only *one* reasonable plea which might be offered in defense of prohibitory measures,—the injuriousness of butter substitutes, if such can be proved. But the attempt to prove *it* by denouncing it as "a counterfeit made of hog's fat, vegetable oils, and other filthy and injurious compounds," is a trick worthy of the political demagogue, but not of fair-minded agricultural editors. We were not aware that hog's fat and vegetable oils, which so largely enter into articles of human food, were so particularly filthy and injurious, and even State Senator Low's recent information has failed to fully convince us that they are.

We earnestly hope that the fanatical advice of certain agricultural papers, who wish to parade as "farmers' friends," while their instigations do considerable mischief, will fail to lead our friends to a fruitless fight against wind-mills.

In one way only can we hope to compete with oleomargerine successfully. We must make a better article of cows' butter, and at the same time insist upon the enforcement of the laws which compel the manufacturer to sell only a clean and wholesome article, and under its right name. Violations should be punished so severely, that manufacturers would not care to take the risk.

In conclusion we will call our readers' attention to the following opinion from the *American Dairyman*:—

"The course of events in this country will probably be about the same as in Europe, where the manufacture of oleomargerine had the effect of compelling the makers of poor butter to improve the quality of their product. (And there is plenty of latitude for improvement in this country. ED. F. AND G.) This, in turn, induced an increase in consumption, which caused an advance in the average price of butter to a point as high, or higher than the average previous to the discovery of oleomargerine. Thus, dairymen were not injured, and consumers were benefited.

At present we live in a depression, but this must come to an end sometime. We should not get discouraged too soon.

Our friend, farmer Atkinson, always feels chuck full of "gumption." With "sleeves rolled up," and hoe in hand, he starts for his corn-field, but on the appearance of a cloud in the distance, not bigger than a man's hand, he gets scared in view of the coming storm, throws down his hoe and flees for safe shelter. That is "gumption," and that is the way our friend acts in regard to the sugar-question. If, as Prof. Wiley says, "*the manufacture of sugar from sorghum has not yet proved* financially *successful*, if our *expectations have not been met* thus far, even if it may be accepted as *a fact that the future of the sorghum-sugar industry is somewhat doubtful*," we can see no cause for throwing up the sponge and declaring, as our friend does, that America—the great country of America, with its wonderful soil and manifold possibilities—will never be able to manufacture her own sugar.

Prof. Wiley informs us that the attempt to make beet sugar in Europe with as imperfect machinery as is used for sorghum here, would end in disastrous failure, and that the chemistry of the sorghum-sugar process is not yet a science, but will have to develop a science of its own. The beet-sugar industry was developed largely by Government aid and encouragement in European countries. We have the soil, labor-saving implements in the culture of beet or sorghum, a Government that is liberal and able to give aid and encouragement; we have perseverance and pluck and a desire to investigate things, and everything needful for final success. If the problem to be solved be a most difficult one, we will never admit that we are second to Europe in ingenuity. The American people will prove to have more gumption than our friend expects them to have, or than he has himself.

CLIPPINGS.

It is our desire to make these so full and varied that every reader of the FARM AND GARDEN, *even though he takes no other paper can feel in a measure acquainted with all the leading publications.*

From "Farm Journal," Philadelphia.

WHAT IS WANTED.

Now that the sheep men are getting discouraged and some of them are disposing of their flocks, I think it a good time to go in and try my hand. But I do not want to go it blind when there are so many of your readers well able to impart information. First, give us a description of the different breeds and their crosses, and what they are good for, how to go about starting a flock, how to grow the most valuable wool, how to have early spring lambs, how to feed and care for, winter and summer, etc., etc. I want to know, also, whether it will do to pasture sheep in an orchard just beginning to bear. I am told that, with certain precautions observed, sheep are better than hogs for the purpose. Is it so?

From "Breeders' Gazette," Chicago, Ill.

PULLING WOOL.

The process of pulling is by no means difficult, and with a little judgment, can be made to fit in between other work, so as to bring the expense within quite reasonable limits. The skins should be soaked in water for say twelve hours, and then stacked in heaps—fleshy sides and woody sides together—and so left until the wool can be easily plucked off. The wool should then be washed, as much of the animal grease will have been already removed, and thereafter spread on sheets, or on the ground, if thickly grassed, and occasionally turned until thoroughly dried. This last proceeding should have especial attention, as any moisture will cause heating or moulding and destroy the value of the wool.

From "Breeders' Gazette," Chicago, Ill.

SHEEP IN RUSSIA.

Of the 42,000,000 of sheep in European Russia, about one-fourth are fine wool, the remainder being common or native races. The principal of these are the so-called Russian the Volosh, Zigai, and Fat or Broad-tails. The first named flourishes in the entire north, as far as the frontiers of New Russia, where the Volosh, or Circassian breed predominates. The Zigai is bred in Bessarabia and parts of Taurida. The Broad-tail predominates on the eastern and southeastern frontier and in Siberia.

A million and a quarter goats, found mostly in the hands of Jews, are scattered through the several governments. These are largely of the common variety, though both the Angora and Cashmere are raised in limited numbers.

From "Spirit of the Farm."

CO-OPERATION.

In parts of Tennessee the sheepmen of a whole neighborhood join together and dispose of their surplus stock of muttons and lambs, and their wool clip by contract, to the highest bidder. The highest, reliable bidder in every case gets the mutton. This manner of disposing of their wool and lambs is one of the simplest and best we have ever seen. Three or four men do the work for the entire neighborhood. There is no waste of time in running around looking up a customer, and no squabbling about weights and prices; every man is on an equal footing. The only difference is that the man who has the best and heaviest lambs gets the most money because he has the most pounds. The buyers are also put on the same footing. They cannot make a pool among themselves, and depress values to suit themselves, for the highest bid gets the sheep, and no one knows what this is until the bids are opened. Altogether this is a most advantageous arrangement, and one that farmers in other sections would do well to cultivate."

From "Breeders' Journal."

EARLY LAMBS.

The first mutton lambs of the season are often sold for ten dollars a head. The expense of raising these lambs consists first, in having good mutton rams, and then care and warm quarters, with a liberal feed of corn and oats, and a little oil cake will do the balance. The ewes, kept warm and dry, and fed well with oats, middlings, and corn, one-third each by measure, will give a good supply of milk.

Lambs can be taught to drink cow's milk, and putting oat meal in it, the lambs will grow in a surprising manner. Young lambs, to grow fat, must be kept warm and have a dry bed. Bright clover hay for sheep is the best. Lumber is cheaper than it has been for ten years; if the country yards have not reduced their prices, they ought to. It can be bought by the car load in Chicago, for $11, and green piece stuff one dollar cheaper. With these prices, and the present prices of oats and corn, farmers have no excuse for not making their lambs fit to sell at four months old. All the feed in the world will not make early lambs fat, and worth $10 each, unless they are kept warm. Warm and light quarters will last years, and pay a large return on their cost every winter. For the amount of capital invested in the sheep, they can be made to pay a larger return than any other stock, even in these times when wool is cheap, if mutton and early lambs are raised, striving to get them earlier and better than anyone else.

From "Textile Record," Philadelphia.

THE PROSPECTS OF THE WOOL TRADE.

The views of growers are generally above an equality with Eastern markets, and have thus far been supported by considerable buying by manufacturers, dealers, and interior speculators. The majority of operators are, however, deterred from purchasing by the remembrance of the unprofitable experience of last year, and the bulk of the clip is likely to come forward more slowly than in former years. Shearing has commenced in Ohio and other northerly localities, but as yet nothing has been done to fix prices on washed fleeces. There is general reluctance to pay prices for new wools that will not afford ample margin for charges and a reasonable profit to sellers; but whether this cautious policy of buying will be sustained long enough to weaken confidence on the part of country holders, is a matter of conjecture. Active buying by a few parties will be very likely to start a general movement that will maintain values above a parity with present Eastern prices, and perhaps at a higher point than can be sustained after the new wools are concentrated on the seaboard. The present condition of the wool trade is very unsatisfactory, but conservative opinion is settling to the conviction that the worst of the depression is over, and that the approaching season will witness a gradual and healthful improvement in demand and probably some recovery in value. Is not all this almost equivalent to saying that if wool-growers stand firm they will win? Indeed there seems to be an undercurrent of feeling in the eastern press that the grower practically has the situation in his own hands. Will he take advantage of his opportunity?

From "National Stockman," Pittsburg, Pa.

MUTTON *vs.* WOOL.

There would seem to be no end of talk about wool and mutton, all over the country, in nearly every agricultural paper. There are to be found the pros and cons. Each has his peculiar favorite—his hobby, quite often. Many give one opinion simply because they think so and so. They assert without any qualification whatever for an opinion. Some there are, of course, who, knowing, differ widely in their opinions. There are reasons for this. Few of us think or act alike. Some like sweets; another prefers the bitter; another gives his decided preference to sour. All this peculiar fancy does not, in the least, alter the chemical nature. Each of the materials maintain their respective elements, and will continue to do so, leaving us to our peculiar idyosyncrasies or peculiar constitutional fancies.

This is all well enough. Let each have his or her taste gratified. But there are many things, of daily use, which are liked or disliked by the masses. When this is the case, whatever suits the masses we should attempt to the best of our ability to accommodate them with, especially when one of the best and most nutritious of our flesh meats are concerned—mutton, good, healthy, sweet, nutritious mutton.

When in England a few years ago I tramped around a good deal, book and pencil always ready to note the facts, etc. One of the most noteworthy was that I could and did eat largely of the Lincolnshire, Leicester, and other long-wooled sheep, some of it very fat indeed. With all this I never once, and I was then in delicate health, felt any nausea. I could quite easily digest it. It was the sweetest I ever tasted, excepting the little Welsh Mountain sheep. His is the best mutton on earth. I am fond of good mutton. I often tax my judgment and the butcher's word as to the joint being long-wooled sheep. I take it home, wife begins the cooking; I sniff and the first sniff says "sold!" Merino mutton again, though perhaps only half breed. Were it full, or three-fourths, of course I could tell it in an instant, without the fleece or cooking.

I know dozens whose stomachs will not tolerate the oil of the Merino. Few can, excepting the Laplander or some northern pioneer, who glories in his oil. We want the wool of the Merino—we must have it. Will not some of our sensible breeders of sheep see to this, and instead of overstocking the wool market, as they are and have been doing, give us some mutton fit for food? No Merino is fit for food—not so fit as the coon, etc., by any means.

From "Agricultural Gazette," London, Eng.

WASHING SHEEP.

In the south of Scotland all the sheep, before being shorn, are washed by being made to swim two or three times across a running stream or pool.

Pool-washing is most general, and, all things considered, is perhaps the best. Sheep do not wash clean in a running stream. A stagnant pool is much better, as the yolk of the wool, which consists of fatty acids combined chiefly with potash, being left in the water, acts like soap, or better than any soap, in scouring and giving a bright lustre to the wool. The pool should be about 25 yards long, 5 yards wide, and at least 6 feet deep at the jump, gradually ebbing to the point where the sheep can walk out on a well-graveled beach. In a pool of this description the sheep can be washed very clean, if they get a good high "jump," and are put across two or three times. The jumping-stage should be three feet higher than the water. The ewes soon learn to jump into the water of their own accord, and are much less liable to get injured than when each one has to be pushed in. Sometimes the washing-pool is formed directly facing the sheep-fold, where the lambs are shut up for the time being, and having the ewes looking straight in that direction they then freely jump, and swim the pool to get to their lambs. Tub-washing is sometimes more convenient for small flocks, and is certainly preferable to driving the washed sheep over dusty roads from some neighbor's washing-pool, if there is not one in the farm, as by the time they get back they are often as dirty as before.

Sheep-washing usually takes place about the beginning of June, a little earlier or later, according to locality or condition of the sheep. As soon as the new wool begins to rise, the sheep may be washed; and in six or eight days after washing they may be shorn. If the weather should become wet so as to prevent clipping at the time intended, it may be advisable, in some cases, to re-wash, if the wool is much soiled. The sheep should be properly docked before washing, thus preventing any dung or lumps of soil which may be adhering to some of the fleeces from discoloring the wool.

In Australia, and other parts, washing sheep in hot water is almost general on large stations. The sheep are first passed through hot water with soap; they take what is called the *soapsuds* swim, the temperature of the water being about 105° Fahrenheit. When thoroughly soaked they are floated to a tank of cold water, and are brought by hand beneath spouts properly adjusted to play a film of water upon and into their fleeces. In most of these cases considerable outlay has been incurred for steam engines, pumps, and washing gear. Hot-water washing is not, however, likely to be adopted in this country while wool continues so low in price as it is at present.

From Commissioner Colman's address to the National Wool-Growers' Association, St. Louis, Mo., May 27–28, 1885.

I have come here, however, to assume you of the deep interest I feel in the sheep-growing industry of this Nation, and to say to you that the department over which I have control will do what it can in every legitimate way to promote its welfare. The magnitude of this industry is well illustrated by the table of the annual products of wool in a few of the States tributary to the St. Louis market, which appear on the blackboard before you, and which read as follows: Annual production of wool tributary to the St. Louis market: Texas, 47,742,000 pounds; New Mexico, 26,670,000 pounds; Missouri, 8,636,000 pounds; Colorado, 7,000,000 pounds; Illinois, 6,761,000 pounds; Kansas, 4,360,000 pounds; Arizona, 4,876,000 pounds; Wyoming, 3,588,000 pounds; Utah, 3,385,000 pounds; Iowa, 2,983,000 pounds; Montana, 2,791,000 pounds; Nevada, 2,312,000 pounds; Nebraska, 2,002,000 pounds; Mississippi, 1,760,000 pounds; Arkansas, 1,363,000 pounds; Idaho, 1,125,000 pounds; Dakota, 1,002,000 pounds; Indiana, 200,000 pounds; total, 129,649,000 pounds.

This would surprise most people, and especially those who have not examined our statistics of wool and sheep production throughout the Nation. It is hardly necessary for me to refer to the important figure sheep husbandry makes in successful agriculture. The "golden hoof" of the sheep is appreciated and spoken of by all our enlightened and progressive agricultural writers. Their value in a proper system of farming is too well known for me to dwell upon, and as our country grows older, as the fertility of our soil becomes exhausted by the production of the cereal crops, their necessity for the purpose of giving rest and restoration to our lands will become more and more apparent. They furnish the healthiest of animal food for man, their wool makes clothing for our bodies, and no stock is so valuable in destroying the weeds, sprouts, and underbrush of our farms. Good farming, distant from our cities, cannot well be carried on without a flock of sheep. * * *

It has also already been a matter of consideration with me what could be done by the department to lessen the losses from communicable diseases among sheep. So far the flocks of this country have been free from the terrible disease of the Old World known as "sheep pox," but it is a serious question if we should not impose a short quarantine on imported sheep to secure us against the introduction of this and other diseases. The scab of sheep, while not so prevalent as in former years, still causes heavy losses in some portions of the country. The department is also in receipt of information that the Western and particularly the South-western ranges have become so infested with tapeworms as to threaten the destruction of the industry in those sections. The States on the Southern Atlantic seaboard have long been talked and written about as peculiarly suited to sheep husbandry, but in spite of the attention given to the subject, sheep husbandry has not increased there as we have had reason to expect. Why is this? Many have gone there and attempted to go into sheep-growing on a large scale, but for some reason they have given it up and failed to realize their anticipations. The reason for this, I am told, is a mysterious disease, which almost certainly appears when sheep are kept there in flocks of any considerable size. It is called rot, but it differs from the rot of Europe in not being caused by the fluke-worm in the liver. The symptoms somewhat resemble that disease, and suggest the theory that it may be caused by a somewhat similar parasite.

Our Flower Garden.

Water and Bog Plants.

This is the time of the year when plants that grow by the waterside are so much admired in natural scenery. Yet they are seldom turned to as much advantage in cultivation as they might be. In any garden of some extent a small lake or pond might be introduced and be a source of great enjoyment: a little rockery in the centre or border of it will make a suitable place for planting many desirable things. With the large number of suitable plants at our service, if appropriately employed, the margins of water might be made to surpass even the natural riverside vegetation. In the majority of cases, if the edges of artificial water are clothed at all, they have a monotonous appearance, on account of the continuous fringes of plants of a common-place type used, whereas if a greater variety of kinds of varied height, habit, and flower were employed, and disposed in irregular groups, some close to the margin, some at a distance from them, and some even partly submerged, good effects would be obtained. The principal consideration is a knowledge of the positions in which the plants thrive best, and the degree of moisture in which they will flourish.

The grouping of them effectually is easily accomplished. The following consists of vigorous-growing plants that, in favorable localities when once planted, will take care of themselves.

Arunda Conspicua (New Zealand Reed), as well as the Gynerium Argenteum (Pampas Grass) flourish by water better than any other position, providing there is not an excessive amount of stagnant moisture about the roots. One or two kinds of Elymus (Lyme Grass) are excellent for wet places where choicer plants would not flourish. The most suitable being E. Giganteus, which grows some 4 to 5 feet high. E. Virginicus and E. Canadensis, both native species, of tall, vigorous growth.

Bamboos.

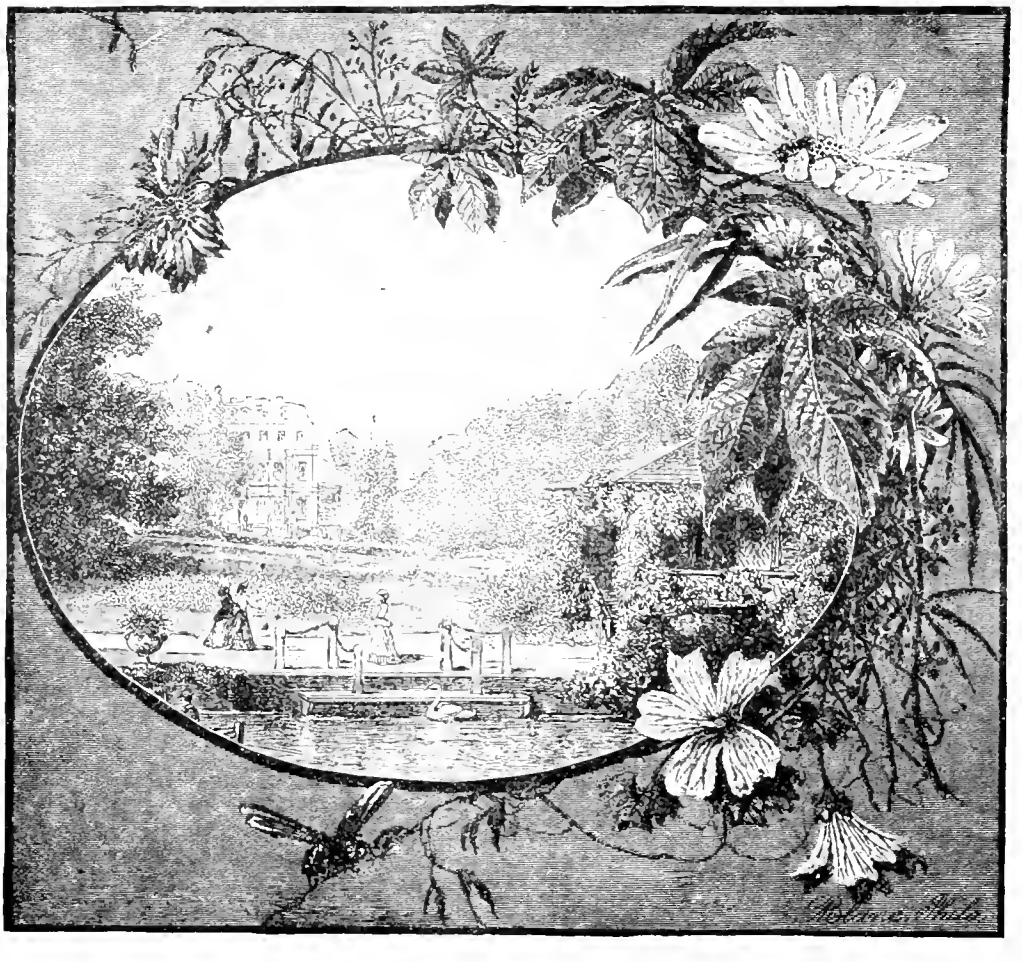
There is no other type of hardy plants from which such beautiful effects can be produced by water margins, as the various kinds of Bamboos which thrive in our climate. Planted by the side of a running stream or near the margin of a lake or pool, they succeed and soon attain a great height. Among the hardiest, we may mention Arundinaria Falcata, Bambusa Arundinacea, Metake, Viridis Glaucescens, and Nigra.

Sedges and rushes are essentially water plants, and many of them give good effects when planted in bold groups. For this purpose some of the finest may be used. Typha Latifolia (Reed Mace) grows in tufts of two-rowed, flat leaves from 1½ to 2 feet long. From the centre of each tuft springs a stem 6 or 7 feet high, which, in the flowering season, is terminated by a close, cylindrical spike 9 inches long, of a dark olive color, changing to a brownish-black as it ripens. This is one of the most striking of our water-plants, and may be used with excellent effect. In addition to the common yellow Flags, several other kinds make good water-plants, especially Iris Siberica, a tall-growing kind with glossy foliage and flowers either of a rich purple or white. The beautiful Iris Kæmpferi, although not of a large size, must be included in this list. It flourishes best in wet places, and if such a position could be allotted to it where the water now and then could be made to flow over the soil, it would, if planted in peaty soil, flourish far better than in an ordinary border.

Pondeterias, of which there are three species, are about 3 feet high. They have arrow-shaped leaves and blue flowers of various tints, produced on stout stalks well above the foliage. They require to be put in one foot or so of water, and are therefore well adapted for planting a little way from the margin.

Caladium Esculentum is a bold plant, having large and imposing-looking leaves. Its grand outlines and aspect, when well developed, make it worthy of all attention and of a prominent position wherever the climate is warm enough for its growth. It is not hardy, and the roots must be taken up in the fall.

Water lilies, and the plants allied to them, have a beauty special to their own, and they rank among the most [illegible] of our aquatics. The hardiest [illegible] is the white water [illegible] the rich soil [illegible] rare places. The common calla will also flourish splendidly in water, much more so than when grown in pots. Besides the above named, there are dozens of other small as well as large-growing native plants that can be used to advantage. The choice depends a great deal on the locality, and the facilities for getting them.



Ruellia Macrantha.

Our florists have lost sight of this good old plant, yet it deserves to be again brought into notice because of its merits, and especially because of its blooming in December and January with the greatest of freedom. The flowers are of a rich rose color, shaded with lilac, and give the plant at all times a cheerful and impressive look. When in bloom we do not know of a plant that is more admired. It grows splendidly in a temperature of 55 degrees, and is therefore most desirable for those having the convenience of a small green house.

Rose Niphetos in a Cool House.

It is well known that Niphetos is not only one of the best shaped roses in bud, but also one of the whitest, especially when grown under glass outside. Especially in cool situations, the purity of the white is not seldom marred by a dash of greenish yellow. But much depends on site and temperature. As the season advances, or rather as the weather becomes seasonable, doubtless the Niphetos Rose will become as pure as a Gardenia, a difficult flower to match in whiteness. They are never so perfectly beautiful, however, as when a small portion of two or three of the outer petals are slightly suffused with pink on the outer edges. This dash of color brings out the white with more vividness.

Wisteria Sinensis.

This well-known and popular climber is never seen to as much advantage as when allowed to grow naturally among large trees, where it hangs in long festoons and produces an immense mass of bloom in the early spring months.

Foxgloves.

Wild Foxgloves seldom differ in color, but when cultivated they assume a variety of colors, and include white, cream, rose, red, deep red, and other shades. The charm, however, of these varieties lies in pretty throat-markings, spots and blotchings of deep purple and maroon; these, when seen in large flowers, make them resemble Gesneras, once the name Gloxiniflora, applied to some fine, spotted kinds. The garden plants are more robust, the stems stouter, and the flowers much larger than those of the wild plants, and they make grand border flowers. They look well as a background to mixed borders, associated with other tall-growing subjects; and the improved varieties are desirable additions to the wild garden, where, if sown or planted in bold masses, they have a fine effect. They are good too among Rhododendrons, where these bushes are not too thickly planted, and they break the masses of foliage charmingly. The seed being small, it is best sown in pans or boxes under glass, early in May, and when the young plants are well up they should be placed out of doors to get thoroughly hardened before being planted out. Where planted in shrubbery borders, it is well to make varied clumps of several plants, as they produce a finer effect than when set singly. Not unfrequently the Foxglove blooms two years in succession, but in all cases it is well to sow a little seed annually, and if there be any to spare, it may be scattered in other places where it may be desirable to establish the plants. Those who do not desire to save the seed should cut out the centre spike as soon as it gets shabby, and the side-shoots will be considerably benefitted thereby, especially if a good supply of water be given in dry weather. In the case of a good variety, a side-shoot will supply an abundance of seed.

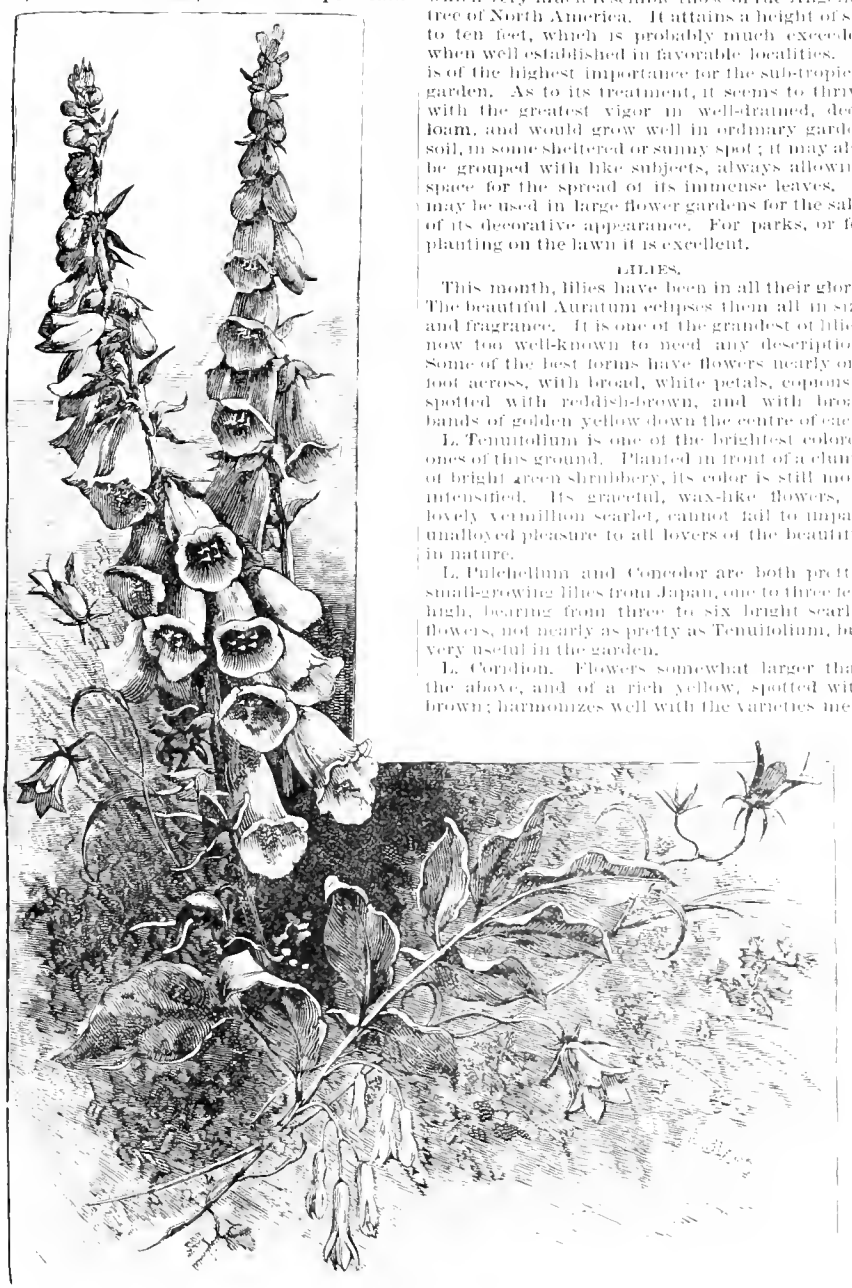
Cleaning Palms.

During this and next month, Palms are very liable to become affected with red spider and scale, and to prevent this, they should be syringed frequently, say twice a day. A good sponging of the leaves with soap-suds will keep them fresh and bright looking.

Chrysanthemums.

No doubt you have a fine lot of these popular plants growing in your garden, intended to send to your local exhibition next fall. If so, take good care of them during these hot days. Frequent syringing will be necessary to keep down aphides. Branches should be checked and well spread out, so as to let the light and air in "every nook and corner" of the plants. Weekly soakings with manure water will also be found beneficial, and a mulching with manure will be still better. But why talk any more about them here.

If you are really interested in these beautiful plants, send for Hallock, Son & Thorpe's catalogue, (Queens, N. Y.). It will tell you all about them that is worth knowing.



FOXGLOVES.

IRIS.

Now that these gorgeous flowers are about, many people wonder why they have been looked upon as weeds. To our mind, few plants equal them in their exquisite coloring. Particularly handsome are Reticula, Iberica, Susiana, and the numerous varieties of Germanica and Anglica, while Iris Koempferi is, perhaps, the handsomest of all. It is perfectly hardy, and flowers in the greatest profusion during June and July. If you have had the good luck to see them in bloom, you certainly will not forget to plant some next fall.

A CHEAP INSECTICIDE.

Mealy bugs are undoubtedly about the worst pest to deal with in the green-house. When once established, they are almost sure to stay there. The difficulty in getting rid of them is that they do not confine themselves to the plant, but also secrete themselves in the wood and brick-work as well as near the roots of some of their favorites. Happily the difficulty of dealing with them has been much reduced since coal oil has been found to annihilate wherever it reaches them. From the low price at which this can be had, and the highly diluted state in which it can be used, it is certainly the cheapest insecticide known. About a small wineglassful to a gallon of water is the quantity recommended. It should be thoroughly mixed, and applied with a syringe.

DIMORPHANTHUS MANDSCHURICUS.

In answer to inquiry about this plant, we would say that it is a handsome, hardy shrub, with very large, much-divided, spiny leaves, which very much resemble those of the Angelica tree of North America. It attains a height of six to ten feet, which is probably much exceeded when well established in favorable localities. It is of the highest importance for the sub-tropical garden. As to its treatment, it seems to thrive with the greatest vigor in well-drained, deep loam, and would grow well in ordinary garden soil, in some sheltered or sunny spot; it may also be grouped with like subjects, always allowing space for the spread of its immense leaves. It may be used in large flower gardens for the sake of its decorative appearance. For parks, or for planting on the lawn it is excellent.

LILIES.

This month, lilies have been in all their glory. The beautiful Auratum eclipses them all in size and fragrance. It is one of the grandest of lilies, now too well-known to need any description. Some of the best forms have flowers nearly one foot across, with broad, white petals, copiously spotted with reddish-brown, and with broad bands of golden yellow down the centre of each.

L. Tenuifolium is one of the brightest colored ones of this ground. Planted in front of a clump of bright green shrubbery, its color is still more intensified. Its graceful, wax-like flowers, of lovely vermillion scarlet, cannot fail to impart unalloyed pleasure to all lovers of the beautiful in nature.

L. Pulchellum and Concolor are both pretty, small-growing lilies from Japan, one to three feet high, bearing from three to six bright scarlet flowers, not nearly as pretty as Tenuifolium, but very useful in the garden.

L. Cordion. Flowers somewhat larger than the above, and of a rich yellow, spotted with brown; harmonizes well with the varieties mentioned. These charming lilies are quite hardy, although they require a little care in cultivating. They succeed in half-shady places, in a soil composed of two parts peat, one of loam, and one of road scrapings; but the plants seem to need renewing every few years. When not grown in a special lily bed, they are well suited for grouping among smaller and choicer evergreens.

L. Speciosum, or Lancifolium, as it is erroneously called, is one of the most popular for pot culture, but it is none the less desirable for the open air, though it cannot be grown to such perfection as under glass, as it is of a somewhat delicate nature. All the varieties of L. Speciosum require a sheltered situation, protected from winds and draughts, and a rich, loamy soil, mixed with peat and leaf-mold. They flower mostly in August, and last longer in bloom than many other lilies. In warm and sheltered places, where their blooms may be fully developed, very good use can be made of them.

SOCIETY OF AMERICAN FLORISTS.

We again call the attention of the trade to the meeting of the Society of American Florists, in Cincinnati, on August 12th to 14th. There will be a grand and interesting show. Reduced rates have been contracted for from Philadelphia, New York, and other prominent points. It is expected that 125 florists from New York and vicinity will attend, and a grand affair is promised. *Do not fail to be there.*

HANDSOME HYBRID ROSES.

Among the many beautiful Hybrid Perpetual Roses, one which has played a conspicuous part for the last eighteen years is Baroness Rothschild, which was raised in France, in 1867. It is a large, full and well made flower, cupped form, and usually very symmetrical. The color is a soft rose, or light pink. It is a free bloomer, a vigorous grower, and one of the hardiest of the Perpetuals. It is an excellent autumn bloomer, and is highly prized as an exhibition variety. Its one lack is a deficiency of odor. The foliage of this flower stands up close around it, giving it a fine setting. The fine form and color, and the other good qualities of this variety should secure it a place in every good collection of hardy Roses. Baroness Rothschild is distinguished by the number of other fine sort it has given rise to as sports. One of these, Mabel Morrison, has the characteristics of and constitution of its parent, varying only by its color. It is one of the most desirable of the white, or so called white, Hybrid Perpetuals. The flowers are beautiful in form, semi-double, cup-shaped, usually a creamy white on first expanding, and then changing to a delicately tinted shade of rose, and in either aspect admirable in the highest degree. In the close setting of the foliage around the flower, Mabel Morrison even surpasses its parent, and this habit is an attraction of great value. It originated in England in 1878, and has not yet become known as widely as it deserves; one cause of this is probably because it does not grow freely from cuttings, and many professional rose-growers in this country propagate in no other way. Some, however, increase it, as well as several other varieties, by budding, on strong-growing stocks, and in this way it makes a very satisfactory plant, if properly cared for. *Vick's Magazine for August.*

GROUNDS OF JAY GOULD.

Every one has an idea that Mr. Gould has an exceptionally fine property at Irvington, N. Y. Few realize, however, that it is fast becoming a place which will eventually rank with some of the best of those in Europe. The grounds are very extensive, several hundred acres, and the portions near the house are beautifully varied in character. The immediate fore-ground slopes to the Hudson River, and Mr. Mangold, Mr. Gould's superintendent, has introduced some particularly bold and effective groups of trees, which serve to heighten and emphasize the naturally bold character of the scenery in a particularly happy manner. Much of the planting and grouping is yet in a transition state.

The magnificent new range of conservatories erected four years ago, are now filled completely, and yielding splendid results. The luxuriant health and high keeping of every department speaks volumes for the thorough practical knowledge and executive ability of Mr. Mangold. In the Palm house he had collected over three hundred species of Palms, and by the use of stages the very large house is already completely filled. There are fifteen houses in the conservatory range, embracing four vineries, Peach houses, Camellia house, Rhododendron house, Fern house, Orchid house, Rose house, Pitcher plants, Crotons and greenhouses. Besides the main range there is a range of smaller but indispensable houses; in these are many gems of the collection, Lapageria alba, Ouvirandra fenestralis, Bertolonias, and hundreds of others.

PUBLISHERS' DEPARTMENT.

Entered at Philadelphia Post Office as Second Class Matter.

PHILLIES & CO., Publishers, 715 Filbert St., Philadelphia, Pa.

A. E. Farquhar, York, Pa., sends his catalogue of Engines, Boilers, and other Agricultural Implements. He is one of the most enterprising men in his line of business, and you should send for his prices.

The First Annual Convention of the American Society of Florists will be held in Cincinnati, August 12th, 13th, and 14th. All the arrangements are complete, and everything points to a successful meeting.

"Fifty Years among Small Fruits," by Wm. Parry, Parry P. O., N. J., is a valuable pamphlet treats of the various standard varieties of small fruits, and gives much valuable information. It is written in the veteran horticulturalist's usual good style, and should be in the hands of all who are interested in fruits; 15 cents, by mail.

Mr. Chas. F. Evans, Station F, Philadelphia, Pa., tells us that he sent another American, bought another remarkable specimen from the famous rose grower of England, Mr. Bennett. The new candidate for favor is called "Her Majesty," and is the largest and finest rose ever introduced. We hope to give our readers an illustration of it this fall.

Messrs. Johnson & Stokes, formerly at 1114 and now at their new and much more commodious warehouse, 219 Market Street, Philadelphia, Pa., have added a live-stock department to their seed business. They have Pure-bred Swine, Sheep, Collie Dogs, and Poultry of the finest breeds. Their advertisement appears on page 4 of this number, and we take pleasure in recommending them to our readers.

BUTTER BUYERS

Everywhere are refusing to take white, lardy-looking butter except at "grease" prices. Consumers want nothing but gilt-edged butter, and buyers therefore recommend their patrons to keep a uniform color through-out the year by using the Improved Butter Color made by Wells, Richardson & Co., Burlington, Vt. It is the only color that can be relied on to never injure the butter, and to always give the perfect color. Sold by druggists and merchants.

ART NOTES.—The Boston Terra Cotta Company has produced a very handsome and unique mantelpiece, representing four kneeling children with doves. The design being taken from one of Prang's Prize Christmas cards of a former season, by Miss Annette Morse. R. Swain Gifford's painting "Near the Coast," which received one of four prizes of $200 each, at the recent New York Prize Fund Exhibition of the American Art Association, will remain in New York and become the property of the Metropolitan Museum. Mr. Gifford's work has become most widely known by his "Oasis of Fihadch in Algiers," which has been reproduced by L. Prang & Co., in excellent imitation of the water-color effects of the original. By lot the destination of the other three prize pictures will be: "Le Crepuscule," to Alexander Harrison, to the Museum of Fine Arts of St. Louis; "A Rough Day, Entrance to the Harbor of Hartleu," by Frank M. Boggs, to the Museum of Fine Arts at Boston; and "The Last Sacrament," by Henry Mosler, to the Polytechnic Institute, of Louisville.