THE AMERICAN AGRICULTURIST.

DESIGNED TO IMPROVE

ALL CLASSES INTERESTED IN SOIL CULTURE.

INCLUDING

The Farmer, Gardener, Fruit Grower, Planter, Stock Breeder, &c.

"Agriculture is the most Healthful, the most Useful, the most Noble Employment of Man"....WASHINGTON.

ORANGE JUDD, A. M.....EDITOR AND PROPRIETOR.

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INDEX TO VOLUME XVII.

☞ *The stars or asterisks (*) in the following Index indicate where engravings occur, and the number of them. Articles referring directly or indirectly to Bees, Cattle, Fruits, Insects, Manures, Trees, &c., will be found under these general heads.*

INDEX.

Recipes.

INDEX TO ILLUSTRATIONS IN VOLUME XVII.

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AGRICULTURE IS THE MOST HE[illegible]THFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

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☞For Contents, Terms, &c. see page 32.
☞Notes to Correspondents, page 27.
☞For Advertisements, see page 31.

January.

"Through the hushed air the whitening shower descends,
At first thin wavering, till at last the flakes
Fall broad, and wide, and fast, dimming the day
With a continual flow. The cherished fields
Put on their Winter robe of purest white.
'Tis brightness all, save where the new snow melts
Along the mazy current. Low the woods
Bow their hoar heads; and ere the languid sun
Faint from the west emits his evening ray,
Earth's universal face, deep hid, and chill,
Is one wild dazzling waste, that buries wide
The works of man."

There is something appropriate and beautiful in closing the old year and beginning the new, with a covering of snow. It is at once a winding sheet for the dead past, and a spotless tablet on which to write the impressions of the future. All the face of nature and the works of man lie entombed under this pure marble surface. The soil of the farm is all of one seeming quality, the upland and the swamp, the rough and the smooth, all beautifully graded. Even the fences and stone walls are, many of them, erased, and one sees how charmingly a rolling prairie looks. It puts a new aspect upon the whole face of the country. Even the highways are changed, and the merry sleigh bells and the loaded wood sleds, pass over meadows and cultivated fields. Deep, narrow vallies are filled up, and unsightly brush and brambles, under the walls and by the road-side, are concealed. The farm of the sloven is for once put in order, and looks neatly. The gaps in his fence, the briars in his fields, the thistles and weeds around his house and barns, no longer stare us in the face

The snow, as a winding sheet, is suggestive of many profitable lessons to the husbandman. It buries up many of his defects that ought to be entirely removed by more thorough and efficient management. That meadow, where the boulders have never been disturbed, is now made smooth by the snow. It might be made so by a little gunpowder and labor, and preserve that even surface through the year. How much better it would look you can now see. How much better it would be, you would have occasion to know for the rest of your days. There are, perhaps, fifty unsightly rocks on every square acre, that have always hindered the plow, and the scythe, to say nothing of the room they have occupied. The expense of removing these stones is considerable, but then you gain soil by it, both in surface and in depth, and increased facility in tillage for a life-time. The clearing up of an acre of rocky land, is equivalent to a good sub-soiling in most cases, and it makes that operation comparatively easy whenever the land is taken up for hoed crops. These are important items to be deducted from the expense of clearing. Then the age of the mowing machine has arrived, and you cannot avail yourself of its great advantages until the meadow is cleaned up.

Now the snow has obliterated that long line of bushes, brakes and briars, under the wall, that have so long robbed you of the use of the richest strip of land in your fields. Here foul weeds and vermin have nestled, grass could not grow, or, if it did, neither cow nor scythe could approach it. You see how much better the fences look with this nuisance abated. Now it is not expensive to make clean work with these brush under the walls. A bush scythe and the grub hoe will finish them in a single season. You want the room they occupy, and the rich soil that always gathers under the fences.

Absurd as it may seem, there are farmers that plead for bushes and rocks. The former afford a delicate browse for the cattle, and the latter retain heat and moisture for the land. They prefer land with the rocks in it,—have perhaps seen land spoiled by taking the rocks out of it. Of course, if you add one-eighth, or one-tenth, to the surface of a field by removing stones, and if you bring a large amount of subsoil to the surface by the digging, you increase the demand for manure, and if the demand be not met, the yield may not be as great the first year after the operation. But let this demand be generously met, and the thoroughly-loosened and deepened soil will give you a better return for manure and labor, than you ever received before.

But the snow has completely covered those fences that divide a part of your mowing lots. Three fields are thrown into one, and you have a ten-acre field. How much time would you save in tillage if that arrangement were made permanent? It is a great vexation to cultivate corn or potatoes in small-walled lots, where the rows are hardly a dozen rods long, and nearly half the time of your man and horse is occupied in turning about at the ends. The mowing machine and the horse rake can never flourish in such circumscribed quarters. How much labor has been lost in fencing these small lots? The snow is a great leveller, and its example should be followed in demolishing many of these useless fences.

The swamps are now bridged and made solid. You can drive your team to any part of them with perfect safety. What a convenience it would be if those floating acres could be anchored, and always be placed under your control; if they could be made solid, so that the plow, rather than the water, should invade their fertile bosom. There they have remained for ages the receptacle of the riches of your farm, nourishing nothing but reptiles and coarse grasses. How beautiful they would look ditched and drained, luxuriant with clover, and nodding with the plumes of herd's grass. Shall art do the work of frost, and make those acres solid in Summer?

The husbandman is not merely a tiller of the soil. He sustains other relations, and this covering of snow should remind him of other duties. How kind is Nature in bestowing this mantle upon the earth in this inclement season! The lowly plants that nestle in the woods, the grasses and the tender shrubs, are all sheltered from the fierce winds and the cutting cold. Beneath the banks along the fences, the ground hardly freezes. Multitudes of plants, that would otherwise perish, are only invigorated by their hybernation, and are prepared to burst forth into new life and beauty with the opening Spring. She has forecast, and sees, that though she needs not these plants now, she will need them in the future. Thus they are sheltered and saved.

There are tender plants in the human family that will need shelter this Winter. Whatever the husbandman's circumstances, he should not forget the poor around him. He will need them in the future if he does not now. A little labor furnished now, or charity if needed, will bring warmth and comfort to their homes, and carry them through the Winter safely.

"In such a world, so thorny, and where none
Finds happiness unblighted, or, if found,
Without some thistly sorrow at his side;
It seems the part of wisdom, and no sin
Against the law of love, to measure lots
With less distinguished than ourselves; that thus
We may with patience bear our moderate ills
And sympathize with other's suffering more."

Gratitude for all that Providence has done for him, should prompt the farmer to befriend the poor.

But the snow is a spotless tablet, as well as a covering. So is this new year upon which we have entered. It is a blank now, but is all to be filled up with busy thoughts, words and deeds. What shall be written upon these unsoiled pages? What new improvements shall be introduced upon the farm, and what old ones shall be prosecuted with new vigor? Whose heart does not swell with hope and with a generous ambition, to make only fair marks upon the coming days and months. In our secular affairs, as in our spiritual, it will quite likely be unto us according to our faith. The faith that works persistently and with energy, will, in due time, transform barren acres into fertile meadows, rocky pastures into smooth fields, and miry swamps into solid land. It will realize in more glowing colors than we have painted.

As we look over our books we find in any names against which have been written during the past year that ominous word "Deceased." And how many more of the *Agriculturist* family, unreported to us, have since this day twelve months, fallen in life's battle field. This year will bear the same record. Of the thirty thousand or more, regular readers who begin the volume with us, in all probability a thousand or more will fall by the way-side in the year upon which we are now entering. No one of us can say it will not be I. Let us, then, start now on a new course of life, resolved to spend this year as if assured that it is to be our last. If we do this, however the event may prove, it will truly be, what we now heartily wish to every reader.

A HAPPY NEW-YEAR.

Calendar of Work for the Month.

We note down at the beginning of each month a summary of the principal kinds of work requiring attention at the time, with some brief hints thereon, though many of the topics are treated of more at length in the pages following. A catalogue like this will often suggest or call to mind a piece of work which might otherwise be forgotten or overlooked. At the present season there is comparatively little field work to be done and our Calendar will, of course, be much briefer than during the more busy season of active field and garden labor.

FARM.

Among the important things needing present care and attention is the management of

Cattle which require warm quarters *under cover*, at night, and during storms. Feed them in and around barns rather than at a stack-yard half a mile off. Provide racks for out door feeding. See illustration on page 291 of last volume. For graziers who are constantly feeding cattle for market, a one or two horse-power corn and cob mill, and a straw cutter are almost indispensible appendages. A straw cutter of some kind should be in every barn.

Corn for Seed—If not saved, as it should have been, at the time of harvest, select the best ears now and put them away unshelled until planting time.

Farmers' Clubs—We trust these are in successful operation. See remarks on page 279, on the mode of getting them up, in the preceding number.

Fences—Procure timber from the frozen swamps and split out the yearly supply of rails and stakes. Make posts, working in holes or pinning two small pieces together. The hemlock logs peeled last Summer should now be taken to the mill to be sawed for fencing and timber. Make gates to take the place of the less convenient bars.

Grain—Look out for mice and rats on unthreshed stack or mows. Keep stock of all kinds from fields not covered with snow. During thaws look to drains and see that no water is allowed to stand on the fields.

Hemp—Break during cool weather and bale for market.

Hogs—If not fattened and killed last month hasten along. Unless waiting for a market it is far better to fatten early. Keep well bedded at night and supply manure materials for them to work over. Look to the future increase, and provide a healthy male of improved stock. Read article on "Feeding Pigs," page 14 of the present number.

Horses and Mules—Give ground feed with cut hay or straw, moistening with water. Mix a few cut carrots with their feed occasionally.

Ice Houses—Fill with the first firm ice of the season, packing it in closely and covering with plenty of straw.

Manures—Keep up the manufacturing at all times, mixing in the muck and leaves stored under cover last Fall. If the manure is not covered in the yard, cart it to the fields. Bring home on wheels or runners all manures purchased at a distance and also muck from the swamps.

Marketing is a part of the thrifty farmer's business, and the beginner has much to learn. It is best to take only good produce to market. Large fruit sells better than inferior kinds. By sorting potatoes the farmer gets many bushels of small ones for his hogs, while the large measure just as much without them, and bring a better price. Clean, plump wheat sells readily at an advanced price for seed. So with stock and other produce.

Poultry—Warm quarters on a *ground* floor, meat, fish and pounded bones, oyster shells or lime, will usually secure a supply of eggs in Winter. Chopped cabbage is a good substitute for the green food of the milder seasons. Keep roosts clean, carefully saving the contents.

Roads—Let pride and love of order, to say nothing of convenience, stimulate those in charge to keep the highways always passable. Roads left blocked up with snow indicate a slovenly neighborhood.

Schools—Have good ones and send your children to them punctually and constantly. Avoid keeping the older boys at home occasionally. They have a right to an education and a considerate parent will not weigh his boy's work against his intelligence. Visit the schools to encourage both teacher and pupils.

Sheep—Look to an increase of improved stock by introducing a choice buck. Let salt be accessible, or feed salt hay occasionally. Shelter from storms, of course.

Timber—In the Northern regions, get out pine and hemlock logs, as well as cedar, chestnut and locust for fencing and other purposes. A "bob sled" will be servicable.

Tools—See that steel and iron surfaces do not rust. Employ leisure time in repairing those that are failing: provide needed new ones for the Spring. All implements are presumed to be under cover. A Winter's exposure is as injurious as a season's wear. A tool house and a work room, with carpenter's tools, should be an appendage to every farm house.

Turnips and other roots—Feed daily to milch cows. If mixed with Indian meal and fed after milking, little or no taste will be given to the milk. A root cutter, like the one shown on page 284, December No., will be of great service.

Wood—Get up enough to last a year, at least. Cut, split and pile under cover. There will be economy in it, to say nothing of superior cooking, meals in season and a pleasant housewife.

ORCHARD AND NURSERY.

These, in the northern States, are mainly covered with snow and require little care save guarding against mice and clearing the snow from the branches of small trees.

Tramp around trees in the orchard after the first snows to form an icy barrier near the ground which mice will rarely pass.

Shake off the newly fallen snow from branches of evergreens, and raise any limbs partially buried and liable to be pulled still further down when rains, or warm weather settle the drifts.

At the South, and whenever the ground is open at the North, transplanting may still be done, scale washed from young trees, and moss and rough bark scraped from the trunks of older ones.

In nurseries labels and division stakes should now be provided for Spring use. Probably a busy season is awaiting the nurseryman to balance the light trade of last Fall. We hope so at least.

Scions should be procured for Spring grafting, burying them in a snow bank, dry earth, or in sand or moss in the cellar. See that no mistake is made in cutting them, and label each variety with care. By shaving off the but end of a scion the name can be legibly written upon the green wood with a pencil, if no label is at hand.

Pruning *may* be done lightly, in mild latitudes, if the time can not be devoted to it next Summer.

Manures of various kinds, muck, lime and ashes may now be procured and hauled to grounds intended for Spring planting. Read the first of a series of articles on the Orchard on page 17.

KITCHEN AND FRUIT GARDEN.

We suppose, of course, that the Asparagus, Strawberries, Spinage, Raspberry plants, &c., were all covered at the proper season. There is little now to do save putting everything in readiness for early Spring work. At the North manure can be procured and carted upon the grounds, tools be repaired, &c., while South the early gardener will be making and sowing his hot beds, or even working and planting open grounds.

Bean Poles—Procure these while the swamps are frozen. Pea brush may be collected at the same time. Both can now be got better than during the busy period of Spring.

Cold Frames—Watch them closely, omitting no opportunity to air them in suitable weather, but keep closed and well covered with straw during severe cold. If covered with snow leave it on until warm enough to give an airing. Pick off all decaying leaves from the growing vegetables.

Currant and Gooseberry Cuttings may still be made, and the bushes themselves be pruned.

Hot Beds—Provide frames, sash and fermenting materials for early use. Especially have some fine rich mold placed under cover to spread over the surface of the beds previous to sowing. If this is omitted until wanted for use, it may then be wet or frozen. Beds can be made the latter part of this month especially at the South. Next month will be quite early enough in this latitude. Further directions for making, next month.

Manure—Make and collect a bountiful supply. A heavy dressing of this is one great "secret" of good gardening. You can much better afford the time to draw them now than at planting time.

Mushrooms—Examine beds and boxes, and keep moderately moist. A respawning will sometimes start them into bearing after the beds are apparently unproductive. Boxes may be prepared at any time as fully described on page 262 of last volume.

Rhubarb and Asparagus—To get these early, cover a portion of the beds, the latter part of this month with one to two feet of stable litter and manure. The heat of the fermenting material will draw the frost from the ground and induce a much earlier start in the Spring. Barrels sawed in two and the halves placed over hills of rhubarb and the whole buried with manure will answer a still better purpose.

Seeds—Examine the seed box to see if a sufficient supply is apparently in good order. If not, procure them early while the seed dealers have a full supply. Where many are wanted and you distrust the quality, procure samples and test them before getting a full quota. Forty-eight hours is long enough to prove some varieties; others require several days. Place cotton upon the top of a tumbler, or other glass of water, and scatter seeds upon it, keeping in a warm room and placing near the stove at night. The moisture absorbed by the cotton will cause them to sprout and even grow several inches in hight.

Tools—Repair old and procure the new ones which will be wanted in Spring. The *gardener* has a tool house of course, and has studied economy too much to leave his implements out of it.

Trellises—Repair those needing it and confine any branches of fruit trees or vines which are dangling in the wind.

FLOWER GARDEN AND LAWN.

Little can be done in these, at the north, during this month, save a general care of the grounds, and protection of shrubbery, especially evergreen,

from breaking down under the weight of snows. By drawing in the branches with a strong twine passed around the outer circumference from the bottom to the top, a less surface will be exposed to catch the snows. The juniper and yew especially require such screening and their future growth is improved by it. Shake off any snow that has lodged on the branches.

Prepare stakes and labels for Spring use. Where new plots are to be laid out in the Spring, the operations will be greatly facilitated by drawing a plan upon paper, marking off the avenues, walks, beds and locating trees and shrubbery. You will thus be prepared to work without interruption at a more busy period besides having a guide by which to procure trees and plants.

At the South, and in all places where the ground is not frozen, transplanting may safely be done. If immediate effect is desired a few large trees can be moved during the Winter, by digging up each specimen with a large ball of frozen earth adhering to the roots and drawing to its place with a team. We would not advise moving many such trees for reasons given on page 19.

Hedges and box edging may also be planted in mild latitudes. Examine the flower pits and frames and admit air every mild day, but keep closely covered during heavy frosts. If covered with snow, leave it on for a Winter protection.

GREEN HOUSE & CONSERVATORY.

Keep everything neat about the rooms, washing the floors occasionally, and picking off all decaying leaves from growing plants. Scrape the moss from the surface and sides of pots, and suffer no weeds to grow in them.

Many plants in these collections are half-hardy, and require only a moderate amount of heat, say not exceeding 50°. or 55°. Frost must be entirely excluded, nor should the mercury fall lower than 35°. During cold weather fire heat will be necessary.

Air should be admitted every mild day, opening the upper shutters for a short time about midday. Keep closed during damp and foggy weather.

Bulbs—Place in a cool shady part of the room. A few may be taken to the Hot House for early blooming. Water freely, changing that in glasses whenever it becomes turbid.

Camellias—These are now swelling their buds and in early houses bursting into bloom. Water as often as the earth becomes dry, and syringe the foliage without wetting the flowers. Wash the leaves of plants preyed upon by red spider, with soap and water, rinsing off with clear water. Head back ill shaped ones, and sow seeds or plant cuttings.

Insects—Fumigate with tobacco if unfortunately insects have got a foot-hold among the plants. Syringing the walls and crevices will often dislodge them.

Oleanders, Oranges and Lemons—Keep in a cool part of the room and water lightly at present. Wash the trunks with soap suds to destroy scale, and render them bright and healthy. Those beginning to grow, may be brought nearer the heat and light, and watered more freely.

Water—Only a moderate amount is required at this season. Plants that are growing luxuriantly need much more than those resting. One or two waterings for the month will be sufficient for herbaceous and deciduous plants, while succulents may be left without any for the present.

HOT HOUSES.

Much care will be requisite during the present month to guard against the extremes of heat and cold, the ravages of insects, and to keep the earth in pots in a proper state of moisture or dryness. Cleanliness is also essential, both for appearance and a healthy condition of the plants, many of which are now in bloom and therefore the more sensitive. The floors should be kept neat, all decayed foliage daily removed, and the plants often washed to free from dust.

Air—It is quite important to supply fresh air to take the place of that rendered impure by the heat of the furnace, and growth of plants. To avoid a draft of cool air, admit it through the upper ventilators during mild days.

Azalias—Many of these are now beginning to bloom and need frequent waterings. Syringe freely.

Bulbs—Bring a few each week from the Green House to keep up a fine show of bloom. Those in glasses should have the water changed every week at least.

Cactuses—These require little water and should stand in a dry part of the house.

Calceolarias—Shift those requiring it into larger pots, and keep at a distance from the furnace, turning the pots often to secure an upright growth.

Carnations in bloom, require staking, and should be watered often. Shift those which are pot-bound.

Cinerarias will need especial watching as they are favorites of the green fly. Tobacco fumes are the best antidote. Repotting will be necessary in many instances.

Fuchsias—Prune them in to a good head, and repot in fresh soil.

Grapes—Dampen the floors and walls of the forcing houses, and syringe the foliage often until blooming begins. The out-door borders for the roots require a thick covering of fermenting manure.

Heat—The furnaces and hot water pipes should only be intrusted to skillful hands, and the thermometer often consulted. A temperature of 55°. to 65°. is the most desirable—it should never vary over 5°. either way. Lower the upper sashes to reduce the heat, and put the shutters on early at night during cold windy weather.

Insects—Prevention is better than cure. A moist atmosphere, frequent washing and syringing of the foliage, hand picking, &c., are the best preventives. For a cure, use tobacco fumes for thrips and green-fly, soap and water for scale, and a sponge or syringe and clear water for red spider.

Petunias and Verbenas—Plant cuttings and make layers for a new stock.

Seeds—Sow annual and other seeds for early Spring planting in the open grounds.

Water—The watering pot and syringe should be frequently used this month, although the inexperienced are more liable to injure the plants by excess than by too little water. Thrifty growing plants require much more moisture than those which are in a state of rest. An examination of the earth in the pots, affords the best clue to their wants. Water only when the soil becomes partially dry. The water should always be *soft* and taken from a tank or cistern *in the house itself.*

THE APIARY.

BY M. QUINBY.

This is usually the severest month for Bees. Those in the open air should be watched, if a long period of severe weather occur, to see that the holes for ventilation do not get choked with bees, frost, or ice. Where the mice have been shut out from the hives as directed last month, they will be likely to still lurk around the vicinity, and now is a good time to trap them; it may save much trouble another year. If you have neglected to shut them out, then it is doubly necessary to be vigilant in trapping them—they will heed no complaints that you may make next Summer of "bad luck." Make things safe relative to mice and ventilation as directed; then, in case a deep snow completely buries the hives for weeks, no harm will be done. When so covered, a space around the hive is soon melted; but unless these depredators—mice—are excluded, they are quite sure to do the more mischief for having it covered up. Bees in the hive, will need but little care—it is well to make an observation occasionally to see that all is right.

The Times.

COGITATIONS OF AN OLD FARMER.

Hard times! So, everybody says; and so say we—for the "times" do bother us, as everybody else is bothered. Possibly we may not be so badly damaged as some others, but we know enough about the hard scratching which they inflict upon us to wish they were otherwise. We have had "good" times too, and quite a run of them for several years, until a few months ago. So the same "everybody" told us time and again. Yes, they were good times. We had free-trade, and free-credit abroad; and we used it freely too, with a vengeance. We have built a long array of free rail roads, free to the select coteries of speculators who got them up for their own especial benefit, mind you, on bonds which were gobbled up by the usurers with decided *freedom.* The roads gave free passes to the legislators, and judges of the country, as well as to various editors, for which, the little share that we had in the riding we shall never cease to thank them. We imported millions of free goods that we did not need, but which we have made out to wear, and eat, and drink, and dispose of in one way and another; and the beauty of it is, those which are not paid for, or used up—and they are many—the owners are free to send back to where they came from, as many of them probably will, or let the goods lie a long while in the bonded warehouses, awaiting better times for sale and consumption.

The truth is, for the last eight or ten years we have built extravagantly, dressed nonsensically, lived lavishly, speculated wildly, trusted everybody about us, as we got trusted abroad, and "laid loose" around, generally. Our farmers got great prices for their produce to feed the fools and tyrants who were doing up their own fighting in Europe; and they got such prices so long that they supposed they were always to have them. Our towns were so prosperous, and people in them got rich so rapidly that a vast many others, old and young, who were doing well enough on their farms and thought they could do a great deal better in town, left them to know little peace or quietude afterwards. Our women and girls quit spinning stocking yarn at home, and took to spinning street-yarn, and wearing crinoline abroad. Instead of thumping the clothes in the pounding barrel in the kitchen, they took to thumping the piano, and the melodean in the parlor; while the boys, and "Young America," took to "fast horses," "long nines," "cock-tails," and a general "cut up," all round the board, and so went the world.

These be homely truths, bluntly spoken, we admit. But are they not true? We opine them to be so, for we have seen just such times before—bating the railroad speculating—twenty-years ago—and which we have the best reasons to remember so long as we live.

Our lives are a mixed commodity of good and

evil. The old patriarch Jacob, who, after many days of prosperity, clouded occasionally with a trifle of adversity, being brought in deep affliction and questioned by Pharaoh of his life, answered: "few and evil have been the days of my pilgrimage." So a great many of us may say now; yet, with all the warnings of wise men for some time past, like Jeshurun of old, we "waxed fat and kicked" at the shadow of calamity afar off; and with the homely proverb, having danced, we now must pay the fiddler. In short, we have to square accounts—those who can—and for those who can not, they must do the best they can, and get "clear of the ropes," somehow. In sober truth, we must "settle up," and again go to work. We must cease importing goods we do not want; we must abandon superfluities we do not need; we must stick to our farms, our workshops, and our trades, whatever they may be—if we can get a living by them—and if we can not do that, take to those at which we can. Instead of earning one, five, or ten hundred dollars a year, and spending more, we must earn all we can, and spend less. That is the only true and honest way to fortune. A great master of human life has said:

"Sweet are the uses of adversity,
Which, like a toad, ugly and venomous
Hath yet a precious jewel in its head."

He did not know much about toads, however, for they are decidedly good things in a garden.

Cure for Lice on Cattle, Colts and Pigs.

During winter, farm stock are apt to get lousy. The following articles will drive away, or kill the ice:

1st. Soft grease, of any kind, and Scotch snuff—an ounce of snuff to a pound of grease—mixed and rubbed in among the hair, on the affected parts. If you have not the snuff, use the grease without it. It will effect a cure. We have tried it.

2d. Powdered charcoal, or coal dust, sifted into the hair.

3d. Ashes from the blacksmith's forge, sifted into the hair.

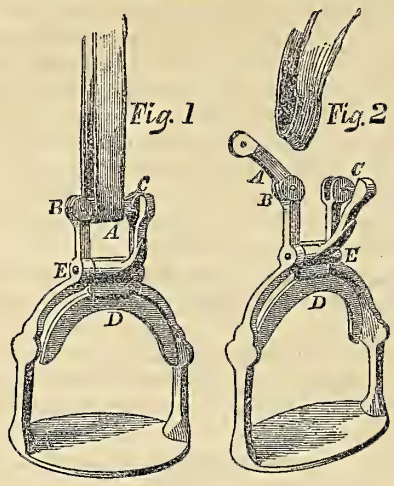
For lice on swine, or pigs: Pour buttermilk along their backs, freely, so that it will trickle in little streams down their sides.

These have all been tried, with entire success, so that no one need have an excuse for lousy stock.

If sheep get *ticky* during the winter, open the wool along their backs, and sprinkle in a little Scotch snuff, from the head to the tail. A tablespoonful is quite enough for the largest sheep, and from that down to a teaspoonful for a lamb.

The Use of Dourah Corn.

In reply to this query of Olando Bodfish, of Barnstable Co., Mass., we answer: Its seeds are used as a feed for various animals, especially for fowls. It is raised somewhat extensively at some points in the Southern States and in Mexico. We raised a small plot as an experiment two years since, but was not impressed with a very high opinion of it for Northern culture. The stalks grow large, of the size and resembling Indian Corn, with a large single seed head, which bends over with a graceful curve of the upper stalk. The main objection appeared to be too much stalk for the grain. This plant is sometimes called the Great Millet, also Indian Millet, and Negro Guinea Corn. In Arabia, where the flour is used for cakes, it is named durra corn. There are two varieties, the one very white, the other bordering upon yellow. We are not sufficiently advised as to its real value, to say that it is superior to the common millet, especially when we take into account the value of millet straw.



A Safety Stirrup.

Riding on horseback is not only a very necessary exercise, particularly in the Western, or newer portions of the country, but it is also a most healthful one in all places—for women as well as for men. Yet after having seen two ladies thrown from horses, with a foot fast in the stirrup in each instance, we confess to a species of shrinking fear, whenever we see one of the gentler sex upon the saddle, on even the most docile animal; and we are utterly unable to enjoy a social gallop when there can be the remotest chance of again seeing a riding companion whirled along at a fearful pace, dangling by the horse's side with all lineaments of beauty horribly disfigured or effaced by the iron hoofs. We cannot therefore do otherwise than hail with pleasure any invention promising to render riding on horseback less dangerous; and such an invention we think is Dr. Neil's safety stirrup. The engravings, with a brief explanation, will give a clear understanding of the form and operations of this stirrup.

As shown in figs. 1 & 2, and in fig. 3 below the

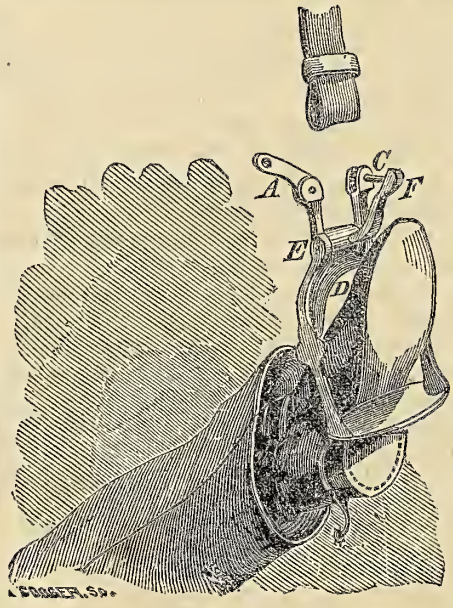


Fig. 3.

lower part of the stirrup is of the ordinary form. The saddle-strap is fastened to the piece *A*, which turns in a joint at *B* (fig. 1 & 2). When in use, the other end is held in at *C*, by an iron pin, fastened to *F* (fig. 3). *D* and *F* constitute one piece, turning upon the pivot *E*. A concealed spring around *E* keeps the part *D* in the position shown in fig. 1, and, consequently, the piece *C* holds the end of *A* firmly where it is shown in that figure.

But suppose the foot to turn, in the manner shown in fig. 3, as it would be, in case of falling, it then presses against *D*, throws out the upper end *F*, withdrawing the pin from *C*, and the piece *A* is then thrown up, and, of course, the stirrup is at once released from the strap. We have examined these stirrups carefully, and find them well adapted to secure the desired end, and yet admirably guarded against danger of being loosened during ordinary use. The apparatus is simple, easily made, and not likely to get out of repair. At present they are held at some $3 to $5 per pair. The price varies with the style, silver plating, &c.

Chicken Meat Cheaper than Pork.

To the Editor of the American Agriculturist.

Everybody loves chicken, roasted, boiled, fricaseed, or broiled. By itself, or in pie, it is pronounced first-rate by all who ever sat down to a Thanksgiving dinner of the olden time. But chickens always taste of the silver if you buy them, and if you raise them, they are thought to cost more than they come to. "Very nice is chicken, but the dearest food upon the farm! Poultry is more plague than profit, and the less care bestowed upon them the better." This has not been my experience. I intercede for the "biddies," and beg for them a little of the attention that is bestowed upon their more gross and less attractive neighbors, the pigs. Give them a fair trial, and they will pay any farmer for his care much better than pigs, and will supply his table with greater luxuries, and at a cheaper rate. And to establish this position I will tell you a tale, quite as literal as some others, founded on fact. In the year 1850 my poultry yard cost me—

In stock	$39 96	$79 77
In food for fowls	39 81	
It produced in eggs	$34 92	
" in manure	5 00	
" in stock at close	50 00	—$89 92
Deduct expense		79 77
Profit		$15 15

It produced in this time 91 fowls, weighing about 300 pounds, paying ten dollars above what they cost. In other words, the yard paid for itself and three cents a pound premium for all the poultry used in the family. When did a porker ever pay you for the privilege of eating him? Even Charles Lamb's roast pig will have to knock under to the biddies.

In 1851 the yard cost—In stock	$54 50	
" " In food	65 56	
Total		$120 06
It produced 268 dozen eggs, worth	$48 76	
" 5 loads of manure	5 00	
" Stock on hand at the close	113 00	
Total		$166 76
Deduct		120 06
Profit		$46 79

It produced 61 fowls, weighing about 200 pounds. In other words, the poultry paid 23 cents a pound for the privilege of being eaten. Was roast pig ever so gracious as this? I have tried pork growing repeatedly, and have never been able to reduce the cost of production below five cents a pound. I shall eat poultry henceforth.

CONNECTICUT YANKEE.

A lady fixed the following letters in the bottom of her flour barrel, and asked her husband to read them: O I C U R M T.

Can't Raise Turnips.

Nothing is more common with a certain class of farmers than the above declaration, in regard to the turnip crop. It embodies all the wisdom, and is the grand result to which they have come, after repeated failures. These failures are generally owing to poor or unsuitable soil, a lack of manure and tillage. If a neighbor chances to succeed with a crop, they think there is some magic about it, and are certain he cannot do it again.

We have made two experiments with this root, both as chance crops, which would go to show that, with suitable attention, it is one of the surest and most remunerative crops the American farmer can raise. Last year, we sowed them at the last hoeing of corn, in July, cut up the corn the first week in September, and harvested about one hundred bushels of turnips upon about an acre of land. Estimated cost, about four cents a bushel.

This year we sowed them after early potatoes, about the same time as last year. Ploughed in the weeds and potato vines, and put in the seed with a bush harrow. We harvested two hundred and sixteen bushels, besides a good many small ones, that were fed off the ground. The estimated cost was a trifle under four cents a bushel. Last year we manured with bony fish; this year, with guano, salt, and plaster; the manure, in both cases, being applied to the first crop. The superior product, this year, was probably owing to the fact, that the turnips had the whole ground nearly a month earlier than last year, and also to the fact, that the ground was fresh plowed when the seed was sown. The variety was the cow-horn, which we think admirable for this purpose.

Gypsum for Grass Land.

In the region of Newtown, Conn., and vicinity, (as well as in many other parts of the country,) ground gypsum, or plaster, is extensively used as a top dressing for grass land. The effects are so marked that a region of exhausted meadows and pastures have been brought into one of the finest grazing districts in the State. Newtown has now the reputation of being one of the best farming towns in Fairfield County. Hill pastures that once yielded a scanty herbage, are now luxuriant with grass, and support thousands of cattle. This fertilizer is generally sown upon the ground in the Spring, at the rate of about two bushels per acre.

It was not until modern times, that the value of gypsum, as a fertilizer, was discovered. Indeed it is not until a quite recent period, that the chemists were able to distinguish it from limestone, or other calcarious rock. Meyer, a German clergyman of distinction, about the middle of the last century, experimented with it, and is reported to be the first who brought it into notice. The substance was found in his neighborhood; and was afterwards shown to be an impure sulphate of lime. It is called Plaster of Paris, from the fact that it abounds in the neighborhood of the French capital, where it is burnt and used for stucco. In 100 pounds of *pure* plaster there are:

Sulphuric acid	43 parts.
Lime	33 parts.
Water	24 parts.

But the gypsum used for a fertilizer is usually united with silica, (sand,) and carbonate of lime. The rock is generally taken from its native locality, and carried in small fragments suitable for handling, to the plaster mill, where it is ground and barreled.

There is perhaps no fertilizer that on some soils produces so decided results for so small cost. It has been applied with special benefit to clover, rye grass, lucern, san-foin, turnips, wheat, &c. We have found it most profitable on clover. The theory of its action is, that it absorbs ammonia from the air, and holds it stored for the plants.

Whatever the theory be, it is found in practice that gypsum has a strong affinity for the ammoniacal gas, which is continually escaping from the privies and stables. One of the most economical methods of using it, is to pass it through the stable and the privy on its way to the field. It is a good deodorizer, subduing the pungent gasses that exist, in warm weather, around decaying animal matter. A cask of plaster should have a place in every stable, and it should be sprinkled literally over the floor, until the smell of ammonia ceases. Its effect upon the health of animals is quite as marked as its influence upon the manure heap.

Both as a deodorizer and as a top dressing the use of plaster is quite too limited in this country. The article is so cheap that there is little temptation to adulterate it, and a farmer is pretty certain to get what he sends for when he orders it. As only two to four bushels ordinarily suffice for an acre, it is not expensive, and easily applied. On all lands that need this fertilizer, the effect of a single application is so marked, that a farmer cannot doubt its utility or economy. On lands already supplied with it, no effect is perceptible, and a single trial would show it to be useless. In such cases, it should only be used in the stables and compost heaps.

Experience in Maple Sugar Making.

To the Editor of the American Agriculturist.

As the season is approaching to commence operations in the "Sugar Camp," I will offer a few suggestions and plans gleaned from my observations and experience. It would seem that the process of making Maple Sugar is so simple that any one possessed of the least "gumption," could not fail to make a good, if not a superior article, but such is not the fact, as the great amount of black and almost worthless stuff annually made, abundantly proves.

1st. In tapping I use a ½ or ⅝ inch auger bit; and to "freshen" with, I use a follower, made something like an old-fashioned "pod auger," to make the hole about an eighth of an inch larger, and the same deeper, thus renewing or freshening the surface of the original hole.

The spout is made of sheet iron or tin, two inches wide and six to seven long, formed into a quarter circle, one end sharpened with a file or grindstone, and driven into the *bark only*, about ½ inch below the auger hole. Drive with a wooden mallet to prevent battering the spout. This is by far the best and cheapest spout that I have ever seen.

2d. For buckets, I recommend those made of tin plate, to hold about three gallons, made a very little tapering, so that in the case of freezing the ice will slip out on the slightest thaw.

Punch a hole in the bucket sufficient to receive the nail that is to be driven in the tree to hang it on, and it makes—*par excellence*—the best bucket for the purpose extant.

3d. Boiling is done in sheet iron or copper pans, (not kettles,) made as follows: Take a sheet of Russia iron, put a quarter or three-eighths inch iron rod in each end by tapping, or bending the iron around it. Let these rods be 16 to 18 inches longer than the width of the sheets. Have the ends of the rods flattened and a small hole punched, and bend them in such a manner that they may be nailed to the boards, forming the sides of the pan, to serve as handles to lift with. When this is done, bend the sheets up at each end 6 or 8 inches, and fit in and closely nail side boards about 1½ inches thick to form a box 6 or 8 inches high, and they are ready for use. Then brick walls, or an arch as it is commonly called, are built to accommodate as many of the pans as are needed, with two iron cross bars under the bottom of each pan to prevent their sagging, and straining the nailing too much. Set the pans level in mortar, and you have a boiling apparatus that will evaporate an amount of sap that will astonish those who "have always boiled in kettles," and do the work much better than it can possibly be done in kettles, as there is no danger of burning or boiling over—this being prevented by the wooden sides. With three such pans, as above described, and good dry wood, *one gallon per minute* can be evaporated.

With the above apparatus, and proper care in keeping everything connected with the "camp" *clean*, sugar can be made much superior to the best cane sugar that I have ever seen. The cost of buckets, with spouts, will be from 40 cents to 50 cents each: the pans, holding 35 gallons, will cost from $2 50 to $4 each.

R. H. Howard.

Darke County, O., Dec. 15, 1857.

REMARKS.

The above apparatus is a very perfect one, and may be adopted in detail in many camps. The only objection will be the expense of the buckets which will preclude their use in a majority of cases. We thank Mr. Howard for his early suggestions, and as maple sugar-making will begin in the month of February, we solicit the experiences of sugar makers as soon as may be—in time for our next issue. Please help us to a page or so of good practical information on this topic. There are many interesting points, such as the best form and best wood for troughs, buckets; side of tree to be tapped; hight from the ground, size, form and depth of hole; carrying sap; boiling, clarifying, crystalizing, &c., &c.—Ed.

A Look into the Patent Office Report for 1856.

We confess to have entertained no very exalted respect for the Reports of the Patent Office for years past, so far as American agriculture is concerned, and have expressed our opinions thereupon with tolerable freedom, as occasion offered. The whole agricultural Department of the Patent Office, as a branch of the public administration, connected with the economical industry of the nation, compared to what it should be, is a sham, and little better than an insult to the great leading interests of our country.

We admit that there has been an improvement in the "Reports" of that office for a few years past, yet the best of them are but a shadow, in point of ability and research, to what they should be, under a proper administration of so important a department. Politicians, hookworms, and office clerks are not the men to make up, elaborate, and send forth important papers, with which to instruct, not only the farmers in what pertains strictly to their own calling, but to enlighten statesmen in a broad and liberal course of legislation for the best domestic interests of the country; and it is confessedly the case, that none others, or with rare exceptions, are the parties employed in what should be such an important labor.

The Report of the year 1856 is now before us. Its material and execution, in paper, type, printing, and binding, is an evident improvement on the majority of its predecessors. It embraces five hundred and thirty-six pages, index included,

being less in compass than some of its predecessors, and therefore an improvement. As to the matter of the volume, it is various in character and value. The introduction by Commissioner Mason is sensible and to the point. We only regret that his good suggestions could not be followed by Congress, of which, by the way, we have no hope, so long as low politics and self-aggrandizement absorb the mass of our legislators. Out of the seventy-five *millions* expended annually by the Government, in one thing and another, we are told in this Report, that seventy-five *thousand* dollars are appropriated to the agricultural use of the Patent Office, being just one-thousandth part of what our population—five-sixths of whom are farmers—having paid for Government purposes, get back again in the very equivocal commodities retailed through this Bureau!

The book opens with a lot of pictures—indifferent indeed, but quite tolerable for a book printed by Congress; and, in our opinion, the book would be quite as good without them, the Isothermal map excepted. There are also several papers contributed by D. J. Browne, the chief compiler, and such an inveterate literary poacher is he, that it is difficult to say what is his own, or what belongs to others. His "dairy" matter, taken, as he confesses, from English authority, is worthless here, and what appertains to other things, little better. Robert Kennicott, of Illinois, has some pleasant contributions in Natural History, of birds and beasts. Henry F. French, of New Hampshire, has an excellent article—as all his articles are—on draining. Doctor Jackson, of Boston, gives a sensible essay on fertilizers, and a short notice on Sorgho sugar and molasses. John J. Thomas, of Cayuga Lake, as is his wont, writes well on grafting and budding; and the "Reports of the American Pomological Society, for 1856," are given at length, comprising eighty pages. Then comes an excellent paper from Dr. John A. Warder, of Ohio, of thirty pages, on grapes and wine-making, followed, as are several of the previous papers, by flourishes of the aforesaid "D. J. B." Then a short, illustrated paper, very well in its way, on implements and tools, by Townsend Sharpless, of Philadelphia, followed up by a long study on meteorology, by Professor Henry, of the Smithsonian Institution, illustrated by an Isothermal map, a subject of interest to those who are fond of tracing out the laws and action of the elements, as they traverse, in wind, and storm, and heat, and cold the northern half of the American continent. All these, with a few others not enumerated, closed up by sundry statistical tables, of articles exported from the country, make up the volume.

On the whole, as the upshot of a year's work in the Agricultural Bureau of the Patent Office, we cannot say much for the book. Half-a-dozen agricultural periodicals that we can name, give us an annual fund of information, far exceeding this in value, and reach ten times the number of readers that the book will do, distributed, as it is, among the people, through the favoritism of the members of Congress. The annual distribution of seeds by the department, also, through the members of Congress, by way of the Post-Offices, with few and far between exceptions, we consider an *arrant humbug*. We have had scores of packages, in nine cases out of ten, only to try, and condemn them, as far as anything *new* was concerned. This practice ought to be discontinued instanter. It lumbers the mails, and frets the people who get them with disappointment. If anything really new and important could be obtained by the Patent Office, in that line, it would be well to distribute it among our farmers; but when the purchase of seeds, common and *unclean*—as many are—is made a jobbing affair, for the benefit of a few favorites, instead of a public object, the less of it the better.

We liked Commissioner Mason very well, in his official capacity—for we know nothing of him otherwise—and we regret that political needs should have displaced him for another, whose capacity in a like office has yet to be tested.

Tim Bunker on a New Manure.

Mr. Editor—I ha'n't told you anything about my carrot crop, this year, and the way I astonished the natives, and myself about as much as any of them. It is seldom that a new idea gets into the heads of the people up here in Hookertown, but they all declared they got one, when they come to see my carrot crop. I guess I had one myself but it was not exactly the same as my neighors'.

You know, last year, I told you about the subsoiling of my garden, and the lots of garden sauce I put into my cellar, in the fall of 1856. That waked up some folks considerable, and Seth Twiggs in particular. One day, last spring, he come down to our house—pipe in mouth, as usual. Says he, "Esquire Bunker, I am going in for some of them premiums, myself, this year, and I calculate to beat you on carrots, do your prettiest."

"Dew tell," says I "and what are you going to manure with?"

"Pig manure and a subsile plow. You see I've got Deacon Smith to subsile my garden, and I've got manure enough to cover the ground an inch thick, all over. You're a gone coon, this time, Esq. Bunker, I shall beat you;" and the smoke rolled up in a cloud as he walked off, the picture of self-satisfaction.

Says I to myself, after Seth had gone, "a subsile plow is not the chief end of man. I'll try a few tile drains and a trenching spade."

The lower end of my garden, you know, is bounded by a ditch, and has always been too wet. I got sole tile enough to drain a quarter of an acre, putting them down three-and-a-half feet deep, and thirty feet apart. Thinks I to myself, "If Seth Twiggs gets the start of Tim Bunker on carrots, he'll have to manure with something deeper than subsile plows." After the tile were put down, I could see they were needed, because after every rain that came, they would discharge water into the ditch. Seth thought he was doing rather an extravagant thing, sir, putting on the manure an inch thick. It only showed what a fog his mind was in, about manures. I had a grand compost heap, that I had been making all winter—muck, night-soil, soap-suds, and a lot of bony fish—at least ten cords, and very strong. I had it all worked into that quarter of an acre with the trenching spades, full three feet deep. I then raked it all over with a steel-toothed garden rake, the teeth six inches long, making a seed bed about as soft as a bed of down. I sowed the carrots in drills, on the first day of June. The drills were fourteen inches apart, and I thinned them out to eight inches in the drill.

When I was digging them, the week before Thanksgiving, Deacon Smith, Seth Twiggs, and Uncle Jotham Sparrowgrass, came along. The heaps were lying on the ground, about as thick as haycocks, and nearly half as big.

"Quite a crop, Esq. Bunker, says the Deacon."

"Did you subsile. this year," inquired Seth, his countenance fallen and woe-begone, as he eyed the yellow boys lying around, many of them plump thirty inches long?

"Pray, what did you manure with," inquired Jotham, as his eyes opened with astonishment?"

"With brains," said I.

"Brains!" exclaimed Jotham. "I never heerd of that manure afore. Where upon earth could you get enough for a load?"

I could see that the deacon enjoyed Jotham's innocence. and there was a sly twinkle in Seth's eye, which showed that the idea was crawling through his wool.

"If you do not believe me, gentlemen, if you will walk down to the lower part of the garden, I'll convince you of the fact."

"There," said I, pointing to the tile, which were then discharging water into the ditch. "I put the brains of ten thousand bony fish on top of that piece of land, and down below, there, you see some of my brains running out."

Uncle Jotham Sparrowgrass got a new idea on brain manure then, and it is very well disseminated in this neighborhood now. My own new notion is, that we have got a very imperfect idea of the productiveness of the soil, when worked and manured with brains. I measured up 403 bushels of carrots from that quarter of an acre, and I expect to beat it next year.

Yours to command,
Timothy Bunker, Esq.

Hookertown, Conn., Dec. 15, 1857.

Gather Manure from the Roads.

To the Editor of the American Agriculturist:

Your paper of this month has been perused with more than usual interest and profit, although every number contains much valuable information, and many good suggestions, not only editorially, but from correspondents, which if acted upon, would be of incalculable benefit to the farmer. Notwithstanding the present season is not so favorable for farm work, yet, as you say, there are a thousand things which are *better* done now than at any other season; and it will be conceded that any man, especially the tiller of the soil, who neglects to do these things now, will find that when he can illy spare time, they will have to be done. On such a day as the present, for instance, who has not repairs to make to the utensils of the farm, and what more profitably can be done than to take them to the barn, or work-shop, and give them a thorough overhauling? I must confess that I have been guilty of neglect myself, and can see now why such work should be attended to when the time is not required for other work.

But my object now is, not to write a dissertation upon points which receive so much attention in your paper, but to say a few words again in favor of my much-valued *muck*—my experience in which you published in your last. There are some farmers and gardeners who have not a muck pond to go to for a supply. It is to this class especially that a word may be of benefit, for I speak from experience, and can testify that what I recommend will pay.

Almost every farmer has access to the road, or highway, and will admit that mud (or muck) makes a bad road. It is too often the case, that because this material is easily *worked*, it is drawn on to the road, and the consequence is that in dry weather there is much dust, and in wet weather much mud. Every farmer would be the gainer if he kept the road opposite his land in good order by carting on *gravel*, and carting back upon his land the mud, wash from the street, &c. A road once *well* made with gravel, will need but little yearly repair, and the wash of a road one-quarter of a

mile in length, will furnish 20 or 30 loads of good muck annually. DOCTOR.

West Norwalk, Conn., Dec. 9, 1857.

The Corn Stealer in a Trap.

The following story though an old one, is, like many other old things, none the worse for wear. We read this, or a very similar story, when but a boy, and it left a very lasting impression. The moral is a most excellent one, and the perusal of it by the reader, whether for the first, second, or the tenth time, will do him no harm.

A man had been in the habit of stealing corn from his neighbor, who was a Quaker. Every night he would go softly to the crib and fill his bag with the ears which the good old Quaker's toil had placed there. Every morning the old gentleman observed a diminution of his corn pile. This was annoying, and must be stopped—but how? Many a one would have said, take a gun, conceal yourself, wait till he comes and fire." Others would have said, "Catch the villain, and have him sent to jail."

But the Quaker was not prepared to enter into any such severe measures. He wanted to punish the offender, and at the same time bring about his reformation if possible. So he fixed a sort of trap close to the hole through which the man would thrust his arm in getting the corn.

The wicked neighbor proceeded on his unholy errand at the hour of midnight with a bag in hand. Unsuspectingly, he thrust his hand into the crib to seize an ear, when lo! he found himself unable to withdraw it! In vain he tugged, and pulled, and alternately cried and cursed. His hand was fast and every effort to release it only made it the more secure. After the tumult in his breast had measurably subsided, he gave over his useless struggles, and began to look around him. All was silence and repose. Good men were sleeping comfortably in their beds, while he was compelled to keep a dreary disgraceful watch through the remainder of that long and tedious night, his hand in constant pain from the pressure of the clamp which held it. His tired limbs compelled to sustain his weary body, fain would have sunk beneath him, and his heavy eyes would have closed in slumber, but no! there was no rest for him. There he must stand and watch the progress of the night, and at once desire and dread the return of morning. Morning came at last, and the Quaker looked out of his window, and found he had "caught a man."

What was to be done? "some would say, "Go out and give him a good cowhiding just as he stands, and then release him; that'll cure him." But no, said the Quaker. Such a course would have sent him away embittered, and muttering curses of revenge. The good old man hurried on his clothes, and started at once to the relief and punishment of his prisoner.

"Good morning, friend, said he, as he came within speaking distance. "How does thee do."

The poor culprit made no answer, but burst into tears.

"O fie," said the Quaker, as he proceeded to release him. "I'm sorry thee has got thy hand fast. Thee put it in the wrong place, or it would not have been so."

The man looked crest fallen, and begging forgiveness, hastily turned to make his retreat.—"Stay," said his persecutor—for he was now becoming such to the offender, who could have received a blow with much better grace than the kind words that were falling from the Quaker's lips—"stay friend, thy bag is not filled. Thee needs corn, or thee would not have taken so much pains to get it. Come, let us fill it." And the poor fellow was obliged to stand and hold the bag while the old man filled it, interspersing the exercises with the pleasantest conversation imaginable—all of which were like daggers in the heart of his chagrined and mortified victim. The bag was filled, the string tied, and the sufferer hoped soon to be out of the presence of his tormentor but again his purpose was thwarted.

"Stay, said the Quaker, as the man was about to hurry off having muttered once more his apologies and thanks. "Stay, Ruth has breakfast ere this; thee must not think of going without breakfast. Come, Ruth is calling!"

This was almost unendurable. This was 'heaping coals' with a vengeance! In vain the mortified neighbor begged to be excused; in vain he pleaded to be released from what would be to him a punishment ten times more severe than stripes and imprisonment. The Quaker was inexorable, and he was obliged to yield.

Breakfast over, "Now," said the old farmer, as he helped the victim to shoulder the bag, "If thee needs any more corn, come in the day time, and thee shall have it."

With what shame and remorse did the guilty man turn from the dwelling of the pious Quaker! Every body is ready to say that he never again troubled the Quaker's corn crib. I have something still better than that to tell you. He at once repented and reformed, and my informant tells me that he afterwards heard him relate, in an experience meeting, the substance of the story I have related, and he attributed his conversion under God's blessing, to the course the Quaker had pursued, to arrest him in his downward course.

Taking Honey to Market in Glass Boxes.

To the Editor of the American Agriculturist:

My Honey Boxes are essentially like those described by Mr. Quinby, but the best I can do is to get about one-fourth of them to Chicago—my nearest market—with the honey unbroken. I would like to ask the best mode of packing the boxes to prevent breaking the honey. My bees do well here. R. M. ROSE.

Berrian County, Mich., Dec. 3, 1857.

We submitted the above to Mr. Quinby, and received the following

REPLY.

The plan that we have adopted here is probably as good as any for water conveyance. All our carting is done on springs. The jolting of a wagon is more sideways than endways, and as the combs will bear more wrenching lengthwise than sidewise, we pack them, as far as possible, so that the combs shall stand across the wagon while riding. Cases are made that will each hold glass boxes enough to contain about 100 pounds of honey. Good handles are fastened to the ends of the cases. The glass boxes are packed closely to prevent sliding, and set in *bottom upwards*. The cases, when moved, are carried and carefully set down, not dragged or shoved about.

Getting honey to a distant market is a precarious operation, and water conveyance is undoubtedly the best, consequently we patronize the canal instead of the railroad. But perhaps Mr. Rose can not avail himself of water conveyance. Railroad hands have such a knack of "throwing things" which ought to be quietly carried, that whenever honey combs come in contact with them, it is quite sure to change to drained honey. Yet I think if packed as above, and *careful handling secured*, that it might be safely taken on the cars, especially if accompanied by the owner. It will not do to say to hands "be careful;" they cannot be made to realize how easily honey is spoiled by striking it against something else, or setting it down too hard. Let some one that understands the matter be along to take *one end* of the case whenever it is moved. M. QUINBY.

Number of Bees in a Swarm.

To the Editor of the American Agriculturist.

In the article "Wonders of the Bee-Hive," page 285 of the December *Agriculturist*, it is said:

"The number of bees in an ordinary swarm, may be estimated by actual weight. It has been found by experiment that a pound of bees contains about five thousand; and if one knows the weight of the hive in which he has put a new swarm, he can easily calculate the number of bees. * * It is to be noticed, however, that a new swarm on going from the old hive, is heavily loaded with honey, and if no allowance were made for this, the estimate of numbers would be too large."

Now in this "allowance," there appears to be a difficulty. What portion of the weight of a swarm is *allowed* as honey? A first swarm, leaving on a warm day, will be quite a different affair by weight with another of equal number, issuing on a cool day. In the latter case, nearly all will come from the interior of the hive, well filled with honey; in the other, a great many bees will have been on the outside for hours, if not days previous to leaving, and consequently, carry but little honey. Now unless the writer can give us some rule to separate the weight of bees from the honey, I see but little use in *guessing* at the number, by the weight. M. Q.

REMARKS.

Our correspondent asks a very interesting question which we are not prepared to answer. Careful observation alone can decide upon the weight of honey which 20,000 bees can carry. The opinion of M. Quinby, as expressed in his "Mysteries of Bee-Keeping Explained," is, that "a *large* swarm will probably carry with them some five or six pounds of honey from the parent stock;" but he adds "I only *guess* at this, because I am uncertain what the bees weigh exactly."

And by the way, in turning to his treatise, we notice that he had observed a fact mentioned in our November number, supposed at first to be an original discovery with ourselves, viz.: that in small families the queen sometimes lays several eggs in a single cell.

Whence comes the Cut Worm?—A Question to be Answered

To the Editor of the American Agriculturist.

Whence comes the cut worm, which is so destuctive to corn and potatoes, and especially to to the tobacco crop? The question was suggested by the following fact: A piece of ground, plowed early, with the intention of a second plowing, received instead a thorough harrowing, which, owing to the ground being very wet at the time, packed the soil so tightly as to make it difficult to hill it, and the harrowing was discontinued. The remainder of the piece, having similar soil and treatment, otherwise, was plowed in the course of a day or two, which left it mellow and light.

Now what had this to do with the worms which, on the plowed piece, cut down nearly every plant, at least once; and on most of the piece, a half-a-dozen times; while on the portion harrowed, and thereby packed, very few plants required resetting. SUBSCRIBER.

Cromwell, Conn., Dec. 14th 1857

Notes on Field and Garden Seeds to be Distributed to our Subscribers.

The list of seeds and manner of distribution are given on a subsequent page.

FIELD SEEDS.

1. White Sugar Beet.—This variety of beet is the one cultivated in France, for sugar-making. It is specially valuable for feeding stock; is a large yielder. Though not a novelty, we think many of our readers will like to try a small plot. As there are over 1,000 seeds to the ounce, a 3-cent stamp will cover about 500 seeds.

2. King Philip Corn.—We distributed a large number of parcels last year, and nearly all reports received are favorable. Several persons have raised nearly a bushel from the seed sent under two 3-cent stamps. It has, in some of the reported cases, ripened in eighty-five days from planting; frequently in ninety days. As stated last year, it will doubtless prove valuable for late planting, in all cases, and especially when a quick growth is required. Having full faith in its value under such circumstances, we place it among our seeds for distribution. Owing to the heavy weight of the kernels, only about twenty-five of them can go under a single stamp. We will send what will go under one, two, or three 3-cent stamps, as may be desired.

3 Stowell's Sweet Corn.—As described at page 80, vol. XVI, this is a slow-growing, but excellent large sweet corn, often called "evergreen," on account of its slow and continuous ripening. Notwithstanding the past unfavorable season, our reports from the seed sent out last year are mostly in its favor, though not always so. We shall offer it again to any of our subscribers who may wish to test it or raise a supply of seed for next year. Fifty to sixty kernels in the half ounce.

Darling's Extra Early Sweet Corn has not been well reported on the whole, though a few have been decidedly pleased with it. It is an early variety, and very sweet Stalk and ear small. We do not place it in this year's distribution, but will furnish a few packages when expressly desired.

4. White Poland Oats.—The reports from last year's distribution are usually good—not in every case. This variety meets with so much approval that we shall offer it again this year. We have, as yet seen no sample of these oats which weighed less than 40lbs. to the bushel.

5. Chinese Sugar Cane.—We shall have a full supply of this seed for distribution, whenever desired. Many persons will wish to plant a small plot this year for experiment. We do not consider the question settled, as to how far it may be expedient to enter into the general culture, on a large scale. We refer the reader to the remarks on page 276 of the December number, and particularly to the note 12. ☞ We have hundreds of letters from subscribers, detailing their experiments during the past season. It would take half a month, with nothing else to do, to read, digest, and present a fair epitome of all those letters. Begging pardon for any apparent discourtesy in not referring to them, individually, we must hold them under consideration another month In our next number we shall take occasion to present a further carefully prepared statement, as to the prospects of the profitable culture of this plant in the Northern States. The result of our own experiments will also be given. The amount of seed offered to our subscribers is referred to on another page

6, 7. Turnips.—Ashcroft's Swede, and River's Swedish Stubble Both of these varieties are described at length on page 292 of our last number, and we refer the reader to the article there given. A package of 800 to 1,000 seeds, or more, will be supplied to each applicant.

GARDEN SEEDS.

8. Daniel O'Rourke's Pea.—The earliest pea we know. We have picked it for cooking in forty-three days from planting. Though not of quite as good a quality as the next three, its very early maturity makes it especially desirable. The vines are of dwarfish habits, and the peas of but medium size.

9. Champion of England Pea.—One of the best peas for a general crop, and may well be in every garden. The vine grows tall, to 6 feet, and bears well. Peas large, shriveled, and fine flavor.

10. British Queen Pea.—Somewhat like the Champion of England in growth, form, quality, &c. Is new here, and promises very favorably.

11. Hair's Dwarf Blue Mammoth.—This pea we described on page 268 of vol. XV, as the best we had ever grown, for a late pea. It was ready for the table with us in 74 days from planting. This forms a most excellent succession with the three varieties above named.

12. Green Kohl Rabi, or Turnip Cabbage.—See description and illustration on page 209 of last volume (Sept. number.)

13. Enfield Market Cabbage—Sugar loaf, or cone shaped, smaller than Drum head, very hardy and greatly esteemed in England for garden culture.

14. Alma Cauliflower.—A new variety said to be superior even to the Walcheren. Heads large and firm. A most delicate vegetable for table use.

15. Mammoth Cabbage Lettuce—An excellent variety, somewhat known, but not yet widely diffused. Noted for its firmness and great size.

16. Long Orange Carrot.—The best variety for general culture. Well known. We offer seed in order to induce our readers to try a plot of this excellent and profitable crop.

17. Red Strap Leaf Turnip.—An American variety, one of the earliest or quickest growing we have. May be sown at all seasons, particularly after other early crops. It is the first, or one of the first varities of turnips brought to this market in Summer.

18. Patience Dock.—A good substitute for spinach, lasting for months. One of the earliest "greens" of Spring. See description in the December number. (vol. XVI page 292.)

19. Round or Savoy Leaved Spinach—Esteemed the best variety for Spring and Summer use as "greens"

20. Salsafy or Vegetable Oyster.—Frequently referred to in these columns. Rightly cooked, it is one of the best roots grown for table use. It is in part left in the ground over Winter, to be taken up for cooking in Spring.

21. Winter Cherry—(See page 21.)

22. Mammoth Squash.—One of the best and largest varieties of squashes grown.

Turnips for Pigs.

This crop is more generally fed to cattle and sheep than to swine. For store pigs it makes a cheap and excellent feed. Our practice is to boil a large kettleful of them, and while boiling hot to mix in enough cob meal with them to make a thick mush. They thrive remarkably well on this article, and seem to do quite as well as if fed on cob meal alone. A root diet is much better for growing pigs than pure corn meal.

A Cheap Ice Room

To the Editor of the American Agriculturist:

Having observed several articles in your paper respecting ice houses. I send you my experience. I partitioned off the northeast corner of my woodhouse, which opens to the west and is 25 feet wide. The ice room is about 9 feet square; is clap-boarded on the studs on the north and east, and lined on the inside, leaving the 4 inch space between, empty. On the south is an inch board partition just tight enough to hold saw dust. On the west, I slip in boards, like bars, to any hight I wish to pile my ice, and leave the upper part open just as is convenient. This is my house

Into it, on the ground, I put from 6 to 10 inches of sawdust, then put in my *ice*, one foot from the partition on every side, packing it as closely as I can, and in as large blocks as I can conveniently handle. I then fill the spaces next the partitions with sawdust, and a good depth, (say one foot), over the top, and it is done for the year.

I have practiced in this way two years past, and had all I wanted for dairy and other uses, and to give to my neighbors, and I had plenty of good ice left last week.

The whole cost of making is about 300 feet hemlock boards, a few nails, and half-a-day's work. Neighbor farmers *try* it. Almost any other location is as good as this.

A. P. Belcher.

Tioga County, N. Y., Dec. 18, 1857.

From a Southern Correspondent

Imfe'—Sorgum.

Masser 'Merican Ag'cultis'.

Sar: Dis boy 'casionally read your big paper, printed 'way off down in York—dat is to say young Masser John read it to him, which you knows is all de same. Bery well, sar, 'tis all right and mighty sure on Imfé, for dat is de way to spell him. Don't dis child know all about it caze his gran'fur come from Afriky, where Imfe fust growed. Wal, sar, dis boy hearn many writers is makin' powerful fuss 'bout dis, but I rekons dey knows nufin' at all on him. Did dey eber grow him, as my gran'fur has for ages? Den let dem hold der tongues till dey has. What we want in dis country is de prakital; we doesn't want no the'ries—dese doesn't do in *hard times*.

Wal, sar, to come to pints. Dis child says, fustly, we ha'int no such long summers here as dey has in Afriky, to ripen him well; we ha'int no such hot days nudder; derefore, by reason, Imfé is no good as Sorgum, which comes from colder climate, and am grown from Canada to Texas, Georgia, where dis child libs 'cluded.

Now, I says, hereforth per 'rash'nalé, cul'vate a mighty tall heap o' Sorgum—let Imfé 'lone 'specially when 'taint nufin but Durra; and always b'lieve in what Masser 'Merican Ag'cultis tell de public, and what is more, like dis here boy who writes, b'lieve in nufin else.

Sar, yours, speefully to sarve,

Young Guinea

Articles on Cattle and Buildings.

A very valuable series of articles on Cattle now in course of preparation, will be commenced in the February number. A full series on Farm Buildings of all kinds will be commenced as soon as the drawings and engravings can be executed, probably by the March No.—perhaps in February

Wonders of the Bee-Hive.

NUMBER VII.

It is a wonder that the bee, always true to the instincts given it by God, should be able to construct its comb with such perfect regularity and beauty. But it is no less a wonder that it should adapt itself also to special circumstances, and vary the form and size of its cells when occasion demands it. We have already described the two kinds of cells that are most commonly found in a hive,—the *worker* cell of unvarying size and depth, designed for the raising of brood as well as for the storing of honey and bee-bread, and the *drone* cell, which is the same thing on a somewhat larger scale. The eye soon becomes accustomed to these different cells, and easily distinguishes them from each other, and from those used exclusively for storing honey, which are somotimes an inch and a half deep.

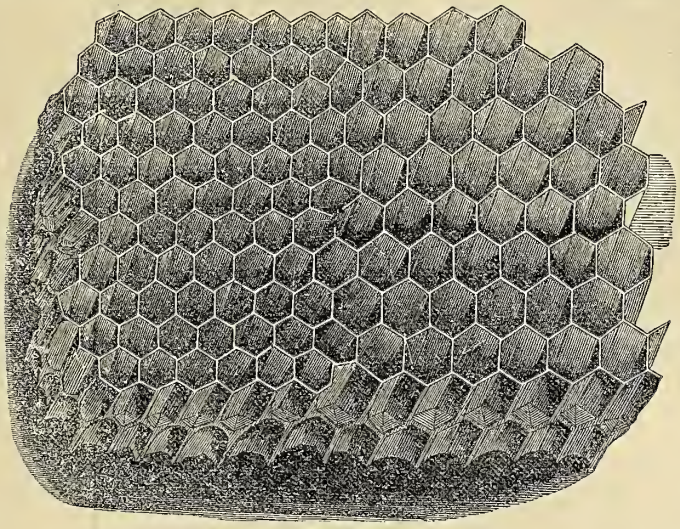


Fig. 1.

The accompanying illustration, (fig 1), gives an accurate representation of both the worker and drone comb, of the natural size. On the right are seen the large six-sided cells for drones; on the left the smaller ones for common bees. But how can the two kinds be connected? Not without some irregularity, and so the bees, with strange forethought, in passing from one to the other, have built some five-sided and misshapen cells. The queen refuses to lay eggs in such cells, but they answer just as well for other purposes.

Many persons have never seen the egg from which the bee is produced, and we are happy to show them an engraving that will give them some idea of its appearance, and all the better for being somewhat magnified. The mother bee, responsible for the constant supply of eggs, from which a new generation is to spring, travels very diligently over the combs, selecting appropriate cells for the reception of her eggs, and as often as one is found to be in order, she thrusts in her *ovi-positor*, and after a few seconds withdraws it, leaving a tiny white egg, attached by one end to the bottom of the cell, (fig. 2). And with such wonderful instinct does a fertile queen act, as never to lay worker eggs in the drone combs, or drone eggs in the worker cells.

Fig. 2.*

The fertility of the mother-bee is remarkable, and it is well for her and for her young that she has no responsibility for the large household that owe their existence to her. She lays the eggs, leaving it to others to rock the cradles, feed the brood, and keep the house warm and clean. But what shall we say to her laying three thousand eggs a day? This would be about two a minute, but Mr. Langstroth says that in his observing-hive he has seen her lay at the rate of six a minute.

The illustration below, (fig. 3), throws some light upon this subject. It is a representation, of course *very highly magnified*, of what are called the *ovaries* of the qeeen, where the eggs are formed and kept until they are forced out into the cells. In these ovaries, (G, H, fig. 3), are many thousands of eggs, and as they pass out through the common passage way or *oviduct* E, they come in contact with the mouth of the general reservoir D, where they are fully impregnated, and then descend to the tip of the body. The sting is also represented in the figure; A being the poison-bag, and R the *rectum*.

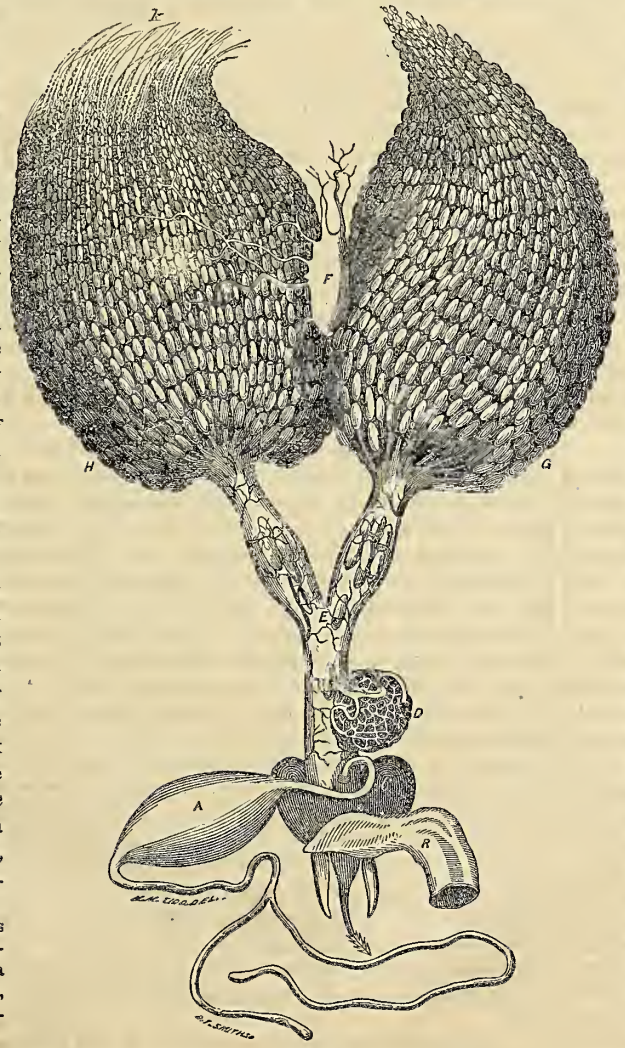


Fig. 3.

The eggs are not thrown together at random in these ovaries, but are arranged with as much regularity as peas in a pod. In fact, we may consider the *ovaries* as made up of a bundle of tubes, or *oviducts*, down which the eggs pass freely, but never across from tube to tube. And in these ovaries the egg receives its perfect form. It is not so with the eggs of birds. In a hen, for example, the *yolk* is formed in the ovary, but the *white* and the *shell* are added afterwards in the oviduct. Swammerdam, a careful and patient writer of the last century, from whose drawing our engraving was taken, counted at least *seventeen* large and small eggs distinctly visible in one of these ducts, and as the result partly of observation and partly of computation, he supposed there were no less than 300 of the ducts. At this rate there would be at least 5100 visible eggs at the same time in one mother-bee. Those that are to be laid last are less in size, and at the extremities of the tubes the rudiments are so small as to defy our powers of vision, and they 'can be numbered by Him alone who formed them"

Our engraving represents a double ovary. It will be noticed that the two parts are represented as differing from each other. This is not exactly according to truth, though copied from nature The ovary G is represented in a condition somewhat more advanced than the other. The extremities of the tubes are better filled, and lose the thread-like appearance that they have at an earlier period, as shown at *k* in the ovary H.

The reader will notice an oblong bladder, F, between the ovaries, with a few branches extending out among the eggs towards H. This is an air vessel, and its ramifications really cover the whole surface of both ovaries, reaching indeed every egg. The bees do not breathe, as we do, through mouth and nostrils, but through holes in the sides of the abdomen, and the apparatus of which we are speaking, is in some way connected with the function of breathing, and with the conveyance of air to every part of the frame. The lines seen when we hold a bee's wing up to the light, are also air tubes. The ovi-positor itself does not appear in the engraving, being covered by C, the muscles that move the sting.

The history of the egg from the moment it is laid until its transformation into a perfect bee is completed, has been carefully studied with the aid of the microscope, and is very curious. The observing-hive gives every facility for observation and experiment. The egg remains unchanged apparently for about three days; and sometimes for a longer period, if the temperature of the hive is low. It is then hatched, and a careful observer, watching at the right moment, would see the process as distinctly as the hatching of a hen's egg. The living worm that issues from the egg, remains at the bottom of the cell, a small white object, curled up like a lap-dog. It grows rapidly being fed by the bees, and from day to day assumes the different forms represented in fig. 4.

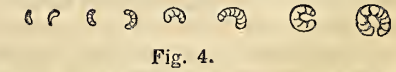


Fig. 4.

* For several of the illustrations in this series of articles we are indebted to Langstroth's "Practical Treatise on the Hive and Honey Bee"—a work we have heretofore, (Vol. XVI, page 141), recommended as of great value to every one interested in Bee Culture.

A Further Talk on Farmer Clubs.

[Scarcely had our article on this topic, in the Dec. No., gone to the stereotypers, when the following came in from a distant contributing Editor. This subject is an important one, and can not be too often referred to.]

Now is the time to establish one in your town. Perhaps you can make up one from two adjoining school districts. Hold the meetings at the most central school-house, or alternately at each other's private houses. Agree on a few simple rules, appoint officers, fix on some subject for discussion at the first regular meeting, and your "Club" is in existence. Now is just the time for moving in this matter, before the Winter has progressed any further, and while the results of last year's observations are fresh in your recollection.

The social benefits of such Clubs are considerable. Most farmers, from the necessities of their position, lead solitary lives. They spend nearly all their time in the field, or about the premises at home, finding little leisure for visiting. Their families, also, are much isolated from the world; they make few acquaintances out of a very narrow circle, and acquire few of the graces of cultivated society. The associations we now plead for, will bring the farmers of a town together often, and their families will follow the example. The result will be the forming of many friendships, more general intelligence, and more polished manners.

2. Consider, too, the information acquired at such Clubs. There is much agricultural knowledge to be gained outside of books. Young farmers, especially, and new residents, need to learn from the older settlers the particular wants and capacities of the soil they are just beginning to till, and the peculiar influences of the climate on the crops and fruits of the neighborhood. If any one has tried a useful experiment, he can here report the results for the benefit of others. There is much, also, to be learned from books. Let the subject for discussion be previously fixed upon, then all the members can employ their leisure in reading upon that subject. When they have read and thought, and talked upon that topic, they will find they have acquired definite and valuable information concerning it, which they will never forget. There is a certain best way of performing every agricultural operation, and there is a good and sufficient reason at the bottom of it, and every farmer should be thoroughly "posted" in regard to both.

3. These Clubs awaken in neighborhoods a healthy spirit of emulation. The tendency with most farmers, as indeed with men in other callings, is to fall into a slip-shod mode of doing things, satisfied with only acquiring a comfortable living. But let them meet together frequently and compare notes, and at once they begin to feel a new interest in their chosen pursuit. Learning of improved methods of farming they feel desirous to adopt them. They see there is room for improvement, and they feel ambitious to make commendable progress. We believe it will be found true that where Clubs have been annually well sustained, there a general spirit of improvement has manifested itself, in better crops, fences, buildings, utensils, and even roads.

We say again, now is the time to organize Farmers' Clubs. While you are resting from the severer physical toil of the year, let your thoughts be active in this good work. Store your minds with valuable information, as bountifully as your granaries are stored with the products of the field. Supply your book shelves with standard treatises on the management of horses, cattle, sheep, swine, poultry, grains, grasses and fruits. The Transactions of the Agricultural Society of your own State will not come amiss, and something can be gleaned from those portions of the Patent Office Reports which pertain to agriculture. It might be well to tax your Club $1 a head to purchase a small library for the use of all the members. If not this, it would be well to subscribe for a number of the leading agricultural and horticultural journals of the day. But by all means organize a Club forthwith, and we warrant that you will reap substantial improvement from it.

Boys upon the Farm.

HINTS TO PARENTS.

D. L. W., of Beacon Falls, Conn., sends us a lengthy communication, from which we glean the following:

Which shall be the farmer?—An example is given, where a farmer having but little land, put one of his two sons to a trade, much against the lad's own wishes, while the other, against his inclination, was retained upon the homestead to take care of the parents in their old age. The result was, the elder son served his apprenticeship and worked at his trade twelve years, when he secured a farm and returned to his coveted pursuit. The younger son remained at home until twenty-one, and being then free to act for himself, he quit the farm in disgust, and went to a favorite trade, which he still pursues. The parents remain alone upon the homestead. The argument drawn from this example is, that fathers should exercise great care in studying the natural tastes and propensities of their sons, and not attempt to arbitrarily force them into pursuits which are uncongenial.

While we admit that D. L. W. may be partially right, especially in suggesting the exercise of much careful discretion in this respect, we would by no means encourage parents to yield to the whims or caprices of boys while having yet too little knowledge of the world and of themselves, to know what they really wish to do. There is not a lad in twenty that does not take a fancy to at least half a dozen different pursuits, before he reaches the age of sixteen or eighteen.

HOW TO ATTACH BOYS TO THE FARM.

We endorse more freely the closing part of the letter before us, in which it is recommended to parents to endeavor to create a real taste and love for farming on the part of each of their sons. To do this we agree with D. L. W., that it is usually good policy to allow to each boy a small plot of ground, which he shall cultivate as his own, and of which he shall have the whole care and management. We conceive that this would develope a special interest in the soil and its products. It is all very well in theory, that all things upon the farm should be held in common, and that the boys should feel that this and that is *ours*. But the interest will be quickened if, at the same time, the boy has the smallest plot, in the culture of which he feels an individual responsibility. He will thus be led to *study* the best means of promoting its production. He will reason upon the subject of manures, the best modes of tillage, &c. He will consult with others upon these topics, and acquire an interest in soil culture, which would never be developed by mere mechanical toil while others do all the thinking and planning for him. A similar effect will be produced by having the special care of an animal or an implement, in which a personal interest is felt.

Another good result from such a course is, that many hours usually devoted to play, or associating with evil company, would be diverted to useful exercises. As bad as some hypochondriac people are disposed to consider the boys of the present generation, there are few of them who would not cheerfully save many hours, now worse than wasted, if they had a plot of ground of their own, from which they were to have the whole proceeds.

It must be evident to every one, that a plan, like the one here recommended, will have a decided tendency to develope *habits* of thrift and economy. With proper oversight the lad may also learn much in reference to the course of trade, the laws of supply and demand, &c. If he have but half a bushel of potatoes to dispose of, he will very naturally watch the movements of the market, with reference to the best time to sell. Instead of losing an interest in the general business of the farm, he will study this all the more carefully, in order to draw conclusions as to his own course.

Milk Can be Concentrated.

After many failures in the attempts to concentrate milk, so that it may be conveniently carried any distance to market, and preserved in this state for a long time, we are inclined to think success has at last been obtained by Mr. Gail Borden, Jr. We have tried the milk prepared by the new method, and are much pleased with it. But first of the process.

The milk, fresh from the cows, is deprived of its animal heat by putting it in large cans of six or eight gallons each, immersed in ice-cold water. It is then subjected to a heat of 160° to 190°, that is a little below the boiling point and next transferred from the cans to a large closed cast iron vessel, where it is heated by steam no higher than 120 to 160 degrees. The air is pumped off from the surface, which of course produces very rapid evaporation, even at the low heat of 120°, and avoids cooking the milk. The vapors, consisting of water from the milk, are removed as fast as they rise, by means of the air pumps. The constant removal of the pressure of the air and vapors produces so rapid an evaporation that 500 quarts of milk in a boiler are reduced to one-fourth, or 125 quarts in the short space of one and-a-half hours. The liquid thrown off by evaporation is clear, like water, but has a sickish unpleasant taste, and disagreeable smell. It is thought the separation of this from the milk renders it purer and more pleasant.

The concentrated milk is a viscid mass, thicker than cream. This is put into cans, sealed up and sent to market. To use it, it is only necessary to restore the water removed by the condensation. During the Summer we made trials of the milk, brought from Winsted, Conn., the location of the manufactory, and found it every way equal to new milk when stirred with four times its bulk of water. It has the taste of boiled milk, but this is no detriment to those accustomed to using boiled milk. We may here remark that milk should always be boiled before use. For our own part, we should about as soon eat raw flesh as raw or unboiled milk, and we think this will be the experience of any one who will adopt the practice of boiling all milk designed for food.

The milk concentrated by Mr. Borden's process, and sealed, can be kept for a long period, but after opening to the air it spoils in a few days. During the hottest Summer weather we kept a can of it open for four days, in a common ice chest, and found it still good. It must be invaluable for carrying to sea.

This matter is an important one to farmers. We see no reason why a factory may not be located in any good grazing regions, even at the far West, and the milk concentrated there be sent to the New-York or other markets, and sold at a

low rates as it is now furnished by milkmen in the immediate vicinity of this city, with a profit to the farmers and manufacturer, and to the decided advantage of the consumer.

Suppose, for example, that we have a factory located in Ohio. The manufacturer pays the farmer 2½ cents per quart—add 1 cent for condensation and profit, ½ cent for cans, and ½ cent for transportation. The result would stand thus:

100 quarts of milk at 2½c	$2 50
Condensing & manufacturer's profit	1 00
Cans (to be frequently used)	50
Transportation of 20 quarts (condensed)	50
Cost of 100 quarts delivered in New-York	$4 50
Add for commissions, &c	50
Total	$5 00

Equal to 5 cents per quart for 100 gallons.

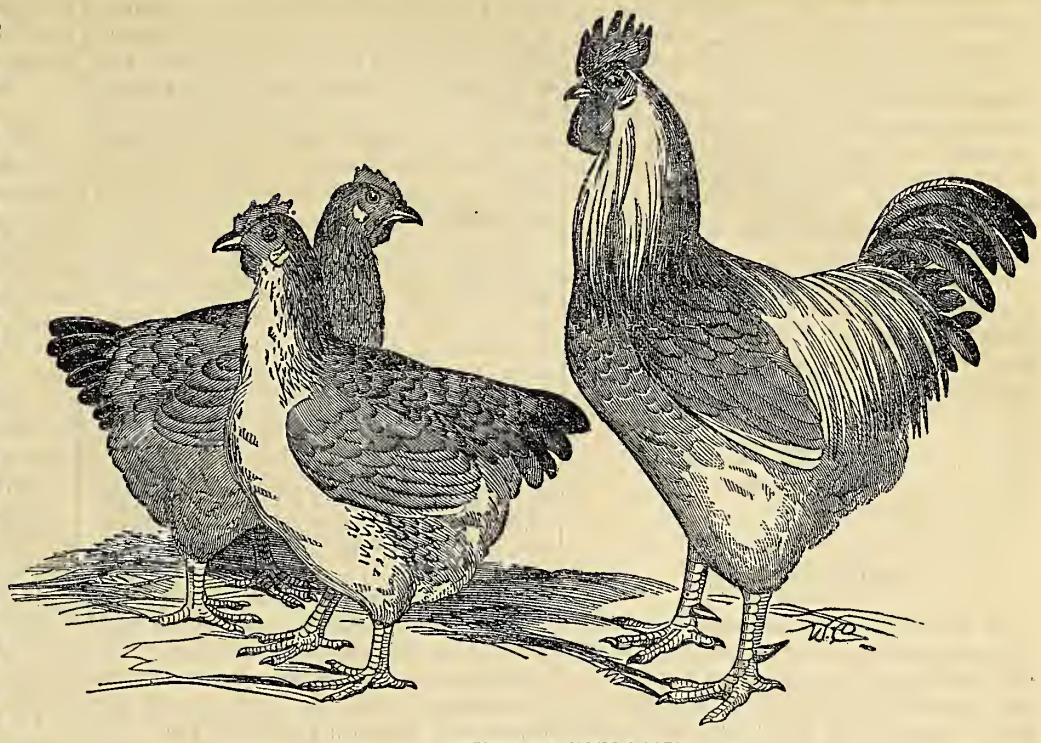
We have given these figures for illustration only. They are doubtless higher than would be necessary if the business were carried on upon a large scale. But with this estimate we have good milk delivered to the distant consumer at 5 cents per quart, while the producer gets 2½ cents, which would pay him a better profit than butter or cheese making. For our own use we should certainly prefer the 100 quarts obtained by adding 80 quarts of water to 20 quarts of the concentrated milk, than an equal quantity of the best milk sold in New-York as "pure Orange County."

The Inventor of this process, Gail Borden, Jr., is a quiet, modest man, more disposed to make improvements than to derive after benefits for himself—had not this been the case he would have been immensely rich from his "Meat Biscuit" invention. But we write not for or on account of Mr. B., but to call attention to the process itself, and to elicit further information as to the practicability of establishing manufactures in different parts of the country. The concentrated milk is on sale at 173 Canal-street, in this city, and those desiring information can address Mr. Borden at that place.

Saw-dust for Littering Stables.

This is quite valuable to absorb the liquids and to prevent the foul odors arising from stables. If ammonia is one of the most powerful fertilizers, why should not the greatest pains be taken to save it? For this purpose, saw-dust is just the thing. It is useful, also, on the score of the horse's health and comfort. It is injurious to an animal's feet to stand in the liquids of his stall: it is hurtful to his eyes and his stomach, and his lungs, to remain long in an atmosphere charged with the powerful vapors arising from those liquids. We wonder that the poor creatures stand it so well as they do. Dry muck answers very well to scatter daily in the stables, though saw-dust is much neater. It is quite important, however, in clearing out the stalls daily, to mix a little muck or plaster with the saw-dust and manure to prevent the whole from violent fermentation. *

To GIVE BRILLIANCY to the eyes, shut them early at night and open them early in the morning; let the mind be constantly intent on the acquisition of human knowledge, or the exercise of benevolent feelings. This will seldom fail to impart to the eyes an intelligent and amiable expression.



SHANGHAIS.

A Plea for Shanghais—Selling Eggs by Weight.

To the Editor of the American Agriculturist:

Much has been said about shanghai's, and the shanghai fever in times past, but we hear very little on the subject at present. Some of the would-be-wise, and those that have never tasted them, have more to say, I find, than those that have had some experience in the matter. Now to those who have never seen or tasted them I would say, they are more valuable than any other kind of fowl that I have kept. As to size, they are worth as much again as the small kinds. Any one having a roasted fowl weighing eight pounds is not to be laughed down by those not having such a luxury. The shanghais are more juicy than any other kind and for that reason better to roast, and a large one is better than a small one of any breed.

I have kept the "Everlasting Layers," the Maylays, Topknots, Dorkings, and all the common and uncommon varieties of color and kind. I have had shanghais to lay at six months old, and you will see but few others that will lay at that age. Their eggs are larger and weigh more than those of common fowls, and in consequence I shall sell no more by the hundred or dozen as is customary, but by the pound as beef is sold. We find these eggs cheaper even at two dollars and a half per hundred, than beef at fifteen cents per pound, especially if tough at that.

Here is another point. I can keep the shanghais out of my garden with a fence one lath high, which makes a very cheap fence. Now, sir, it makes no difference how fat and good natured a man is, it is very trying to his temper, especially if a little nervous, when he has made a garden and the seed is just coming through the ground, to have the hens begin their labor of scratching it out without asking where to begin. Why, sir, I have been more plagued with the small species of hens, than they are worth the whole season, hens, garden and all.

Now then comes the objector, who says sneeringly, "I don't want your great long legged fowls that cannot stand up alone." I say there is no reason why you should have them, if you are afraid to pay for the pure blood and are waiting until there are a few more crosses, or till they get a little cheaper. To such a man as this, I would never sell cheap, but would rather give them to some one who knows how to value them. I can say for the information of such, that I have shanghais as short legged as any of the small kind, and they weigh twice as much; and as to their meat which is said to be very coarse, I could see but a slight difference. I have eaten them at all ages, and find their meat sweet and juicy, and second only to a turkey for a roaster. As to the shanghai fever, some men have been excited it is true, but that has nothing to do with their real worth. The last poultry show I attended at Albany, N. Y., I was surprised to see the improvement in fowls. I did not find a poor fowl there. So much for good breeding. The poor breeders did not bring their fowls there knowing it would be useless. We will go on improving, and at the next show I expect to see better fowls still. When eggs sell for three cents apiece in your city, I think it would be more profitable to keep hens that lay ten months in the year like the shanghais, than those poor little common fowls. When I hear something from your friends that do not like shanghai fowls and eggs, I may say something more. S. G.

RHINEBECK, N. Y.

REMARKS.—This is the kind of talk we like. If a man has got a good thing that he wants the world to have, let him tell of it. If our friend has such shanghais—we don't doubt it—he has got a good thing. We have had a somewhat long experience in fowl culture, but we honestly confess we have not fancied the shanghais at large, although at the State poultry show at Albany, of which he speaks, as well as that which followed it at Barnum's Museum in this city, the week afterwards, we did see specimens of that breed which surprised us by their fine breeding and appearance. They were truly noble birds and could we always have such as those, with all the good qualities our friend gives them, we should be quite content.

We do not, however, see the virtues of a particularly *large* chicken for the table. A chicken is not a turkey; nor can you make it one in taste

and flavor by any process whatever. Still, like a Short Horn among cattle, the shanghai among fowls may be early matured and well fattened, if properly bred in shape and quality. The size of its eggs is well, too, if it do not cost too much food to get that extra size, and we accord entirely with the suggestion that they should be sold by *weight*, instead of by *tale*, as is the usual practice. Then both the seller and the buyer would know what they sold and bought, as they do not now, in counting them out.

The *furor* of the hen fever is past, to be sure, not, perhaps, to be revived in the intensity with which it pervaded the land three or four years ago, but its effects have been profitable. Thousands of people who before that knew no difference in hens, now know what a good one is, and will keep them henceforth, and cultivate them with skill and assiduity. Let our poultry fanciers send us their opinions and experience. They shall have all requisite room.

Will Poultry Pay?

To the Editor of the American Agriculturist.

I wish you would advise me whether a poultry yard can be made profitable or not. I am a young man, living with my father on a large farm, but being in poor health wish a business requiring light labor. We are 15 miles from Cleveland, where eggs sell in Summer for 10 to 15 cents per dozen, and in Winter for 15 to 25 cents per dozen. Chickens sell for 12½ to 25 cents each, according to the season and size of the chickens.

What profit can be made on each hundred hens, and can a person, by keeping 600 or 1,000 fowls, make it a profitable business? How much will it take to keep a hen a year, and how much will they yield, on an average, in eggs and chickens?

What treatise on poultry do you consider best, and can I procure it through you? S. A. B.

Chagrin Falls, Ohio.

Reply.—As a general answer to our young friend, we cannot advise him to go into the keeping of hens on a very *large* scale. We have seen several trials of the kind, where five hundred to a thousand were kept together, even with large accommodations in the way of building and yards, and they turned out, after a few months, total failures. There are no creatures in the world so prone to originate diseases among themselves as poultry. They need pure air *all* the time. They require a change of food, both vegetable and animal. They must have range for exercise, and that almost daily. They must be kept clean in their habitations. Dirty quarters breed lice, and lice will in a short time destroy the fowls. With a good range, as many as one to three hundred hens may be kept on a place; but they must be allowed to run at large daily, with plenty of *scattered* accommodations to make their nests in. They love *secrecy*, and although gregarious at times, they love to be apart in making their nests, sitting on their eggs, and bringing up their chickens, and such opportunity they must have to be successful in either.

We once knew a housewife in Southern Ohio, who kept three, four, or five-hundred hens—indeed she, herself, did not know how many. But they had all they wanted of a thousand acre farm to range in. They roosted all about the corn cribs, under the sheds, and in the barns and wagon houses, and on the fruit and other trees, near the buildings. They fed at the corn cribs, and at the oat bins, and stacks. They laid "all over," sex where they pleased, and brought up their chickens at discretion. To be sure, the old lady looked after them, but they gave her "a deal of worry," as she told us; but as she loved her chickens, she endured it. She gathered eggs daily by the hushel, in their season, and sold them by the thousand, while during all the year "chicken fixins" were the plentiest food of her table. But had she confined her hens to an acre of ground, with a building fitted up with roosts, and laying apartments, a hundred feet long, by thirty-feet broad, they would probably, all have dwindled and died out in less than six months.

As to what a hen will eat in a year, that will depend much on whether she be confined, or run at large, and what her opportunities for outside forage are. Half a gill of corn a day will keep a hen very well, and if a good breed, she will lay, under fair circumstances, a hundred and thirty eggs a year. Some say they will lay more, but this is probably a fair average, it depends somewhat on the accommodation, and the food they have, and the profit can be only made up on trial. There is profit in keeping hens, we know, when all things are well provided for them: without such provision they are a nuisance.

There are several poultry books extent—some good—some worthless. The best we think, taken all together, is Bement's late work (price $1 25). If our young friend concludes to embark in the chicken business, the better way is to get his accommodations up in the right way, and begin moderately. His own experience after a few months will then decide whether it is policy to enlarge his stock or not.

The Best Goslings.

Thanksgiving, Christmas and New-Year's, with all their pleasant associations are past, it is true; and so are their feasts, and their merry-makings; but a few of the fine fat goslings which graced and loaded their tables are yet left, and of these we have a word or two to say before the last year's flock are all sacrificed.

Now, a common goose, rambling about the streets, highways, and other people's fields, we consider little better than a common nuisance; and none but those who have proper accommodations for them, both in pasture, and water should keep them. But a goose may be bred for table purposes, perfect in its kind, and where the conveniences exist, with little trouble. The fancy breeds, such as the Chinas, Africans and Bremens, are shy breeders. They lay too early in the season; their eggs are apt to be chilled, and the produce usually are few in number.

Therefore, we would not recommend them to those who wish a fine flock of goslings for the table. But take two or three good common geese, and put with them a China, African or Bremen gander, and you have the material to breed the finest young birds imaginable. They couple with entire freedom; the geese lay at their usual season; their eggs are just as prolific as if bred to the common gander, and the goslings are twice as good, and much larger, finer fleshed, and with the same food, fatter. We have tried the experiment for several years past, and know the fact. The fancy bird is of better shape for taking flesh on to the carcase, being longer, rounder, and plumper. It is next to impossible to cover the breast bone of a common goose with flesh, while the other will pile it on wonderfully—fat and delicious—and the hybrids partake, in that item, of the foreign parent. Try it, you that love a tender roasted gosling, and you will be convinced of the fact.

An Irish knight was once disputing with a French courtier as to the age and standing of their families, when the latter as a finisher to the argument, said that his ancestors were in the ark with Noah. "That is nothing," said the Hibernian, "for at the deluge my forefathers were cruising about *in a boat of their own.*"

Poultry Disease at Rock Island, Ill.

To the Editor of the American Agriculturist,

In the Spring, I had hatched out over 150 chickens. I gave each brood a small weather-tight house, and a yard 8 by 3 feet. Fed them fresh water, wet corn meal, potatoes boiled, bits of bread, and such like, with grass and clover. But 9 out of 10 died....This Fall I had hatched some 75. These I turned out about my lot; they have had access to all kinds of vegetables, and have been well fed, but with the same result as above.

The symptoms of the disease are: First day a general dullness, and second day they drop their wings, hunching up their backs, and die.

Some of my neighbors said they had lice. I examined them, and found none, still I greased some in the Spring and this Fall thoroughly. I opened *one* after death, and found no worm in his throat. I have given them sulphur in their corn meal with no effect. The only thing I can discover is, that though fat, when dead there is nothing to be found in their crops.

I have tried all kinds of grain, and everything I could gather from poultry books. Please enlighten a subscriber, and Rock Islander.

Remarks.—Our Rock Island friend is certainly in bad luck chickenward. If he has consulted the poultry books, and found no remedy for the strange disease he describes—and of which we never heard the like before—we know not what to advise him. In our own poultry-rearing we recollect to have had occasional cases perhaps akin to those described, but never beyond a very few, and no account was taken of them. Is there not some local influence in and about the soil, or something which it bears that troubles them? It hardly seems probable, however. Although not able to relieve our friend of his difficulty, if any one of our readers can do so, we will be obliged to him, and cheerfully publish the remedy.

Experience in Potato Culture.

A trial of wild seedlings of South America—Experiments to prevent the Potato rot—Comparative value of several varieties.

To the Editor of the American Agriculturist

I noticed in the December *Agriculturist* an article on the Potato Rot. I can give the correspondent of the N. E. Farmer, referred to, the result of *one* experiment in raising Potatoes from South American seed.

In the Spring of last year, (1857), I procureo a barrel of Potatoes which were grown very many miles above Buenos Ayres and not far from the confines of Chili. They were small in size and not a superior potato for cooking, as the few we tried proved watery. They were planted on new lands on the 24th of April in drills 3½ feet by 18 inches, and manured with compost, at the rate of 8 cords per acre, part of it spread and plowed under, and part put in the drills. The compost consisted of horse manure, meadow mud, leached ashes, and a little night soil. I find by my journal they were up several days in advance of the Dover or Danvers seed. On the 10th of August, find a memorandum, that the South American Potatoes were looking finely, with plenty of *seed balls*, and the stalks healthy but of a lighter green than the other vines. From that time to the 25th, we had many wet days, and on the 18th found symptoms of rot amongst all my potatoes which increased

until it nearly destroyed my whole crop excepting the earlier ones which had previously been marketed. I only saved about the seed that was planted of the South American variety, and they were no better than the original, being watery and tasteless. So much for one experiment.

I also noticed your remarks on the Dover and Danvers varieties, and agree with you—they nearly resemble each other excepting the eye in the Dover is shaped like the letter V. I have raised very many kinds of Potatoes, and give the Dover the next place to the Carter for eating—and they have yielded more than any other of the better varieties of the potato family.

There was one curious circumstance attending the rot on my vines, which it is impossible for me to explain. On the 2d of April we cut some Carter and Dover potatoes for seed, and on the 6th planted ¼ acre of Carters, and on the 9th ¼ acre to Dover seed, leaving a space between the two of 11 feet for some rows of cauliflowers. Not having Dover seed enough to finish the last row nearest the Carters, we put in 30 hills Carter seed—to my surprise these last showed very little of the rot, (whilst the other two lots were so nearly destroyed that we plowed them in) and the 30 hills yielded nearly one bushel of sound Carter potatoes with very few rotten ones among them. The soil, cultivation and manures were the same as the others. The rot has usually made its appearance, when a few hot days have been followed by a cold rain. Such has been the case with us the past year. We have often saved our crops by planting the earliest varieties and getting them to market by the middle or last of July, which will not allow a full crop, but we obtain much better prices than later in the season, and often when a part of the crop has been planted very late they have escaped. Potatoes seldom rot on land that has been newly cleared and the wood burnt on the ground. Pasture land, broken up and planted without manure has often saved us our Winter potatoes. A brother farmer planted his potatoes in tan, and for two years they were sound, but the third year tan proved of no avail. I have mowed the tops, and have tried plaster and lime, but never saw much benefit. I procured some seedlings of two years from the balls, thinking new seeds would prove a protection, but the rot came nevertheless. I have never seen any experiment that stood the trial of four years and proved a protection, and have come to the conclusion that except on newly burned lands, the season being alternately hot and wet, potatoes will rot, in a greater or less degree. SALEM.

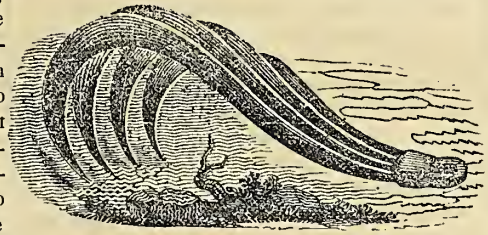
Galls on Horses.

An ounce of prevention is worth a pound of cure. It is bad economy to use a poor harness. The collar, especially, should always be in good condition. It should be frequently washed and oiled; an occasional pounding will keep it soft and in good shape. Whenever it becomes thin or broken, pads should be worn underneath it.

Galls are occasioned, often, by putting horses to hard work all at once, after a period of rest, as in the Spring, after the rest of Winter. As a means of preparing the horse for such work, it is well to bathe his breast and back with a solution of alum and whisky for several days before the labor begins. It is well to use this preparation also at any other time when the skin seems tender. We have known small sores to heal up entirely under the use of this remedy, even though the horse was kept at work.

It is another excellent preventive of galls to bathe the shoulders and breast of a working horse once or twice a week, at night, with salt and water, washing off the same with pure water in the morning.

When the skin becomes badly broken, a horse should be allowed a few days rest, or if work is very pressing, the harness should be so padded as not to irritate the sore; otherwise, it will be vain to expect a cure. Some of our neighbors use white lead, mixed with linseed oil, (common paint,) to cure galls. And they often succeed with it: at least they get a hard incrustation over the broken skin. But we hardly fancy this *tanning* a horse's hide while he is yet wearing it.



Bush and Root Pullers.

J. M. Clark writes that he lives in Wisconsin, on the dividing line between the prairies and wood lands, where the ground is covered with a great amount of small bushes of various kinds, and inquires for the best implement for taking them out. If not too large, we know of no better implement than the one figured above. These are made entirely of wrought iron, and are constructed with two, three, or four fingers, or hooks. A chain is attached to a hole in the forward end. The hooks and shafts should be made strong. The weight usually ranges at about 25 pounds for two hooks, 37 pounds for three hooks, and 50 pounds for four hooks. They are sold ready made at most agricultural stores for about 12½ cents per pound, or $3 to $6, according to size and weight. They are especially adapted to alder and willow bottom lands. Turned upon the back they can be drawn around by the team from point to point, and turned over to catch a root or clump of bush whenever required.

Setting Fence Posts.

We hear frequent complaints of the perishableness of fence posts set in the ordinary way. And to the suggestion that the lower end of the posts should be charred, it is replied that while charring benefits the outside of the timber, it cracks it open so that water penetrates the wood still further, and causes a rapid decay in the interior.

Let us, then, make another suggestion. Char the lower end of the post for eighteen inches or two feet, so that about six inches of the charred part will be above the surface of the ground. Have in readiness a kettle of hot coal tar, (a cheap article,) and plunge into it the lower end of each post; or apply the tar with a brush, taking pains to get it into the crevices. A second application is desirable, as soon as the first becomes dry, and will make the timber water-proof for many years.

To Prevent Snow Drifts by Fences.

Such drifts are generally caused by an eddy or lull of the wind, occasioned by meeting with high or tight fences. To obviate this, one can either take down his fence at the approach of Winter, or, what is better, build a very open fence which will not obstruct the wind. A wire fence will answer a very good purpose, but as this does not always work well in other respects, the same end may be gained by building a fence with quite narrow boards. Have them sawed one inch thick and four inches wide. Set the posts firmly, three feet in the ground. Leave a space of three inches between the bottom board and the ground; four inches between that and the second board; five inches between the second and third; seven inches between the third and fourth, and nine inches between the fourth and fifth. This makes a fence four feet and a few inches high, which answers every purpose of protection, and does not occasion the formation of snow-banks. Considering the great inconvenience, and even danger, caused by drifts, which are often piled up along the highway, in some localities, above the neighboring fences, we think this suggestion an important one.

Luck in Farming.

There are few words oftener upon the lips of a certain class of farmers than *luck*. Smith is a "lucky dog," because his corn never rots, his wheat never Winter-kills, his sheep never get into his rye, and his cows never invade his meadows and orchards. His crops are better than his neighbor's, his butter brings more in the market, and even his wife and children have a more contented look than other people. Every thing he touches thrives. What a lucky man Smith is!

Now, the fact is, luck has nothing to do with Smith's success in life. If you watch the man, you will find that every result he reaches is anticipated and planned for, and comes of his own wit and work. It is the legitimate reward of his labors, and it would have been bad luck, if it had turned out otherwise. His corn always comes up, because he always selects the seed himself, and hangs it up by the husks in the garret where it is thoroughly dried. He does not plant until the sun has warmed the soil enough to give the germ an immediate start. He drains his wheat fields with tile, and the water that used to freeze and thaw upon the surface, and throw the roots of the wheat out, and kill them, now passes down into the drains, and runs off. His fields are green and beautiful in the Spring, when his neighbors are russet, brown and desolate. His fences are in good repair, and his animals are not made breachy by the continual temptation of dilapidated walls. His wife and children are comfortably clothed and fed, and are not kept in a continual fret and worry by a husband and father, who has no system or energy in his business. "A time and place for every thing," is his motto carefully carried out. The Shoemaker is always called in when his services are needed, and none of his household get wet feet, catch cold, have the lung fever, and run up a doctor's bill of twenty dollars, for want of a cent's worth of leather at the right time in the right place.

Smith does not believe in luck. He knows that health in the family, and thrift upon the farm depend upon a thousand little things, that many of his neighbors are too lazy or careless to look after. So while they are at the tavern, or loafing in the village, or running a muck in politics, he is looking after these little things, and laying his plans for next year. He has good corn, even in the poorest year, because the soil has the extra manure it needed to bring out good, long, plump, well capped ears. He meant to have 80 bushels to the acre, and he has it, good measure, and running over. Talk with him about luck, and he will say to you:

"It's all nonsense. Bad luck is simply a man with his hands in his breeches pockets, and a pi-

in his mouth, looking on to see how it will come out. Good luck is a man of pluck to meet difficulties, his sleeves rolled up, and working to make it come out right. He rarely fails. At least I never did."

Smith is right. *Attend* to your business, and you will have good luck.

The Alderney Cow.

Why do not some of our wealthy gentlemen, living in their snug and pleasant country places, give us, now and then, the results in milk, cream, and butter, of their docile little pets, the Alderney cows? We have seen the Alderneys, both at their own homes in the places aforesaid, and at the cattle shows, where they have been exhibited for the past dozen years; and although we have always heard them praised for their yields of rich milk, and delicious butter, do not recollect any instance where the measures and weights have been stated, on this side the Atlantic.

That the *true* bred Alderney is a little, inferior, funny-looking beast, when compared with the short-horn, or even the Devon, we know. But ewe-necked, saddle-backed, and sickle-hammed as she is, she shows both blood and breeding. Her head has the fineness and graces of the elk, and her eye the quickness and brilliancy of the gazelle. She is gentle as a pet lamb, a dear lover of home, and an ornament to the home-park or the paddock. Then why not let us know more about them, you gentlemen, and suburban farmers, who treat yourselves with their keeping? Numbers of them have been imported in past years, by our friend, Mr. Taintor, of Hartford, Connecticut, and some others. They have increased and multiplied, and are now scattered over a wide region of country in the Atlantic states. It will be for the interest of those who have time to spare, now and then, to let the public know their virtues, and they have only to send us properly made-up accounts of their feats at the pail and the churn, and we will spread them broadcast over the country.

Churning New Milk—A Dairy Manual Wanted.

To the Editor of the American Agriculturist.

If you should deem it of general interest will you print a statement of the process and profits of churning *new milk*. The statement should include time of the year, feed of cows, measure of milk, (whether "Wine" or "Beer" measure.) The coming Winter will be a proper time for publishing in season for preparation before Spring.

Geauga, Co., Ohio. L. E. Kent.

Remarks.—We expect to give a series of practical chapters on butter and cheese making during the present year. We can say in advance that the churning of *new* milk,—that is, milk freshly drawn from the cow, is neither profitable nor expedient. Milk requires, when intended for churning entire, to be set in pans after straining the same as if the cream were to be taken off, where properly raised and churned separately. The milk must be cooled by the passing off of the animal heat before the cream will separate from the other constituents of the milk at all, and this is usually a process of an hour or two, according to the temperature of the room where it stands. The churning of milk is no way different in its process from that of cream, only that the cream is not taken off, but after being fully raised, it is poured, with the milk, from the pans into the churn, and worked off together. Both methods are used by different dairymen, but in the results of the trials which have been made and reported, we have not ascertained that milk-churned butter is superior to that where the cream alone is used.

The "statements" which our correspondent asks for can only be given after elaborate trials and investigation, and no inconsiderable expense of time and labor. Several reliable trials have been made in years past under the supervision of the New-York State Agricultural Society, and published in their annual volumes of Transactions. They are of great length and minuteness of detail, and no synopsis could be made from them, short of the full copy, which would give a sufficient understanding of the subject. We need a *good* Dairy Manual in this country, and if some really *competent* man—not one of the youthful book makers just now so officious—would set about it and get up one complete and well understood in all its parts, from the selection of the cow and her keeping to the finishing off of the butter and cheese, it would be of exceeding value to the dairy interests of the country. Until some complete work on this topic is prepared, however, we can offer room for its discussion in these pages.

What Feeding Will Do For Pigs.

We have just killed one pig, fourteen months old, which weighed 438 pounds. A neighbor had two pigs of the same litter, weights 436 and 439 pounds. It will be seen that the average growth was a trifle over a pound a day for the whole life of these pigs. Another neighbor had a pig *of the same litter*, killed at the same time, weight 248 pounds—a difference of nearly 200 pounds.

There is an old adage among pork makers, that "the breed of swine is all in the trough," and these experiments would go to establish the truth of the proverb. Though we have full faith that some breeds are much better than others, yet very much depends upon feeding. In the cases here recorded, the whole difference lay in the trough. The heavy pigs were well fed, while the other was stinted. Pork, in the one case costs about six cents a pound, in the other not less than ten.

To make pork economically, the swine must have a dry, warm apartment to sleep in, and, at this season of the year, the bottom should be of wood, or some good non-conductor. They should be fed at regular intervals. The pig knows the dinner hour as well as his master, and his stomach becomes uneasy, if its cravings are not met at the appointed time. The secret of thrift depends upon keeping him in the most comfortable position possible. If a pig squeals, his flesh is wasting, and the owner should take the alarm at once. But pigs should have enough to eat at each meal, and a change of food, occasionally. They will grow more rapidly upon a mixed diet. For the last few weeks these heavy pigs were fed with two quarts of corn meal apiece, at each feeding. This made the flesh firm, and heavy, and the lard very abundant.

Full feeding is as great an advantage to the manure heap, as it is to the pork barrel. With suitable conveniences a farmer may make eight cords of manure worth sixteen dollars, for each pig that he keeps a year. This will pay for nearly one-half the food a pig consumes, and very much reduce the cost of making pork. The rule then for making pork economically is, keep dry and warm, feed regularly and abundantly, with a variety of food—and save the manure.

What utility is there in killing hogs, if they are *cured* directly afterwards?

Look after the Coarse Fodder.

Nothing is more common in the fields and barn yards of our farmers, than to see quantities of straw, corn-stalks, and coarse litter lying kicking about the cattle's feet, and in piles along the fences, where a little of it is nosed over by the stock, and the rest trodden under foot and wasted.

This is all wrong, and as unnecessary as wrong. Every particle of coarse fodder, even to buckwheat, pea and bean straw, should be carefully foddered out, for in certain portions of the winter, if the stuff be well saved and clean, the cattle, sheep, and horses will consume it all. If the racks under the sheds are not sufficient to hold it, we build cobble pens of rails, poles, or coarse limbs, in the yards, or adjoining fields, and carry out, or haul with a wagon, cart, or sled, as the case may be, the litter, and pitch it into them. To these, in good weather—not in rain or snow storms—we drive the stock, and never had any difficulty in their eating all, or the most of it, even when they fed on good hay over night in their stables and sheds.

Sometimes, when the straw is not bright, by sprinkling on a little brine, the stock will eat it clean, when otherwise they would hardly touch it. It is of no use to say, that such fodder does the stock no good. We know better Anything that the cattle eat with a relish *does* do them good. Cold bright weather is the time to feed out all coarse fodder, and it is wrong to waste a single handful that any creature you have will consume.

Old Shoes—Refuse Leather.

To the Editor of the American Agriculturist.

....We have got the bones dissolving in oil of vitriol and water, but, what shall we do with the old shoes, of which a great quantity may be picked up where there is no river near by to throw them in. Shall we put them in with the bones, or can you tell us of a better use to put them to?

Middlesex Co., Ct. A.B. Worthington.

REPLY FROM PROF. JOHNSON.

What the farmer can do on a small scale with old shoes, and leather refuse in general, I do not know. I have tried to dissolve leather in oil of vitriol but although the action is considerable I have not succeeded in destroying the texture so that a finely divided mass resulted. I should advise your correspondent to try composting the old shoes with slaked lime. I am not, however, sanguine that a good result would be obtained in that way. Perhaps a compost of fresh horse-dung containing a good deal of litter, well moistened, and kept covered with muck or earth would reduce them to a convenient shape, in the course of several months of Summer weather.

Old leather is well worth saving. I have analyzed some samples, and have found them to contain nitrogen equivalent to 6 *per cent* of ammonia. It would be easy and doubtless profitable to economize this ammonia by some suitable manufacturing process. S. W Johnson.

Yale Analytical Laboratory.

New-Haven, Ct., Dec. 1857.

Wouldn't Steal the Trap.—"Billy, how did you lose your finger?" "Easily enough," said Billy. "I suppose you did, but how?" "I guess you'd a lost your'n if it had been where mine was." "That don't answer my question." "Well, if you must know," said Billy, "I had to cut it off or else *steal a trap!*"

If all had windows in their hearts, many would take good care to keep the blinds closed.

Use of Gas Lime.

In all our larger towns where gas is used for lights, there is a considerable quantity of waste lime thrown out from the gas houses, lime being used for passing the gas through to purify it. We have various reports from farmers who have tried this, some in favor, some that it has no effect, while others have condemned it as rank poison to crops. Several inquiries have recently been addressed to us, one of which from F. S. Hawley, of Binghampton, N. Y., we forwarded to Prof. S. W. Johnson, of the Yale Analytical and Agricultural School requesting an opinion. His reply will throw some light upon the subject.

To the Editor of the American Agriculturist:

The various contradictory opinions held among practical farmers, with reference to the value of gas-lime as a manure, are justified by the extreme variableness of its composition. When perfectly fresh from the gas-purifiers, it is in general a rather dangerous application to any growing crops, or in contact with seed. Mr. Solomon Mead, of New-Haven, Ct., informs me that he once applied it in the hill to potatoes, and they never came up. A gentleman in Wallingford, Ct., applied it to grass land and to the roots of peach trees. The trees were destroyed, and the grass severely scorched, so that it did not fairly recover until the ensuing year.

It may be used in the fresh state upon naked fallows, especially when it is desirable to free the soil from slugs, injurious worms, or couch grass. What its action is upon vermin may be inferred from the fact, that when fresh, it contains a substance (sulphid of calcium) which is the actual ingredient in the depilatiors and cosmetics, which are articles employed for removing hair. There is an account of its being thrown into a hog-pen with the intent that the swine should incorporate it with the compost heap. This was effectually accomplished, but at the expense of the bristles and hair of the hogs, which were, in a great measure, removed by the operation.

It is thought, too, that the odor of the coal-tar which is mixed with the gas-lime in greater or less quantity, serves to dislodge insects and vermin, and it is sometimes sowed in small quantity over young turnip-plants to prevent the attacks of the turnip-fly. In Scotland, it is largely applied to moss-land which it is intended to reclaim.

The quantity of easily soluble matters, (sulphid of calcium, sulphite and hyposulphite of lime,) is so variable, ranging according to analytical data, from 2½ to 15 parts in 100, that we may readily comprehend how some gas-limes may be quite harmless if applied in moderate doses even to growing crops, while others, rich in these soluble and deleterious matters destroy all vegetation.

It has been supposed that fresh gas-lime is valuable on account of the *ammonia* it contains. When the gas-lime is emptied from the purifiers in which it has been exposed to the gas, it has a quite pungent odor of ammonia, but the quantity, though enough to affect the nostrils, is in reality quite too small to have any great manuring value, and quite disappears after a few days exposure to the air. Mr. Twining, of this Laboratory, found in a specimen of perfectly fresh gas-lime from the New-Haven gas-works, but 8-10ths of one *per cent* of ammonia. In a gas-lime from the gas-works at Waterbury, Ct., which had been esposed to the air for one week, he found but about 4-100th of one *per cent.*

Fresh gas-lime may be advantageously used in composting swamp muck, &c.

By full exposure to the atmosphere, as when scattered over fallow-ground, after a time it becomes innocuous. The soluble caustic ingredients are converted into no less valuable a substance than gysum (plaster), and then, after its odor and bitter burning taste have disappeared, it acts precisely like a mixture of lime and gypsum. How rapidly these changes take place, I have no means of knowing without making actual trial, but should presume that if a dressing of gas-lime be incorporated thoroughly and uniformly with the soil *one week* before sowing or planting, no harm could result to the crop.

In conclusion, your correspondent is recommended to use it, if he can get it more cheaply than other lime, at the rate of 50 bushels per acre on heavy soils—or 10 to 20 bushels on light soils—making one application in three or four years. If fresh it should be put on the bare soil and not on a crop. In case of corn or potatoes, it may be scattered between the rows and worked in at hoeing time. If the gas-lime is white and tasteless after exposure to air for a time it, may be sown like gypsum.

It should be remembered that a wet soil will not be much benefitted by lime, nor by any manure, unless in a dry season; and that a light dry soil is soon spoiled by lime unless a good supply of organic matter be maintained in it, by means of stable manure, muck composts, or green-manuring. Lime and plaster, too, are at the best, even when they exhibit their most extraordinary effects, but partial fertilizing agents.

S. W. Johnson.

The Ship and the Guinea Hens.

We heard a story many years ago of the late Mr. Bartlett, of Newburyport, Massachusetts, an eminent merchant, and founder of the Andover Theological School, which is characteristic enough to be true. We give it as we had it from one of his neigbors, and being somewhat in the agricultural line, is not out of place here.

Mr. Bartlett was largely engaged in the India trade, but to amuse his leisure hours, bought a farm, a few miles out of town, to which he frequently rode for recreation, and in its various occupations he was much interested. Seeing a pair of Guinea Fowls brought to market one day, and being the first that he had met, and highly pleasing his fancy, he bought them and took them out to his farm. As it was in the spring of the year, before many weeks had passed, the hen began to lay. Instructing his farmer to look closely after the eggs, in a few days he had collected enough for a sitting, and placed them carefully under a common hen. The peculiar appearance and strange manner of the new birds had greatly interested Mr. B., and he was impatient to see their little chickens, and every time he went to the farm inquired if they were about to hatch, and charged his man to let him know as soon as any appearance of the young chicks was indicated. Faithful to his trust, one sunny morning the man rode into town, found his employer at his counting room, and told him that some of the eggs had "pipped," and the chickens would probably be out in the course of the day. "Sam," said Mr. B., calling to his porter, "go to the house and harness the horse before the chaise, and bring him here instantly; I must go to the farm." Away went Sam, as directed, and in a short time he drove the horse to the door, where stood Mr. B., impatient for his coming. Just as he was getting in, one of his clerks stepped up and informed him a favorite Ship of his had just arrived from India with a valuable cargo. She was down the bay, and the captain had sent up to know what disposition should be made of her. "Tell the captain to wait," said Mr. Bartlett, "I am going to the farm to see about my Guinea Hens, and when I get back 'twill be time enough to look after the Ship!"

Now here was a ship and cargo worth, perhaps, a hundred thousand dollars; but that was of no consequence for the time, while a clutch of young Guinea Hens, not worth a single dollar, excited his curiosity so much more, that let the consequences of waiting be what they would for the ship, cargo, and crew, the Guinea chickens must be looked after any way. Ships and cargoes were every day matters with the great merchant, but Guinea Hens were a rarity. Who says that a rich man may not take pleasure in his farm if he wishes to?

The Lawyer and His Fruit Trees.

The story above puts us in mind of an incident which happened some years ago, under our own observation.

In adjusting and settling up some of the great transactions which had taken place in the extended business of the years of 1836, '7, '8, in this city, a few years afterwards, the parties, debtor and creditor, had met, and after long and wrangling negotiations, for a settlement of the matter between them, and agreed on the terms. Important legal papers had to made out, and the indebted party, who had brought with him his lawyer, from home, some hundreds of miles off, to see that all was right, was in a hurry to have the papers executed and return. The creditor had his lawyer too; and the latter supposing the negotiation to be a protracted one, was quietly looking over his own affairs, and busied about those days in laying out and planting a young orchard at his place, which he had but lately purchased, a few miles out of the city, on Long Island. Just as he was leaving his office for home, in the afternoon, one day, his client called in and informed him that himself and his debtor had agreed on a settlement of their affairs, and wished him to attend next day and draw up the papers. "I can do no such thing," replied the man of the law. "My men have been busy for a week past preparing my grounds for planting; my trees are all unpacked, and happen what will, I must stay at home and see them planted."

"Yes," returned the client, "but what are a few fruit trees to the settlement of a controversy of such magnitude? You see that it involves an amount of near three hundred thousand dollars! Mr. —— and his lawyer are impatient to be off and the thing must be done immediately."

"No matter. Three hundred thousand or three millions, its all the same to me. My trees *shall* be planted to-morrow. The buds are bursting already, and another day will ruin them if not in the ground. Let ——'s lawyer draw the papers. He has nothing else to do. He is too honorable a man to cheat, and even if he were disposed to, I shall be better able to detect him after getting my trees off my mind, than to wait in my office to-morrow and draw up papers, when I can't get my thoughts away from my trees"

The creditor reluctantly assented, but really wondered what a lawyer of *his* reputation could be about, in fooling away his time in *such* nonsense as that. Next day the parties met to do up the papers; the creditor's attorney took the matter in hand, did the work, and the day after our eminent city man of the law appeared, blithe as a lark, his trees all planted, looked over the documents, pronounced them "all right," and the affair was ended. That lawyer, we have the pleasure to know, has since become as good a farmer, in the employment of his leisure hours on a little farm in the country, as he was conspicuous his profession.

No. 1—Spanish Bayonet Tree

Southern Vegetation.

At this season of the year, when frosts and snows rule the hour through all Northern latitudes, we have thought it might interest our readers to catch a few glimpses of warmer climes We therefore introduce original engravings from sketches we made during a winter excursion through the Southern States, in which we studied somewhat thoroughly the peculiarities of vegetation in those parts.

In Savannah, Georgia, we noticed roses, geraniums, verbenas and various annuals in full bloom throughout November and a part of December. Several deciduous trees were still in leaf, and the abundance of broad-leaved evergreens, too tender for the North, as well as the pines and cedars, gave a summery look even to the winter scenery. Passing on to Florida, we found the weather still milder, the birds more numerous and musical, and the vegetation more verdant. Sailing up the St. John's River, we observed wild ducks, cranes, hawks, and pelicans. The shores of this noble river abound in cypresses, the long-leaved pine, the magnolia, (*grandiflora*), the live and water-oak, and other trees. In many places the banks were overhung with cane-brakes, bamboo and wild vines, and here and there were groups of wild orange-trees, loaded with golden fruit. Alligators lay basking on the marshy shore, but crawled off among the reeds, or plunged into the water as we drew near.

Near Jacksonville, Fla., we detected the first signs of our approach to tropical or semi-tropical regions, in the shape of a Dwarf Palmetto. This tree, as we afterwards learned, grows a little further North, but it first met our eye here.

No. 2—Dwarf Palmetto.

It is a large, stragglish bush, from four to eight feet high. The trunk is a brown, tough, fibrous substance; the leaf-stalks green, about eighteen inches long; the leaf a pale green, a foot or more in diameter, and in shape as represented above.

A few miles inland from Jacksonville, we met with the Spanish Bayonet Tree, fig. 1 above. It is a huge shrub, rather than a tree, seldom growing, we believe, more than eight or ten feet high. It is called "bayonet-tree," because of the stiff, spear-like branches which shoot out from the trunk on every side. These leaves are an inch and a half wide, eighteen inches to two feet long, about an eighth of an inch thick, and tapering to a sharp point. Being tough and unyielding in their texture, they are often used for hedges around gardens and pleasure grounds. Our sketch was taken from a section of a hedge surrounding an orange-grove near St. Augustine.

A more striking object than either of the above, was the Cabbage-Palmetto, which flourishes in every part of the peninsula, though more abundantly near the sea-coast. It grows from thirty

No. 3—Cabbage Palmetto.

to fifty feet high. The trunk is generally smooth, greyish brown, the wood porous and corky, with, often, the singular variation in the shape of the trunk seen in our sketch. [When too late to rectify the defect in this number—the next page being stereotyped—we discovered that in fig. 3 the engraver has failed to give a very correct representation of the foliage and of a little of the upper part of the trunk. A new engraving may perhaps be introduced in our next issue.]

Notwithstanding the porosity of the timber, it is yet preferred throughout the South, above all other trees, for the construction of wharves, on account of its durability and its exemption from the attacks of sea-worms. It is also peculiarly suited for building forts, "as it closes, without splitting, on the passage of a ball." The summit of the trunk is crowned with a large tuft of palm-shaped leaves, often two feet in diameter, and supported on long foot-stalks. The young leaves resemble a partly folded fan, and are of a bright glossy green. The tree is styled the "cabbage-

No. 4—Date Tree.

palmetto," or palm, because of a bunch of tender, edible leaves in the center of the foliage, somewhat resembling that vegetable. It is usually eight or ten inches in circumference, and may be eaten raw, as a salad, or if preferred, boiled or fried. In taste, it resembles an artichoke, rather than a cabbage, and is neither highly nutritious nor agreeable.

In the public park at St. Augustine we first met with the Date Tree, of which fig. 5 is a sketch.

It is more graceful than the Palmetto. The trunk presents a singular protuberance as it rises from the ground, but afterward is straight, and tapers gradually to the top. The stem is covered with rough scales, which are the remainders of leaf stalks, broken off or fallen from year to year as the tree increases in hight. When grown in ornamental grounds, these decaying leaf stalks are neatly sawed off close to the trunk, leaving the appearance seen in the sketch. The branches of the tree resemble long plumes, extending from the center in graceful sweep on every side, and ten or fifteen feet in length.

Not far from the Date Tree, in a private garden, we found a specimen of the Sago Tree, or Sago Palm, as it is sometimes called. Our sketch represents a young tree only about four feet high. with years it becomes, we suppose, much larger though it is described in the books as "a low species of palm." The branches are like those of the date tree, only smaller and darker green. Its fruit is as large as a pullet's egg, and is palatable. The trunk contains a farinaceous pitch, which makes a wholesome and delicious article of food In preparing it for use, the pith is taken out, broken up in a mortar, put into a cloth or strainer

No. 5—Sago Plant.

"it is then held over a trough, and water being poured in the pith is washed through the cloth into the trough below: the water being then drawn off, the sago is taken out and dried for use or transportation....It is granulated in a manner somewhat similar to that adopted in the preparation of Tapioca, and in this state enters into commerce."

Not the least remarkable among southern trees is the LIVE OAK. It is found as far north as the Carolinas, but we did not see any large specimens above the latitude of Savannah; the very largest were on the St. Johns, in Florida. Its value for ship timber is widely known. It is also used for the naves and felloes of large wheels, for which it is better suited than white oak. Every Winter the hammocks of Florida resound with northern axes, felling these stately trees for exportation to the various cities of the sea board. It is to be regretted that the Government does not take more stringent measures to prevent the exhaustion of the live oak groves on the public lands. The sea islands along the coasts of Georgia and Florida have been mostly stripped of their oaks to make room for planting cotton. This tree is seldom found more than twenty miles from the shore, and that narrow strip of land has already been much thinned of its best trees.

Our sketch, taken near Picolata, in Florida, may give some idea of the characteristics of this tree. We can describe it, for northern apprehension, no better than by saying that it resembles the largest white oaks in rugged strength and massiveness, combined with the loftiness and graceful sweep of the old New England elms. It is also an evergreen. The branches of these trees are often draped in festoons of grey moss, peculiar to that latitude, often ten to fifteen feet long, which renders the shade beneath them as dark as evening twilight. This moss is an air plant, and does not seem to injure the trees on which it grows. In severe Winters the "poor whites" rake it down from the branches, to feed their starving cows. It is also gathered in large quantities and "cured" for filling beds. It makes quite an article of commerce.

No. 7—YELLOW JASMINE.

Not the least pleasant among our mementos of Southern vegetation, is a twig of the YELLOW JASMINE, which now lies in our herbarium, and has not yet lost all its fragrance. This vine blossoms in February, and is one of the first tokens of returning Spring. It clambers over fences, up the trunks of trees fifteen or twenty feet high, and adorns the portico of almost every Southern habitation. The flowers are bright yellow, and about half the size of the common morning glory. The fragrance is delicious, almost beyond comparison. It is occasionally met with at the North in Green-house culture, and catalogued under

No. 6—LIVE OAK.

Jasminum revolutum. It is not sufficiently hardy in out-door culture, to withstand our cold winters without protection, but by laying it down, and covering slightly with earth upon the approach of severe weather, it may be cultivated upon the sunny sides of buildings even in this latitude.

Our last sketch represents the branch of another scarlet flowering vine, whose name we did not learn, which appears soon after the Jasmine, and with similar habits, though destitute of fragrance.

No. 8.

We regret not having made a further acquaintance with this plant, its habits, hardiness, and the probability of its being adapted to more northern latitudes. Perhaps some of our Southern readers will supply the deficiency.

Our port-folio of sketches of Southern vegetation is not exhausted, and may be drawn upon again. We would respectfully solicit of our readers who are scattered over nearly every habitable portion of the globe, sketches and descriptions of plants hitherto undescribed in popular works. Nothing can be more interesting to all classes than an acquaintance thus gained of the plants and flowers which adorn and beautify other lands, or furnish by their fruits the sustenance of the inhabitants In these pages, however, we can give but little space to topics not directly or indirectly connected with agriculture or horticulture, and therefore interesting to cultivators of the soil.

The Orchard.

In this and several consecutive numbers of the *Agriculturist* for the present year we propose to discuss, in its various descriptions of fruit and their cultivation, this delightful, and interesting as well as profitable branch of husbandry—not only in its application to farm culture, but in the garden of the amateur, and the villager, whether he cultivate one tree, fifty trees, or a thousand. The orchard is a subject which has engrossed much of the best time in our life; we have given it long and varied study: fruits have been with us an object of love—even a hobby; trees we have planted by thousands, not in a professional way, by which we have gained a livelihood, but for our own good use and behoof, from which we in after days expected valuable returns if not in actual profits, yet in the pleasure their bearing would give us, the enjoyment of their delicious fruits, and the grateful reflection that we had contributed our mite to leave by our own labors. as every considerate man should, the world a little better than we found it. Therefore we feel that we can talk about orchards and their fruits candidly, and disinterestedly, if not learnedly, and instructively. We have neither trees to sell, nor fruits to vend. We have no crotchets with which to indoctrinate others, no prejudices to throw off, no partialities to encourage. We have read, if they could be measured by the cube rule, square yards of pomological books and literature by various authors, a great deal of it containing sense, some of it nonsense, and yet none of it supplying all the knowledge which an accomplished fruit-grower should possess in every department of his occupation. Nor do we propose to supply all that knowledge in its varied items which is lacking in the books, but in our own familiar way give such practical views as from our own experience and observation, we believe to be to the purpose, and which, added to the book, as well as to the practical knowledge of our readers

may assist them in their efforts to further progress. With such preliminaries then, we proceed, as the first in value and importance of Orchard fruits, with

THE APPLE.

Of its origin and history, no matter. The fruit was growing here before we ourselves saw the light, and we only have to look at it all about us, and as we would have it under our own cultivation. It flourishes and produces in various quality and perfection, with occasional exceptions, caused by soil, exposure, or local influences, from Quebec, in the severe Canadian latitude of 47° north, on the St Lawrence, down to that of mild and sunny 30° on the Gulf of Mexico; and from the Atlantic Ocean on the east, to the Pacific on the west. Where it grows in abundance, it is a fruit of housekeeping necessity with those who have long been accustomed to its use, and of luxury everywhere else. Everybody loves apples, and of the fruits of the temperate climates, it is decidedly the best for all uses, and the most important. Wherever it can be grown, no *farm* is complete without its apple orchard, and no garden is perfect without its apple trees, more or less. Its varieties are legion in number, and good varieties too. Many of them are particularly suited to the immediate locality where they originated, and refuse to flourish elsewhere; others are of such plastic nature as to grow, and thrive, and bear their fruits nearly irrespective of where they may be transplanted, and produce good fruit everywhere, soil and climate favoring them.

So, then, presuming that the apple grows and flourishes in pretty much every locality wherein we have a reader, we shall proceed to discuss the apple orchard as if it were within the immediate range and purpose of the husbandry of every single subscriber to our pages, and tell them what little we know, and think, and believe about it. Presuming that everybody who contemplates planting an orchard has satisfied himself that his farm or or garden is fitted to grow apple trees, the locality need not now be questioned, and the first matter to be disposed if is the

SOIL.

This may vary in character, and composition from a light sandy, to a deep and strong clayey loam; or to perhaps better explain it, from a nearly *leachy* sand, to an almost unctious, or sticky clay. We say "nearly," and "almost," because we should despair of growing a fine orchard on the extremes of either one or the other of these, yet if properly treated, the apple is so universal in its growth that it will adapt itself to almost any description of soil possessing the elements of a crop of the cereal grains, grasses, or garden vegetables; so, it may be laid down as a rule that any soil capable of growing ordinary farm crops, *with a dry bottom*, will grow a fair orchard. Stony, and gravelly soils, if of ordinary fertility, are well suited to the apple; but they should be *warm* soils—that is not springy, cold, nor wet—such being fatal to both the successful growth of the tree, and the quality of the fruit. Could we choose an orchard site exactly to our own taste, it should be a free, loamy soil, rather more inclining to clay than sand, with a slight mixture of gravel in it, resting on a rather compact subsoil in which a limestone clay predominated, gently exposed to the South, and whether that exposure inclined easterly or westerly of South, would not matter, provided it were sheltered from the strong prevailing winds of the locality. The soil, however, should he a dry one, naturally. We would not trust so important an item as an orchard of any kind to the contingencies of artificial drainage by tiles or other process. They may get stopped up, or fail in their duties by casualty, to which the orchard should be in no degree dependent. The soil, therefore, should of itself be dry, warm, sweet and genial—as much so in natural capacity, as for a garden, or a corn field. An orchard is planted for, and will flourish a life time of three generations of men, and be in its prime for two of them; therefore it should be no subject of a contingency so important as a *natural* defect in the soil on which it stands is concerned.

Thus, the selection of soil for the orchard being so wide in variety, a radical defect in its construction should not he tolerated. In naming our choice of a soil and exposures, we have only indicated a preference, in case we could take it out of all which might be offered, being well aware that there are various other compositions of earth that are nearly, if not quite, as good as those we have indicated. It should also be in a good condition of fertility, not for a single crop merely, but rich in the elements of various and continuous crops. Trees are gross feeders through their roots. They spread wide, and penetrate deep. They suck moisture from the earth far below what annual farm crops can do, and they absorb the fertilizing matter from a wide breadth of soil around their trunks. Therefore they require a perpetual supply of food on which to subsist, partially inherent in the soil itself, and partially to be supplied by artificial applications from other sources. New, or hitherto uncropped soils usually possess the elements of orchard growing abundantly in themselves, but in old soils these must be supplied from abroad, and among the best applications are ground bones, leached ashes, lime, and marl, with common stable manures, spread broadcast on the land as for ordinary cropping. The land so prepared brings us to the important process of

PLANTING.

This, really the most important work of all that is connected with the orchard, is, in the great majority of cases the most imperfectly done of any. As we do not propose to go into a minute course of instruction in planting, we simply refer our readers to either one or more of the popular treatises on fruit with which the shelves of our booksellers throughout the country abound. Without one of these—and we will simply name Downing, Thomas, or Barry; Kenrick, Fessenden, or Elliott, as they may happen to be at hand, for this immediate purpose—the new beginner will be sorely at his wits to succeed in this part of his important work. In one, or either of them, he will find the rules of planting so thoroughly laid down, that he cannot mistake the proper method. To do our own duty, however, we will say that the hole for receiving the young tree should not be less than three feet in diameter—four or five, or even six, would be better, according as the soil may be loose, or compact, and not less than one-and-a-half to two feet deep. The hole afterwards should be filled up to where the bottom roots are to rest with the top soil, and when planted, they should be covered with the best and finest mould, well shaken in as the process of filling proceeds, and trod by the foot as it is completed. The tree, when planted and settled, should stand not more than an inch lower in the ground than it did in the nursery. It should also stand erect. If naturally leaning, it should be supported by a stake to give it a straight start, which is an important thing in its future progress.

THE PLAN OF THE ORCHARD

is also important. Let the shape of the field be as it may, the body of the plantation should be square. It may take as a base line one of the bounderies, if that line be a straight one, regardless of the points of the compass. If there be unequal spaces on the sides of the field when the compact part is planted, such spaces may be filled with trees, as far as they will admit, on extending lines with the others. The distance between the trees may depend, somewhat, on the size the trees will ultimately attain; but we would have that distance uniform—not less than thirty-three feet, which is two rods, nor more than fifty feet, which is six inches over three rods. Sunlight, and air, and enough of each, are indispensable for the full development of all fruit bearing trees and their crops, while shade, damp, and closeness are the bane to the healthy expansion of the one, and to perfection in quality, size, and flavor of the other. Let, therefore, the trees stand well apart; no ground will be ultimately lost, and the future results all the better.

WHAT VARIETIES OF APPLE SHALL BE PLANTED?

This, next to the fact of having an orchard at all, is the most important question to be determined in the whole matter, and in solving it several incidental ones have to be considered. If fruits are to be grown for family consumption only, and to but limited extent, those which succeed in your immediate locality, and to which you are partial in their several seasons, are of course to be preferred. But if for a general market, the most popular and best kinds which are decidedly successful in your locality, should be selected; and this leads into a discussion somewhat out of the beaten track of the books, and Pomological Conventions. It is a very natural and common way, when one is about to plant an orchard, to take his fruit book, which he has at hand, run over the descriptions of the several varieties they contain—a large majority of which he finds to be of "the best," and most desirable qualities and appearance, and out of so many rare fruits presented, select five or ten times as many varieties as he actually needs, without asking the question whether, although every one of them is what it is described *in its native locality*, and some other places, it is suitable to the soil, climate and locality, he has secured. He is not aware that the kind of apple which is admirably adapted for cultivation at or near the place of its origin, may be nearly worthless at a hundred or five hundred miles distant, in a different altitude or soil, or temperature. Yet such are the facts, well known to observing pomologists, but not represented in the books with the precision they ought to be, if at all. And yet, most of the prominent works on fruits, which we now consult, have been published since the days of our first pomological conventions, where men have assembled from all parts of the country, compared notes, and strived to enlighten each other in these particulars; and out of all the published proceedings of these conventions, containing hundreds of names of varieties grown in different sections of the States and the Canadas, one having no personal experience in growing apples could give but a wild guess as to what kinds he ought to select for his own locality. A variety which would be exceedingly profitable to grow in one State, may be worthless in another, and we have scarcely a single one which is equally well adapted to all localities, climates and soils. For instance, Massachusetts has originated the Baldwin, the Roxbury Russet, and the Westfield Seek-no-further—three of the best apples known, and good wherever they will grow in perfection; but south of Lake Erie only one of them, the Roxbury Russet, is fully reliable and only in places worth cultivation. Rhode Island has produced the celebrated Greening, which bears its name, and nowhere north of that State and Connecticut, and west of them does it

maintain the same peculiar character, and possess the same high flavor of its own native soil, and the adjoining vicinity. Connecticut produces the Golden Sweeting, which, although a most excellent apple as far away as in Western New-York, does not equal in size and perfection of flavor, its original at home. New-York has produced the Newtown and Fall Pippin, on Long Island; the Esopus Spitzenburgh, Swaar, and Philip Rick, in Ulster—apples of the very first quality wherever known in their perfection, but beyond her own boundaries, and even in a large portion of their own State, they decline in character, and are of doubtful orchard excellence, while in many other States they are not worth growing. So every other *old* State in the Union has its own favorite original varieties, and many of the new, where they have had sufficient time to orginate seedlings, or have adopted others from different localities, which were congenial to their new homes, possess varieties greatly superior in their own soils and climates to those of the highest celebrity elsewhere, and of which the orchardists of other States know little or nothing. Canada has her Fameuse, Pomme Gris and Bourassa, the most delicious of apples there, yet good for little when grown two or three degrees further South. Go also into Ohio, Kentucky, Indiana and Illinois. They will show you Northern apples of the highest reputation, when grown at the North, which you will scarcely know as such, so changed in appearance and flavor as they are, and of inferior quality, too, when compared with the Raule's Jannet, the Coopers, Mellow-twigs, Belmonts, and others of different origin, which they there cultivate, and probably even some others which are of little worth where you know them in your own States, yet of the highest quality in their new and more favored localities.

Planting Large Trees.

The practice of planting large trees, whether for shade or fruit, is decidedly objectionable. Young America is in haste to realise immediate results from his labors: he wants umbrageous groves and heavy-laden orchards made to order: he cannot wait for them to come on in the natural way, as his old fogy ancestors did.

We are not insensible to the arguments in favor of removing large trees. Life is so short, and trees are so slow in their growth, that nearly half one's days must be spent before small trees of his own planting can attain large size. Then why not anticipate nature, and set out trees already nearly grown? By removing them in Winter with large balls of frozen earth around their roots, they can often be made to live, and if so, there is a saving of several years. There is force in these considerations; and if we were now about to plant new and wholly unoccupied grounds, we should take great pains to remove a few large shade trees into the premises, in order to give them at once some appearance of age and cultivation. The number should be small, however, and for reasons like the following:

In the first place,—saying nothing about the labor and expense, which are considerable—if quite a large tree is removed successfully, it lacks certain interesting associations which always cluster about one which we have planted in its youth, and watched over from year to year, through all the period of its growth to maturity. When we raise a tree from the seed, or from a sapling, we become attached to it; it is peculiarly our own tree; it is linked with events in our own life, or that of our kindred: it becomes, as it were, a member of our family and wins no small share of our affection. Whereas, a huge old tree, hauled from the woods into our lawn, by oxen, on some bleak Winter's day, and set up there as if it had grown in that place, in the natural way, and under human care, can have no such associations. Give us but few such monsters. Rather let us plant our trees as mankind always have done, taking those of moderate size, removing them carefully, nursing them from year to year, mixing up our own life's experience with their growth, and investing them with those associations which give to human life some of its highest attractions.

But again: large trees are seldom moved with entire success. A few outlive the shock of such violent treatment, but the majority die outright, or survive a few years, only to die a lingering death. In our own neighborhood, we have an instance of ten or twelve maples, which were moved in the Winter, with great care and expense: they expanded their leaves feebly the first Spring, but before Summer was over nearly half the branches were dead; the second season the foliage was still lighter, and before Autumn half the trees were dead. A third year will probably witness the decease of the entire grove. On another street, a row of elms thirty or forty feet high, was set out in the same manner. Their branches were cut off more closely than the maples; indeed, they looked quite like sticks of timber set in the ground, with a few prongs on one end. Great pains were also taken to preserve their roots from mutilation. Several of these trees lived, and are now throwing out new branches at the top; but their growth is feeble, and must continue so for several years. The little matted tuft of leaves on their very top gives them quite a ridiculous aspect on the score of taste. A waggish friend of ours, riding with us in that neighborhood last Fall, observed that those trees looked to him like newly-plucked shanghais! A large proportion of the trees first planted have since died, and given place to small ones, which now promise well. Not far from this row of monstrosities are groups and avenues of large, well-developed elms, maples, lindens, and others, which were planted when small, in good soil, and without much mutilation of root or branch. They have grown lustily from the start, and are now in perfect health. Not a scar defaces their ample trunks; their branches spring upward, or spread abroad in graceful sweep, and are clothed in a rich garniture of leaves. They are the pride and joy of the men who planted them, and will live on through long years to come in vigorous health, proclaiming to another generation the public spirit and taste of this.

Our objections to removing large ornamental trees, apply with double force to the removal of such fruit trees. With even the greatest care, a multitude of small roots and fibres will be destroyed; and when these are gone, they are recovered, if at all, only after long waiting and much nursing. A thousand little spongioles, fine hair-like roots, extend on every side, as so many mouths to gather up food for the tree; and when these are torn off what can supply their places? We doubt whether a large fruit tree, so mangled, ever regains its original vigor and health. As well might you half starve and maim a young animal, and not expect him to become stunted and deformed, as to give a tree the same usage and not expect similar results.

Without attempting to lay down any invariable rule, we think the best time for removing apple trees is when they have grown three years from the graft or bud; the pear should not be more than two years from the bud; the cherry, ditto; the peach and apricot, one year; the plum, two to four; grapes and other small fruits, one or two years from the cutting; and in every case, preserve all the roots possible, and that without mutilation.

Winter Protection of Fruit Trees.

Elijah Weeks writes: "....I live in the northeast part of New-Hampshire, near Fryeburg, Me., the coldest place in Uncle Sam's dominions, except Franconia. Yet I have such a taste for cultivating and eating good fruit, that I have bought 100 pear trees, half of them dwarfs. But the tops and blossom buds got badly nipped by frost last Winter. I would inquire what is the very best dressing, and mode of cultivating them, and if any protection can be given against the dreadful COLD....A few dwarf pear trees, set in 1855, I preserved from Winter-kill by spruce trees. The spruce trees had thick, low limbs, and I set them in holes dug on three sides of the pear trees, binding the tops together...."

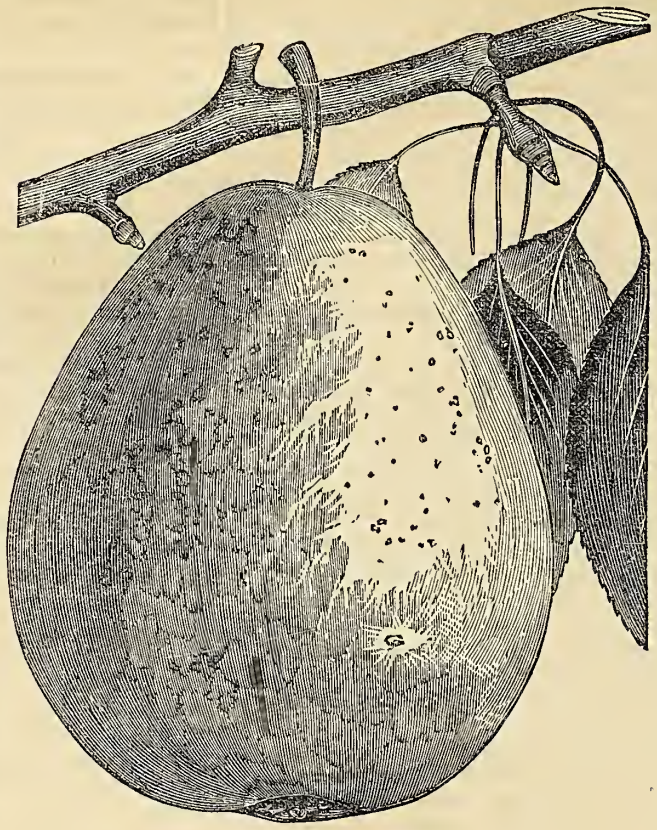
Remarks.—For tender trees, especially the pear and plum, in a cold climate like the above, it is well to set a thick double row or belt of evergreens upon the windward sides. Often a forest can be so cleared up as to leave a belt of trees, open, at most, on the south side. Trees planted in such an enclosure will be much less liable to freeze out than if fully exposed to the fierce blasts of Winter. Such winds are much modified and softened by being *sifted* through a forest or belt of evergreens. Spruce or hemlock boughs bound around the branches of young trees, as above described, are the best means of protecting them for the time being, but as they increase in size it is more difficult to cover them. For dwarf trees, a high, tight fence may be erected on all sides but the south. The inner surface of the fence will afford a good space for training grape vines upon.

Grafting Wild Grape Vines.

L. F. Jones, of Mariposa Co., Cal., inquires "if the wild grape vines on the banks of rocky brooks, may be made valuable by grafting; ground naturally watered, being scarce and consequently precious." Some of the finest wild grapes we have ever seen in this country, we gathered upon the steep declivities of a limestone mountain, where the vines were watered by small running springs issuing from the ledges. These were upon an Indian Reservation in western New-York. Where such vines are inclosed it is well worth while to graft upon them some of the improved varieties. Scions can be inserted in the branches similarly to the ordinary mode of grafting fruit trees; but this mode is uncertain and should not be attempted except by expert hands and on a limited scale.

The plan usually recommended in books is to insert the scions in the main stalk, just at the surface of the ground, and bank up with earth above the point of contact. A better plan, and one most likely to be successful is to cut the main branch to the ground and insert the scion in the *root* near the stump. To do this, remove the earth from the root, bore in a hole with a smooth cutting bit or gimlet and insert the scion previously whittled to exactly fit the hole. In this as in all other grafting it is important to have the cut edge of the bark on the scion meet the bark of the root. The scions should be cut into short pieces of four to eight inches in length, each piece to contain one or at most two buds. The grafting is to be done early in Spring, before the flow of sap commences, say in March or April, according to latitude and mildness of the location. See notes of experiments on page 186, Vol. XVI.

Flemish Beauty Pear



In further pursuance of our design of illustrating some of the best fruits, whether new or not, we have chosen for this number a member of the pear family. The Flemish Beauty is one of a select circle of Pears recommended by our Pomologists for general cultivation. Like most pears, it loves a rich clayey-loam soil, with an open exposure, and good cultivation. With these advantages it is a large, fine, delicious fruit. The tree is thrifty, and the wood strong and upright. It ripens late in September, and early in October, and like all pears, requires picking and laying by before fully ripe. When so treated, it is a rich, delicious, and melting fruit.

The skin is slightly rough, pale yellow in color, turning, as it ripens, to a ruddy hue. The tree is a great bearer, and when standing in the grounds, loaded with its hanging fruit in early Autumn, few pears will compare in the luxury of its appearance with the Flemish Beauty.

Trouble among Apple Trees in Delaware.

To the Editor of the American Agriculturist:

I am in trouble with my apple orchard, and come to you for advice. Twelve years ago last Spring I planted one acre with an assortment of the best kinds that Western New-York could produce. Soil a deep sandy loam—situation high, with a north-east exposure. They have grown finely, and the two past seasons borne some fruit. I have not yet had a full crop on any of the trees, except the R. I. Greenings and the Fall Orange. But the worst of it is that they *will rot on the trees*,—the above kinds, the Strawberry and the Spitzenburgh in particular. I cultivated the trees for several years while young, since then the sod has not been disturbed. Manured on top with stable manure and superphospate, in Spring of '56 and '57.

What is to be done to prevent the rot and make the trees more productive? Had I better turn the sod under this Fall? Would an application of lime or ashes tend to check the rot?

I scraped the trunks last Spring, and soaped them after the most approved plan. There is no surplus water in the subsoil. The field adjoining has produced 60 to 90 bushels of corn per acre, and I think such a soil should produce more and better apples. I would blame the change to a longer and warmer Fall; but the Russet, which has long been acclimated here, is equally affected.

I should have said that I am careful to gather and destroy wormy apples; hand-picked what were not rotten the middle of October. My Greenings and Spitzenburghs are equal in size and quality, to any I have seen from your State, but they are going, going, gone—the way of all the earth, including the potatoes. Stop them, my dear Sir, and look out for a Club (of Subscribers?) the 1st of January. Yours, for big apples,

Jas. C. Jackson.

New Castle Co., Del., Nov. 11, 1857.

Remarks.—We can hardly prescribe for the difficulty which our correspondent represents without a personal observation of the premises, and an accurate knowledge of some circumstances beyond those he notes; and perhaps not then could we give him any light on the subject. It is quite evident that the Strawberry and Spitzenburgh varieties are not congenial to his soil. Western New-York is no guide in fruits to Delaware, where other varieties, strangers to that distant region, may flourish in great perfection. As we are publishing a course of papers germane to this very subject, our correspondent may see in what is there written his own difficulty. The treatment he gives his trees is certainly not in fault; and if, while some other good varieties of apples flourish and succeed with him, the refractory kinds do not mend their manners, were the case our own, we should, without hesitation, at once saw off their tops and insert one that will. We would make a short case of such a matter.

Important and Valuable Articles on Fruits.

On page 17, will be found the first of a series of articles on Fruit Culture. These articles will probably be continued through the volume and embrace the different kinds of standard fruits in general culture. While in the various articles appearing in this journal it is the *Agriculturist* that speaks, and not this or that particular individual, we take the liberty to say that the series on fruits, referred to, is written by one of the most experienced fruit growers in the country. The articles will, however, speak for themselves, and we doubt not attract general attention; and looking at the matter in a pecuniary light—as the publishing and responsible editor must do professionally—we have no doubt but this single series of articles will alone richly repay *every* reader of the *Agriculturist* all that he has or may invest on subscription account.

Fruit growing is becoming more and more important to the farmers of the country. Not one fourth enough is now produced to meet the present actual wants of our markets while the numerous rail-roads are opening new avenues, and producing a greatly increased demand for fruits of all kinds. And to us it seems that there is no more agreeable or profitable pursuit opened to farmers and others.

Flower Seeds for Distribution.

Elsewhere we present a list of Seeds to be distributed to our subscribers. Among these are a variety of Flower Seeds, most of which we are getting from Europe, where more attention is given to cultivating them in purity and of the best varieties. These seeds are quite expensive, costing from $1 to over $30 per pound, and of course but small parcels can be given to each applicant, though enough of *three* kinds will be sent to each one to plant a small plot, and furnish a fine supply of seed for the future. Directions for culture will be given from time to time, at or before the appropriate season for planting. We now append brief notes descriptive of their characteristics, with engravings of a few of them Several of those not illustrated are quite as beautiful, but we could not, at this time, procure good specimens for taking drawings from, and therefore have only engraved such as we chanced to have already penciled. Others will be shown hereafter.

Large Flowering Mignonette, (*Reseda odorata.*)—A very fragrant annual, with flowers more prized for their delightful perfume than for size or beauty. A vigorous grower, blooming from early Summer until Autumn frosts. Sown late in the season they form fine pot plants for Winter blooming in the parlor.

Virginian Stock.

Virginian Stock—White and Red, (*Malcomia maritima.*)—A fine, rather low, bushy growing annual. It is the smaller plant on the left of fig. 1.

Ten Week Stock, (*Matthiola grandiflora.*)—Called also "Stock-gilly." This blossoms in spikes, as seen in the large plant, in fig. 1. Each flower is double, and somewhat ragged in appearance. They require a long season to arrive at perfection. Much used as a pot-plant in winter.

Nasturtium, (*Tropæolum majus.*)—An easily cultivated annual; on rich ground often runs several feet as a vine, bearing a bright yellow flower, varying in color to orange and crimson. It makes a showy plant for walls and trellises, and the seed capsules, picked in a green state, are highly prized for pickling. It therefore serves the double purpose of ornament and utility.

Nemophila, (*insignis.*)—Called also "Love Grove." A hardy annual, bearing beautiful blue flowers, of dwarfish habit, blooming only six or

eight inches from the ground. The ripened seeds, if left upon the ground, survive the Winter, and spring up and bloom in early Summer. The flowers last a long time if partially shaded.

Cockscomb (*Celosia cristata*).—A very pretty annual of a red or yellow color—the kind most usually cultivated is brilliant red and very showy—some of them large, and beautiful; the whole head is a mass of bloom. The scarlets and crimsons are preferable to yellow colors. Though adapted to pot culture they succeed well when sown in early Spring, on warm rich soil. They grow from one to two feet in hight.

Cockscomb.

Dwarf Rocket Larkspur, (*Delphinium ajacis.*)—The double varieties are very showy annuals, with flowers of white, lilac, pink and dark purple. They make a very fine show; best when sown in Autumn, but do well planted in the Spring.

Double Balsams, (*Impatiens balsamina.*)—"Touch-me-not," or "Ladies' Slippers," as they are sometimes called—are choice annuals, desirable in the smallest collection of flowers. Unfortunately much of the seed sold under the name of *double* only produces *single* flowers. We are promised seed of choice double kinds. They are very showy plants, with several shades of bloom, which, in the double varieties, are mainly confined to a single spike, commencing to open at the bottom, and continuing upward during the entire season.

Chinese Pink, (*Dianthus Chinensis.*)—A handsome blooming biennial, of great beauty, but destitute of that fragrance so conspicuous in some varieties of the same species. The colors of crimson and nearly black, with edgings of white and pink, give the flowers a rich appearance. They are of dwarfish habit, and exceedingly variable in appearance. They bloom the first season, although biennial.

Chinese Pink.

Tassel Flower, (*Cacalia coccinea.*)—A pretty scarlet annual of easy culture, growing about 1½ feet high. The flowers have a *tasseled* appearance, and are conspicuous from July to September. It is sometimes termed "Venus' Paint Brush."

Portulacas, (*Splendens lutea* and *alba*)—Are showy and attractive, opening their petals of crimson, scarlet, yellow and white, with the morning sun. They are dwarf and trailing, seldom reaching more than six inches in hight. They are annuals of the same family as the purslane.

Cypress Vine, (*Ipomea quamoclit.*)—This choicest of annual climbers, is admirably adapted for a conical trellis, or training upon strings arranged as fancy may dictate. The vine itself, with its delicate foliage, is very pretty, to say nothing of its bright scarlet, or white flowers, which, though small, are of long duration. The *Jalap* of the druggist is made, in part, from a tropical variety (jalapa) of this genus.

Asters—Chinese and German (*Aster Chinensis*)—The original Chinese variety has been so improved by the Germans and Italians that their names are now attached to some of the choicest varieties. They are all very pretty annuals, showing a great variety of bloom ranging through several colors singly and combined in the same flower. Some of them are as double as a well formed dahlia. They deserve a place in every collection of flowers; blooming about one foot from the ground. They are easily raised annuals, bearing transplanting without injury.

Golden Bartonia (*Bartonia aurea*). A very pretty yellow annual from California. It grows about a foot in hight, and succeeds best when started in a hot bed or in the house. It is a profuse bloomer.

Zinnia (*elegans*).—An annual, blooming for a long time. There are several shades of color as white, scarlet, crimson and orange. They grow from two to three feet in hight.

Sweet William, (*Dianthus barbatus.*)—A universal favorite, found in almost every garden, but none the less valuable. Its showy bloom of divers colors with beautiful edgings and delightful fragrance, render it desirable and attractive. It is a perennial, blooming the second season from the time of sowing.

Sweet William.

Marvel of Peru, (*Mirabilis jalapa*) or "Four o'clock," is quite ornamental and attractive in appearance, blooming from early August until killed by frost. The flowers are red, white, yellow and striped. A portion of the jalap of the druggist is obtained from the pulverized roots.

Eschscholtzia, (*Californica*).—California Poppy, named Chriseus, by some botanists, is a showy yellow flower of rather rambling habit, growing nearly two feet high. It blooms in succession during the season and has a dazzling appearance in the sun.

Elegant Clarkia, (*Clarkia elegans*)—Is one of several varieties of clarkia, both hardy and pretty. It is often sown in a hot bed for early flowering. It grows from 12 to 18 inches in hight. The colors vary from white to pink, and are very showy.

Fox Glove (*Digitalis purpurea, lanata, &c.*).—A perennial, of great beauty with its spike of thimble or bell shaped flowers, of various shades, from white to red, some of them finely mottled. It grows two to four feet high; is often propagated by dividing the root. It flowers the second season from seed. The medicine *digitalis* is obtained from it.

Fox Glove.

Lavatera (*Lavatera trimestris*).—An annual producing handsome flowers, some of which are red and others white. They grow about two feet high, and bloom from July to September.

Sweet Peas, (*Lathyrus odoratus*)—Nearly resemble the common pea in the form of their bloom, though much larger. The beauty of color, and especially the fragrance of the flowers, render these plants pleasing annual climbers. They are of different colors, varying from white to scarlet, purple and black, besides having the different shades of their colors mingled in the same flower. Worthy of cultivation.

Sweet Pea.

Lupins, (*Lupinus*)—Are an extensive family, many of them very pretty, flowering on spikes from one to three feet in hight. Many of the varieties are blue, although some of them vary through the different shades from white to yellow. We shall distribute several varieties mixed.

Morning Glory, (*Convolvulus major.*)—This is too well known to require a description. They are by all acknowledged very pretty climbers upon walls, fences, trellises, or strings to a central stake, making a cone of dense foliage, covered with large flowers of white, blue, purple and varied color. We have selected a number of varieties, and shall distribute the seed mixed.

Flos Adonis, or Pheasant's Eye, (*Adonis miniata.*)—A hardy annual, growing 1½ to 2 feet in hight. The foliage is quite handsome, and, with its spike of blood red flowers is an attractive plant for border culture.

Candy Tuft, (*Iberis umbellata, amara, &c.*)—A fine plant for massing, of dwarfish habit and several shades of color, from pure white to purple. It seeds itself in Autumn, and blooms the next season, six inches to one foot from the ground, in clusters, as seen in the cut opposite.

Candy Tuft.

Schizanthus (*humilis, pinnatus, &c.,*)—A pretty class of plants blooming from August to October. The colors vary through several shades in which purple and yellow predominate. They grow about two feet high, and are annuals well suited to garden or pot culture.

Drummond's Phlox (*Phlox Drummondii*)—Is an annual variety of the Phlox family, worthy a place in every collection of flowers. It is very hardy and finely adapted for massing. Flowers of white, pink, scarlet, crimson and purple with the intermediate tints. A showy spreading plant of near one foot in hight.

Winter or Ground Cherry.

This fruit has received various appellations such as strawberry tomato, French tomato. Shaker gooseberry, &c. The articles on pages 35 and 114, Vol. XVI., called out numerous com

munications and applications for seed. We have also raised a crop of two varieties, viz.: the Physalis *alkekingi* and *P. viscosa.* The *alkekingi*, as previously stated, was brought to this country by Gen. Mezaros, of Hungary. They were originally from Italy. This is a strong growing variety; some of the plants under General M.'s cultivation grew six feet high, and were very branching. They require starting in the house, or in a hot bed. Our own plants so started perfected their fruit. The fruit, like all other varieties, grows singly in inflated capsules, is of a light orange color, round, one-half to three-fourths of an inch in diameter, and of an agreeable and somewhat acid flavor. The *viscosa* is evidently a native of this country, but none the less valuable for that.

Their keeping qualities strongly recommend them, as they retain their freshness until mid-Winter when such fruit is an object. Ours are still fresh at this date (December 15th) and show more indications of drying up than decaying. The plants of the native variety are very branching, with an inclination to trail upon the ground unless supported by stakes. The fruit is like the alkekingi in appearance, but sweeter to the taste. The Peruviana is nearly allied to the viscosa, with more of an upright habit, and berries a trifle larger. We have received specimens of a *blue* variety under the name of French Tomato, which were from three-fourths to seven eights of an inch in diameter, very firm, dark blue on the outside, and green inside. They are described as an annual growing two feet in hight. We hear of the same variety growing wild at the West with others of green and grey color.

The capsules or husks of the early ripening berries become nearly transparent in time, through which the yellow balls are seen.

Having thoroughly tested the fruit in pickles, pies and preserves, we are very much pleased with the plant and shall be glad to scatter it as widely as our supply of seed will allow.

We shall plant a large quantity for our own use another season, and only wish we had sufficient seed to supply a liberal package to every applicant. A few plants will furnish a large amount of fruit, and by putting what seed we have in small parcels, we still hope to furnish each subscriber desiring it with a package. We have only the American variety for distribution now, but may get a supply of the European before Spring.

Dahlias Blooming the First Year from Seed.

To the Editor of the American Agriculturist:

I observe an article in respect to the propagation of the Dahlia in your last number, which is so different from my experience that I may be permitted to give it. Last spring I planted the seed of the Dahlia, which quickly germinated, grew vigorously, until they attained the height of from four to five feet, and produced perfect flowers. They were very double, and of every color, except black—that sombre hue which nature has entirely excluded from this, her most beautiful department—and blue, that coveted color which no botanist has yet been able to obtain in the Dahlia. In the spring of 1856 I planted the seed of the Dahlia, with the same result, but under the impression which you have adopted, and which seems to be general among florists, that it requires two years to bring it to perfection. I was fearful it might be an eccentricity, and therefore did not communicate it. The soil of my garden is a rich black loam, *three feet* in depth, which may have contributed to the result. still I am convinced that the Dahlia may be propagated from the seed in a single season, from any moderately rich soil.

A. Sanders

Davenport, Iowa, Dec. 8th, 1857.

ANOTHER SIMILAR EXAMPLE.

Mrs. M. L. J., of Claymont, Del., writes us, that she sowed, last May, Dahlia seed from France, transplanting when one foot high, into a large bed, putting them one yard apart. They produced in the fall "as handsome flowers as could be found anywhere."

Bitter Pumpkins.

In Volume XV, at pages 76, 100 and 132, we published some notes on bitter pumpkins, called out by a crop of them raised by Dr. Whitman, of Fiskville, R. I. The specimen sent us was described as resembling both a squash and pumpkin, but as bitter to the taste as quassia or quinine. We have the following recent letter from Dr. W.

Fiskville, R. I., Nov. 10, 1857.

To the Editor of the American Agriculturist:

About a year ago, I forwarded you through Dr. Balch, of Providence, a specimen of bitter squash or pumpkin, whichever you choose to call it, for examination. I think your opinion as expressed at that time was, that it was a cross with some other plant, a kind of hybrid. I think you were correct in that, for I saved the seed from them and planted again this season, but not one of them came up. This season I have another crop from one stalk only, that came up among some Winter squashes. This plant grew rapidly while the others, the Winter squashes, were nearly all destroyed by the bugs. I planted again and covered them with boxes to keep off the bugs. They grew very well until they began to run when all others in the neighborhood of what proved to be the bitter vine, died out and that ruled supreme over that portion of the garden. I picked from this one vine thirty squashes not as large as last year, but as bitter as any quinine.

I should like to know what gives them this intense bitter taste, and what properties this bitter possesses if any. * * *

A. C. Whitman.

Willow Baskets.

There is not a poorer article in use about a farm than the cheap, shammy made, splint baskets, chiefly of black ash, which the makers and venders of them impose upon us. They charge great prices for them, and when we get them we use them but a little while, and throw them aside, worn out or pulled to pieces.

Now, nothing is easier than for any farmer who has a piece of moist land under fence, to grow his own osier willows, and either make his own baskets, or have them made in his own neighborhood. A row of good osier willows, six or eight rods long, will produce enough cuttings every year to keep an ordinary farmer in baskets continually; and one good willow basket is worth half a dozen of the shammy things made of ash splints. The willows require no peeling, except for fancy work; they are very strong, and can be worked into any shape desirable. Where willow baskets have once been tried, you will have no wish to throw them by, and take back the ash ones. If the true osier cannot be obtained, the common swamp willow answers a good purpose, as we have tried. But the osier is now so generally cultivated, particularly in the nurseries, and so easily obtained, that every farmer might have a little patch on his premises; and if he cannot make the cuttings into baskets himself there are usually men enough in the neighborhood who will gladly take and make them up on shares.

Bark Louse on Fruit Trees.

To the Editor of the American Agriculturist:

I have received direct, and through you, a large number of letters, and specimens of Bark Lice on apple limbs, currant bushes, &c., in reply to my article on this topic in the December *Agriculturist.* I am examining them with the aid of the microscope, and will be ready to reply in the February number. A. O. Moore.

Making and Keeping Good Cider.

E. C., of New-York, desires us to tell him and others how to keep cider sweet during the Winter.

There are several items to be taken into account in answering the above question. One is, that the article called "Cider," be really true, veritable juice of the apple, pure and unadulterated, not mixed up with hen droppings in and about the pomace vat, and the press slovened with tobacco saliva while being made; the "Cheese," in pressing, "slushed down" with dirty water, and various other ingredients mixed therein, such as we have seen at sundry cider presses in the course of our agricultural observation. Another is, that it be made of *sound, well-ripened* apples, where the rotten, as well as the green, acrid fruit has been thrown out before going into the mill. A third, that the whole machinery of its manufacture be sweet and clean, and kept so through the whole cider-making process. A fourth, that the pomace lay in the vat after grinding at least twenty-four hours, with two or three thorough shovelings over in the meantime to give it a sufficient opportunity to absorb the oxygen from the atmosphere, wherewith to sweeten and give the juice the deep, full color, which *good* cider always should have. And fifthly, that after pressing it should be well filtered into sweet oaken casks, and thoroughly worked of its impurities before bunged and brought into the cellar for Winter storage.

All this being done, our correspondent would have little need of instruction how to keep the cider sweet during the Winter. It would keep sweet of itself. If, however, when it is perfectly "settled"—which may be readily ascertained by the aid of a gimlet hole near the bung, if the barrel be full, through which the frothy matter will still ooze, if not thoroughly worked—a tendency to change into the vinous state is observed, it should be drawn off into another clean cask, and a gill of powdered charcoal poured into the bung hole, the cask lightly shaken, the bung driven tight, and the vent hole, if one exist, be plugged also. This will keep it sweet for the Winter. If bottling be intended, in the month of March draw, or rack off the cider again, and if it be not perfectly clear, dissolve an ounce of pure Isinglass in a little of the cider, and pour it in, which will make it clear and sparkling. In May it may be drawn off and bottled. Fill the bottles to within two inches of their tops, drive the corks close, seal them and lay them in boxes, when it will be abundantly purer, and infinitely healthier than nine-tenths of the villianous compounds termed and labeled "Champagne," for which you will pay $10 to $25 the dozen at the wine dealers.

There is a great deal of corked and manufactured trash got up at the cider cellars in various parts of the country, in which, as in the champagne aforesaid, there is scarcely enough of the pure original juice of the fruit of which it ought to be made "to make a note of." To all sellers of such compounds, the lovers of *real* cider should turn the cold shoulder by letting it alone.

Downing's New Seedling Gooseberry.

Owing to the fact that the superior English varieties of the gooseberry are so liable to mildew in this country, much attention is being given to the improvement of native sorts. Hitherto, Houghton's Seedling has been the principal improved native variety which has been in demand, on account of its quality and freedom from mildew. The main objection to it is its small size, as compared with the foreign sorts. We are glad to learn that Charles Downing has produced a Seedling from the Houghton of about double its size, of light green color, thin skin, and a delicate sweet vinous flavor, like the finest foreign varieties. This has been proved by a trial of three years, and, though Mr. Downing, with his usual modesty, forbears pushing it into notice, we hope some of our enterprising cultivators will look after it, and see that a supply of plants be speedily propagated, to meet the large demand for a variety of this fruit, which shall be unexceptionable as to size, flavor, and freedom from mildew.

Native and Foreign Trees.

We are not insensible to the superior beauty and value of some foreign ornamental trees. Our pleasure grounds could ill spare the Norway Spruce, Siberian Arbor Vitæ, Swedish Juniper, Scotch Larch, English Linden, Mountain Ash, &c., &c. But we fear that the richness of our own forests is unappreciated by many planters; to some, perhaps, it is unknown. Let it not be forgotten that we have fifty species of oaks in North America, while all Europe has only thirty. North America has forty species of pines and firs—the United States over twenty—while Europe has only fourteen species. Who, among our readers, has pride of country enough to collect all the native trees which will grow in his latitude? We would travel many miles to inspect such a collection.

Shade Trees in Pastures.

In an Address before the late annual Fair of the Oneida County Agricultural Society, Hon. A. B. Dickinson inveighed severely against the preservation of shade trees in pasture lands. Such trees, he contended, are a great injury to the soil, exhausting it for a large area, of its fertility and moisture. For this reason, if for no other, they should be extirpated. But, furthermore, they hinder the fattening of animals grazing in such fields. In lots fully exposed to the sun's rays, the grass is of a better quality; and then, the cattle having no shady resorts, stand up and eat all the time; whereas, if there were trees here and there, they would lie down under them in the heat of the day, and so eat less, and consequently fatten less.

Mr. D. says he has tried the experiment to his entire satisfaction. Every Spring he buys a thousand head of steers, assigns to each field as many as it ought to sustain well, and never changes their quarters. He has, in particular, two fields of thirty acres each, as near alike in quality of grass, and in all other respects, as possible, with the exception that one has several shade trees in it, and the other has none. These fields he has used to test his theory, and he finds that his cattle fatten sooner in the open field than in the shaded. He has found by actual experiment that the cattle in the open field increase in weight fifteen pounds per head a month over those in the other pasture. He has arrived at the definite conclusion, in his own mind, that other things remaining the same, "a lot of steers will gain as much in an open field in four months as they will in five months in a field where they have access to shade."

Mr. D. is a large and thorough-going farmer, and deserves credit for his energy, and for the zeal with which he prosecutes experiments. But we cannot fully adopt his opinion in the present case; at least we must be allowed to express some objections. Shade trees, he says, exhaust pastures of their fertility. Well, but do they not pay back large installments in their annual deposit of leaves? The grass is of poorer quality around such trees. Granted, but not so poor that cattle do not eat it. And besides, the soil and the quality of the grass beneath such trees, are benefitted by the droppings of the cattle while resting in the shade. But then, in fields with occasional trees cattle will lie down in the middle of Summer days, when they ought to be out in the sun industriously filling themselves with grass, and so taking on fat! We are not overwhelmed with the force of this last consideration. To *compel* a steer to stand up in dog-days, at noon, and eat grass so as to hasten his fattening, when he is already full and wants to rest, is ludicrous, if it be not a barbarous and short-sighted philosophy. But whether this theory be true or not, many of us still advocate the preservation of *a few* shade trees in pastures. Do rational men live for nothing but to fatten cattle in short metre? Have considerations of beauty no weight in their minds? Have they no regard for the comfort of their domestic animals? A merciful man is merciful to his beasts. There is, perhaps, no rural scene more pleasing than that of flocks and herds resting at Summer noon under the shade of trees, or cooling their hot limbs in some running stream.

We take off our hat and grasp the hand of Mr. D.'s foreman, who, on being ordered by the proprietor to demolish every tree in a certain pasture, came back at night, saying: "I cut down all but two; they were *so handsome* I could'nt do it; I couldn't touch 'em. If you want them felled, you must do it yourself, for *I won't*." Good, Sir! The panting steers will thank you, and so will we.

Fruit Stealing.

We are not disposed to speak in measured terms on this subject. There is a laxness of public morals in regard to stealing fruit, which demands earnest efforts at correction. Many persons seem to think that the law of the land against thieving, and the higher law, "Thou shalt not steal," do not cover acts of this sort. Men who would shrink from purloining a shilling's worth of goods from a merchant's store, as a wicked and disgraceful act, will yet steal, and allow their sons to steal dollar's worth of fruit from a neighbor's orchard or garden without compunction; nay, will even think their success in thieving quite a good joke. Young America is free and independent, a lover of the largest liberty, rebellious at all restraint. But might he not be improved, in some respects? Verily, we think he might. In England and on the Continent, fine statuary, choice fruit and ornamental trees are exposed to public inspection in parks and gardens, yet seldom does a wanton hand deface the one, or despoil and pilfer the other. Whether this comes from fear of the law, or a high sense of propriety, we care not now to consider. We who profess to be the grandest nation on the globe, should do right, from some reason or other. Public and private property should be held sacred. No man should maltreat a church building, or a town-hall, or the trees and fences of a public park. No man, or man's son, should pilfer his neighbor's fruit, or make too free with his neighbor's shrubs and flowers.

In correcting the evil here spoken of, parents and teachers have much to do. They should teach the children under their care that, to trespass on a neighbor's property, is both disgraceful and wrong. They should inculcate continually a high sense of honor, a pride of character, that will not stoop to do a mean thing, even though it may not be detected, or though public sentiment may wink at its commission. "John, let's go and rob Mr. Smith's young pear orchard, to-night," said a lad to one of his companions, "no one will see us." "No one see us!" replied the comrade, "yes, God would see us, and I should see myself; and that would be two too many." Nobly spoken! A man should feel that in doing such acts, he is degrading himself, making himself unworthy of his own respect or that of his fellow men.

We are far from holding that a man may in no case take of his neighbor's fruit without permission. A traveler may refresh himself in welcome with an apple from a tree by the road side; or, in passing across a neighbor's fields, one may eat occasional fruits which seem to be abundant: no one will object to this. But to enter gardens and orchards secretly, by night or by day, for the express purpose of stealing, and to carry away fruit, more or less, *that* we stigmatize as cowardly and wicked. The case is worse, where the fruit stolen is rare and costly. Instances occur frequently, like the following: A man, fond of horticultural pursuits, hearing of some superior fruit just introduced, in a distant part of the country, obtains it at considerable expense and trouble, and plants it in his garden with the greatest care. He digs and manures, he waters and preserves and nurses it from year to year, watching its growth and longing to see and taste its fruit. At length, on some fine Spring morning, a few blossoms appear; as Summer passes away, the fruit develops, matures and takes on the beautiful tints of full ripeness. The happy owner now fixes on some day when he will gather the long expected fruit, and share it with his family and friends. On the morning of that day, as he walks through his garden, his heart fails him to see his favorite tree battered, and its fruit missing! The thief has got the start of him. Now, is this a thing to be winked at, as a very small affair? The injury sustained in this case is something more than the loss of mere money. What satisfaction can one take in rearing choice fruit, when he knows that some vile thief may rob him in a single night, of the results of years of care and labor. Indeed, we all know that many zealous horticulturists have abandoned efforts of this kind for the simple reason above alluded to. They can not put padlocks on their gardens and orchards, and public sentiment does not frown severely on fruit thieving, nor encourage prosecution for such offenses.

We have no more to say at present, except to raise our remonstrance against these things. We beg parents, school teachers and all good citizens to use their best endeavors to rectify this evil. Cultivate in the young a right *conscience* on this subject; hold up to scorn the fruit-stealer prowling about at night, when honest people are asleep. Were the public sentiment thoroughly purged, this evil would soon be abated. Is there not a good time coming when we Americans shall be as honorable and virtuous, as we are liberty loving and progressive?

"My dear Tom," said old Sheridan, one day, to his son, "I wish you would take a wife." "I have no objection, sir," said Tom, "*whose wife shall I take?*"

Fig. 1.

Suggestions on Pruning Fruit Trees.

BY A. O. MOORE, NEW-YORK.

A correct system of pruning, more than any other one thing, is requisite to enable us to progress in fruit culture. Nothing so surely distinguishes the good cultivator from the unpracticed, as the handling of the pruning knife and the trim of his trees. No means within the knowledge of man is so effective, or gives us such control over the whole economy of the tree as good pruning. Where well understood, and where a knowledge of the principles of vegetable growth is added to intelligent practice, pruning is made to produce the most varied and even opposite results. We prune to diminish nutritive vigor, and prune to increase it; to diminish the generative or fruit-producing tendency, and to increase it; to encourage the feeble and reduce the over luxuriant; by a variation in the same process, under favorable circumstances, we can paralyse the leaf bud, producing thereby a blossom bud; and we can stimulate the blossom bud until a leaf-bud will be developed. Surely, an instrument of such power cannot be lightly esteemed.

In applying myself to the task of criticising the general mode of cultivating fruit trees, I have selected for my "text," a tree which would be generally esteemed a fine specimen of an old apple tree. I have purposely chosen from Nature one that is above the average in good shape, size and thrift, so as to show the tendency, even under favorable circumstances, toward that form which subjects the cultivator to great inconveniences in the management of the tree, and which is most unfavorable to continued vigor and productiveness.

I shall consider that I have done a good work, and quite enough for the limits of one newspaper article, if I can convince my readers that the mode of pruning which is almost universal in this country, even in what are termed well-managed orchards, is wrong, and I may be excused for not attempting at present more than this. To give the better method founded upon and adapted to American experience and practice, should not be lightly undertaken.

Taking the tree which forms the principle subject of the engraving above, (fig. 1,) as the type of the form which the usual treatment of fruit trees produces, you will notice that the whole growth of young wood and leaves is in the upper part of the tree. This occurs in obedience to a law of vegetable growth, which gives greater developement to the terminal buds, and to those shoots which are nearest to the extremities of the branches. This tendency is very much increased by the pruning which has been practiced by the cultivator, who evidently had a very indefinite idea of the objects to be obtained by this operation. Yet, having heard from his infancy that fruit trees should be pruned, with such generalities for his guide in the way of instructions, as "thin out the top," "take out weak or decaying branches," "keep the head of the tree open," &c., &c., he has applied axe and saw to the limbs most conveniently reached, especially as he finds these to be the weaker branches.

Observe the lower limbs of any tree of over 20 years growth, and you will see that they have commenced to take the same *elbowed* shape represented in the engraving. While the tree is young and growing rapidly, these lower branches have a fine upward curve, the concave side being toward the centre of the tree, and having never met with any check in their natural aspirations toward the light and free air, they are long and slender.

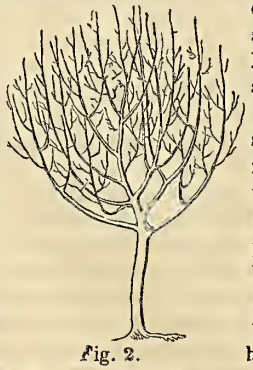


Fig. 2.

Fig. 2 may be considered as a fair specimen of a young apple tree under this management. The only pruning it has received being to cut away conflicting branches and thin out the top. It has never yet borne a full crop, though a few apples have annually gladdened the cultivator's eyes for several years. At length comes a good "apple year," and the tree is loaded with fruit. The extremeties of the branches doing double duty, the weight bears the long slender limbs heavily downward and outward. The farmer, perhaps, grudgingly removes a little of the inferior fruit and props up the freighted limbs. The crop is removed at maturity, and fig. 3 will represent the altered shape of the tree. The next year being "a poor apple year," as of course it must be, the tree has nothing else to do but to grow, and as far as i

Fig. 3.

can, to repair damages. The effect of bending so violently the branches, is to compress the sap-vessels where the curve is made, and the sap finding its way to the extremities of those branches with great difficulty, new shoots are forced from the upper side of the curve, into which rushes all the sap intended for the bowed branches. These shoots then grow vigorously, and being of a coarse, rank growth, come slowly into bearing.

Fig. 4 will show the tree in this phase of its development. As these shoots bear no fruit for a number of years, they grow rapidly, and the old extremities continuing to bear every other year with a deficient supply of sap, soon become exhausted, and in pruning are lopped off at the foot of the vigorous new shoots. In this way are produced

Fig. 4.

these elbows, leaving the blackened stump of the limbs unhealed and unhealable. These upright shoots having at last grown into maturity, in their turn, bear an over crop, and being neglected repeat the process of bending and throwing up new shoots from their constricted branches until the tree has no longer the requisite vitality to renew its growth.

As a summary of the *evils* which result from this shape, so common as to be nearly universal in our orchards, and of which our engraving is certainly not an exaggeration, I would enumerate the following objections:

First.—The loss of much valuable space for fruit bearing. The circumference of the tree, being a dense mass of leaves and branches, shades and confines the interior and lower parts so as to deprive them of their share of sunlight and air, thus causing them to become sterile and vacant.

Second.—The best fruit spurs will, under proper management, be grown near the trunk of the tree and its main branches. These being suppressed, the tree bears principally upon the less desirable

spurs, and consequently we have inferior fruit.

Third.—The weight of the fruit being placed at the extremity of the branches, there is a greater *leverage* to break or bend the limbs.

Fourth.—The action of the wind upon high trees, or upon the tall, top-heavy small ones, causes those crooked, bent, leaning attitudes, which our trees assume in spite of our tying, staking and propping. Indeed, so universal is this evil, that it is thought by some to be a harmless as well as unavoidable thing. And when these long swaying branches are filled with fruit, their graceful motion as they bend and clash in the wind, may delight the Artist or the Poet, but the Farmer will fail to share the sentiment when his fruit, half ripened or just ready for the careful hand of the picker, lies bruised and almost valueless before him.

Fifth.—In fruit trees which have been subjected to man's cultivation for several generations there is a tendency at some period of their growth to an excessive production of fruit. Nature, careful that her children fail not from the face of the earth, provides for waste, accident and loss. This over productiveness must be obviated by man by removing the superfluous fruit before the tree has exhausted itself, or divided the nourishment among so many recipients as to reduce the size and quality of all. But by what known contrivance can the cultivator get access to the top of of his umbrella-like tree, so as to remove with the requisite quickness and care the superabundant fruit?

Sixth.—All the operations of Summer and Winter pruning are with greater difficulty performed; indeed, with trees of this form the proper attention in this respect *cannot be given.*

Seventh.—If the fruit or foliage is attacked by *insects*, as one or both are almost every year, the enemy is generally not discovered until too late to prevent injury, and then the labor of removing them is much increased by this shape. Millions of bushels of apples and pears are destroyed by the host of "codling moths" which frequent our orchards to deposit their unfriendly eggs upon the young fruit. The "Tent Caterpillar," the "Canker Worm," and a legion of other insects, prey upon the foliage and cover the branches with unsightly webs, and the books urge remedies which demand a ready access to every part of the tree, to destroy the eggs or drive away the pregnant moth, by lime dustings or "savory burnt offerings," or adroit applications of thumb and finger. Alas! the farmer stands with upturned eyes under his "green umbrella," pockets his hands and shakes his head, meekly resolving to be content with what the worms will leave rather than undertake that job.

Eighth.—In gathering the fruit which the winds and worms have left, the difficulties are greatly increased. The tree has grown beyond the reach of step-ladders of any portable dimensions; the investment in patent fruit pickers, with long handles spliced to a greater length with defunct rake handles, has proved not very satisfactory, (and no fault of the patentee either,) and the long, naked stems do not offer a very secure foothold. The result is a resort to shaking and thrashing the branches with poles or clubs to obtain any considerable portion of the crop.

Ninth.—The sap, having a great distance to traverse between the roots and the leaves, acts with less vigor in the nourishment of the tree; and not finding easy and proper channels for its flow, there is a great tendency to throw out sprouts and suckers from the lower parts of the tree

IN DOOR WORK.

Some engravings of Household Implements, designed for this number, were unexpectedly delayed.

That Sewing Machine.

"How do you like your Sewing Machine after three month's trial?" asks an Iowa lady. Ans. Better than ever. We could not, or would not part with it on any account. It has bothered us somewhat, yet not half so much—no not a tenth part as much as the first horse-power and thresher we set up as a fixture on the old farm. Whatever the manufacturers may say, we say there is not a machine made which can be taken in hand by any and everybody, and worked perfectly in a day or two. It is useless to talk about getting up a very "*simple* machine" which will execute sewing perfectly. You want it to do well, what the fingers accomplish when guided by *intelligence*, and to do this, complication of parts is absolutely necessary. When one of the venders of low priced machines tells us that their implements consist of only a foot pedal, a wheel and a needle, we tell them "there is a screw loose," or rather a dozen of them wanting. And it is nonsense to say that one wholly unacquainted with wheel work of any kind can take up the "simplest" machine even, and work it perfectly, without some patient effort in learning.

Our own machine is just as simple as we ever expect to find one which will work well, and yet some trouble was experienced with it at first, such as getting used to the treadle movement, changing and putting in the needles just right, giving the thread the exact tension, tightening the wheel strap, gauging the length of stitches, &c, but all those difficulties are pretty much over with, now that the women folks have "got the hang of the thing."

The Sewing Machine has usually been very obedient, since finding its mistress would conquer. And what a faithful and efficient seamstress it is—always at home when you want work done; never troubled with beaux, nor with aching shoulders, nor with the mumps, or mopes.

Do you want a couple of new shirts to start on an unexpected journey to-morrow? Just step down to the village store and buy the muslin, the linen, the buttons and thread, and wife—if she have a good machine and have learned to use it—will make one of them complete, finely stitched bosom, wristbands and all, during the forenoon, before looking after the dinner table, and the other in the afternoon before tea, in ample time for Biddy to starch and "do them up" before going to bed. This is no fiction. We never expect to again see in our house the industrious needle plied all day long and late at night to partly finish a nicely made shirt. The sewing machine, stitching with the greatest regularity and perfection a full yard in two to four minutes, has changed matters entirely. The little ones need no longer be turned over to the tender mercies of Bridget in the kitchen, while the mother works all day to bring up the back sewing. She can spend the day in amusing and instructing them, and after they are asleep, do more and better work in an hour or two with the machine, than the best seamstress could accomplish in ten hours of the most industrious toil with the hand needle. Why, in a single afternoon between dinner and early "tea," our machine has made six *pairs* of pillow cases, sewing each one across the bottom, up the side and stitching it neatly all around the top.

But we must stop this writing or our readers will think we are in league with the manufacturers. We are not though; they charged us a large sum for our machine, we thought, and we are under no obligations to *them;* we make them pay a large price in turn, for every line they advertise. They tell us, however, that they have never got back the money they expended in experimenting at first, and that until they do this and can get up the machine more cheaply than now, they can not sell them any lower. We suppose this is so, but we hope the day is not far distant when *good* machines will be sold so low that the poorest woman will be able to raise money enough to buy one, and lay aside the hand needle forever. Still, we think the machines will continue to be improved, and added to, rather than simplified, and the expense of making will, if anything, be increased. The horse power and thresher, above alluded to, cost us only about one-hundred dollars, but we would not to-day buy one costing less than twice that sum. And, so far as we can see, the low priced machines are not the cheapest. Some of them would not be cheap if furnished for nothing and the thread thrown in.

Enough on the topic for this time. We intend to have another talk on the matter, when we can get some engravings made to show *how* the machines sew, for that is a mystery to many, even of those who have already learned how to put in the cloth, turn the wheel, and execute fine stitching.

Gas making and Candle Wicks.

Did you ever visit a gas house, reader? No? Then let us go over to the outside of the city or village, and take a look at the one located there. We are there, inside the building, and what do we see? Here is a row of cast-iron tubes, each as large as a cannon. They are placed in solid brick-work, side by side, with the open ends just in front. These open ends are each supplied with a tightly fitting cap to close them up, when desired. Under these iron tubes, called retorts, are fire arches, so that they can be heated to redness In the upper sides of the large retorts are small tubes extending upward, and off to another room, where they go down into water vats.

Now they are just charging some of these tubes, to make gas for lighting the town to-night. The workmen take off the caps from the ends of the retorts. Into one we will suppose they put a quantity of coal; into another, tallow; into another, refuse fish oil; into another, rosin; into another, some pieces of wood. They now close the openings, using a little soft clay to make them air-tight, and then build the fires underneath.

The enclosed materials—bituminous coal, grease, rosin, tallow or wood, are soon heated to redness, but as no air can get to them they do not burn, but gradually change to colorless transparent air-like vapors, which pass up into the small tubes, off into another room, down into the water, and bubble up through it into a large round vessel turned bottom side up in the water.

If we wait a few hours, until the workmen let the fires go down and open the large retorts, we shall find very little of the materials put into them left, although nothing has escaped but an invisible vapor or gas. Where coal is used, however, there is quite a quantity of a substance remaining, called coke. If we now go to the inverted vessel which has caught the escaping gas, we shall find in it, apparently, only air, and if a hole be punctured in the top, a jet of this apparent air will be felt to escape, though it cannot be seen. But apply a match to it, and it will burn with a clear white

flame, when it comes in contact with the air. You will observe that a very similar kind of gas comes from all the tubes, whether they were filled with coal, oil, rosin, or wood. If now tubes are attached to this vessel and it be pressed down into the water by weights, a jet of this invisible gas will escape, and can be lighted at the other end. These tubes for conducting the gas can be stretched miles away to carry the gas to any point where light may be wanted. Large pipes are laid down in the street, under ground, and from these smaller ones branch off into the buildings. With the exception of some lime vessels through which the gas is passed when just made, we have described all the essential apparatus of a gas manufactory. The gas for burning is simply grease, or rosin, or coal, heated to a vapor, just as we would change water to steam in a steam engine, only that greater heat is required to vaporize these more solid substances. But we need not go to the city or village to see a gas manufactory. Every house has one, two, three, or more gas factories. That tallow candle, or oil, or fluid lamp, is a little gas factory of itself, and you are actually burning gas as much as your aristocratic city cousins, and precisely the same kind too.

The tallow, oil, or fluid (which is in part distilled rosin) is drawn into the hot wick, which evaporates or converts it into gas, just as does the hot iron in the gas house.

The gas made by the candle or lamp wick, comes at once in contact with the air, and is consumed. (At another time we shall try to explain just what takes place in burning, and *how*, and *why*, the light is produced, which is a very interesting matter). One point more just here. All the blaze produced in burning wood, or any kind of fuel giving out a flame, is simply the burning of a gas of just the same kind as that made in the gas house.

If you examine a candle flame closely, you will observe a dark spot around the wick. This is a space filled with gas unburned. Only a thin film burns on the outside of the flame.

Put one end of a little tube down inside of the flame, close to the wick, and the unburned gas will rise up through the tube, and it may be lighted at the upper end.

A PRACTICAL SUGGESTION.

If you look at the wick closely, you will see that it is surrounded with the gas which keeps the air away and prevents its burning. The wick darkens the flame a good deal, and this is one reason why gas made elsewhere, and burned as it escapes from a tube, gives a brighter light than a lamp or candle requiring a wick. As the tallow in a common candle wears away, the wick bends over and projects through one side of the flame. There it comes in contact with the air, and is gradually consumed, as you will see by the bright spot on the end. Now, it is desirable to have as little wick as possible to interfere with the light. To this end it is better to make all candle wicks as tightly braided or twisted as possible. If too small, they will bend over, and melt away the grease on one side.

In spermaceti, and other kinds of candles not melting easily, the wick is made so small that it bends over very soon, and coming in contact with the air, it burns off, and requires no snuffing.

A Good Wife.—That young lady gives rational security for becoming a good wife, who does not apologize when you find her at work in the kitchen, but continues her task until it is finished

Notes on Cooking, &c.

PICKLING SWEET APPLES.

Here is something we know to be good:

To one half peck sweet apples make a syrup of 2 lbs. sugar and 1 pint of vinegar. Boil the apples in this syrup until tender; then remove them, and make a new syrup of 2½ lbs of sugar and 1 pint of vinegar. Add one teaspoonful of cloves and one of cinnamon tied in a bag. Let the syrup boil 15 or 20 minutes; then pour it, while hot, over the fruit. The first syrup is good for other sauces.

PUMPKIN PRESREVES.

The following is home-tried and proved:

An excellent and economical sweetmeat is thus prepared: To 7lbs. of pumpkins take 5lbs. of sugar, 4 lemons, and 2 oz. of green ginger root, to be obtained at most grocers' stores. Cut the pumpkin in slices, half an inch in thickness, and in size and form to suit the fancy. Boil the pumpkin in the syrup, until tender. Then remove it and add the lemons and ginger root. These should be sliced thinly and scalded before being put into the syrup. Boil it down until it is rich enough to keep without fermenting, and then pour it over the pumpkin. If the ginger root cannot be obtained, lemons alone impart to it an agreeable flavor.

COOKING TURNIPS AND CABBAGES.

"Sophia," of Columbus, Pa., sends us the following: Pare the turnips and cut them into slices only one-fourth of an inch in thickness. Stew them in just water enough to cook. When soft, mash them with a common potato masher, and season to the taste. In this way all the sweetness of the root is retained, which is not the case when a large quantity of water is used. Cabbage stewed in same way is excellent.....Query. Unless liquid enough is used to leave them watery, is there not danger of their scorching? How would it answer to put the thin slices into a dish without any water, and set them into a vessel of boiling water; or in a steamer. If set in a basin in hot water, a plate might be put over to keep out water or rather steam from above. We leave the experiment with the ladies.—Ed.

SUET PUDDING—CHEAP AND GOOD.

We often enjoy a very excellent suet pudding, so called, which we do not remember to have described. We should rather call it a suet cake. We last evening asked for a "prescription," and received the following: Take one teacupful of molasses, one of sweet milk, one teaspoonful of soda and one of salt, half to three-fourths of a cup of finely chopped suet, or a half a cup of butter, half a teacupful of currants or raisins, (if desired.) Stir together with, say three teacupfuls of flour, or enough to form a stiff batter. Add nutmeg or cinnamon to suit the taste. Put into a greased tin basin, or in a mold, and cook two to three hours in a steamer. This comes out "as light as a feather," and makes a nice dish for the supper table, especially where cream can be had to eat with it.

LOAF CAKE.

A lady sends the following to the *Agriculturist:*

Take three cups of milk, one cup of sugar, half a cup of yeast; make a thick batter, and let it stand over night. In the morning, add two cups of sugar, one and a half cups of butter, one egg, and spice as you like.—This strikes us as being new, but in the absence of the Editress we dare not pronounce upon *that* point. We do not quite understand what comes after the "spicing as you like it? Is there to be no raising in the morning? How is it to be baked? Ladies, please give all the *particulars*. A good many fellows have gone to keeping Bachelor's Hall since the "hard times" came on, and they have subscribed to the *Agriculturist* to get your help—don't forget the particulars required by entirely new hands at cookery.

SODA CAKE AND CREAM CAKE.

Mrs. L. A. Mitts, of Black Hawk County, Iowa, contributes the following two formulas:

Soda Cake, one loaf.—Beat together slightly one egg and one teaspoonful of dry sugar. Mix well with one teaspoonful of soda dissolved in a teacupful of sweet milk, 2½ tablespoonfuls of melted butter, one pint of flour measured and then sifted, 2 teaspoonfuls of cream of tartar, and extract of lemon to suit the taste. Bake quickly in a basin in a hot oven. [A recipe very nearly like the above has been used in our family for a long time, and is much liked. A smaller quantity of butter will suffice, unless a rich cake is desired.]

Cream Cake.—Three teacupfuls of sugar, 3 of thick sour cream, 5 eggs beaten, 2 even teaspoonfuls of soda and 2 of salt. Mix well with flour enough to make a batter, flavoring to the taste. Bake quickly in two three-pint basins, or in patty pans.

Price of Sausage Fillers.—*Error corrected.*—In describing this implement, on page 295 of last number, the price was stated at $1,75 and upwards. It should read: $3,75 and upward, as the lowest price of those with a wheel and crank is $3,75 at the House Furnishing and Agricultural Stores.

Going to Market.

We recollect a story told us in our boyhood by an old farmer, of two of his neighbors living about five miles out of the nearest market town. One of them was building a house and, of course, had carpenters and masons on hand, whom he boarded while doing their work. As his own limited provisions were insufficient to furnish this extraordinary draft on his household supplies, he had to buy.

One Sunday morning, a neighbor living a mile or two beyond him, came jogging down the road on his mare, with a mule foal following—it was the fashion to raise mules in those days in New England—and under him, on the saddle, a well filled grain bag.

'Good morning, neighbor Hawkins, what have you got in your bag?'

'Mornin', mornin', responded Hawkins.' 'I've got a bag o'beans that we didn't want at home, and so I thought, as I hadn't much to do to-day, I'd go into town, and sell 'em.'

'Well, what are they worth?'

'Don't know exactly. Joe Styles tell'd me he got seven shillings for his; so I s'pose that's about the goin price.'

'I'll tell you, Hawkins; I want some beans; and if you'll let me have 'em, I'll give you that, and so save your going into town, and you can go home and do a day's work to boot.'

Musing a little, and scratching his head, 'no I believe not,' said Hawkins, 'the old woman wants a little tea, and other notions, and I guess I'll go along. Maybe I'll get seven and six for 'em'.

'Very well,' replied Jotham Bently, as he turned round to look after his carpenters, and away rode Bildad Hawkins to market his beans.

Being a man of humor, and thrifty withal, as soon as Hawkins had turned into the right hand road over the hill, Bently got up his horse, saddled and mounted him, and jogged on after, keep-

ing far enough in the rear to be out of sight, yet near enough to understand his movements.

An hour or so, brought Hawkins into town, when he stopped at one store, then at another, and so on, till he got to the 'Cheap Cash Emporium' of a dealer in 'East and West India goods, and Produce in general.' After tying 'old Doll' at the post, and a stay inside of a few minutes, out he came, lifted the bag on to his shoulder, and took it into the store. In half an hour, or so, out he came again, with his pipe in his mouth, puffing away stoutly, with bag in hand, and hanging down at each end, which he swung on the saddle, mounted 'old Doll,' and turned her face homeward. Bentley who had hitherto kept out of sight, soon came into the store, and inquired of the Store-keeper if he had beans to sell.

'Yes,' said West India; 'I just took a bushel and a half, real good ones, of Joe Hawkins, who lives somewhere in your part of the town. I guess they'll suit you.'

'What's the price?'

'Why I gave six and sixpence, but as I paid in tea, snuff and allspice at retail price, you may have them for the same, *in money*.'

'I'll take them;' and without more ado, the beans were measured up, put into the bag, and away went Bentley, by a cross road, over which, with a little hurrying, he got home before Hawkins had turned down the hill past Bentley's house, where he found him quietly repairing a broken picket on his gate, 'as if nothing had happened.

'Well neighbor Hawkins,' cheerily asked Bentley, how did you make out with your beans?'

'Pooty fair; got my price, and traded it out a'rter'ards, as we wanted a few notions for housekeeping. Guess though, I'd done as well to let you had 'em.

I guess so too,' leered Bently; for I have got the same beans now in my kitchen, which I bought just as you left the store, of West India himself, for six and sixpence, which he said was all he gave you for 'em, and *paid in dicker!*'

The switch went down into 'old Doll's' hide in a moment, while she and her long eared progeny aforesaid turned smartly 'up the hollow,' and Bildad Hawkins was not seen riding past Jotham Bentley's house again *that* Summer.

Pennsylvania Farm School.

The Secretary, Wm. G. Waring, desires us to acknowledge the following recent contributions to archives and grounds of the State School.

Jas. S. Barr Esq., Huntingdon, Pa., a copy of Worcester's Dictionary.

Dr. Chas. G. Reinhold, Boalsburg, Pa., a copy of his Farmer's Promotion Book.

J. Winebrenner, Harrisburg, Pa., combined clod-crushing harrow and roller.

G. C. Bucher Esq., Pa., plants of Peabody's Hautbois, and Scott's Seedling Strawberry.

John Evans, Erie, Pa., seed of Etrurian Wheat.

Jas. S. Barr, Huntingdon, Pa., Worcester's Pronouncing, Explanatory and Synonomous Dictionary.

Thos. Evans, Erie, Pa., seed of Etrurian wheat.

J. Winebrenner, Harrisburg, Pa., Gourly's harrow and clod-crusher. This effective looking implement will be useful here.

Dr. C. G. Reinhold, Boalsburg, Pa., a copy of his Farmer's Promotion Book, and the right of use of his portable rack fence—an exceedingly simple and cheap fence.

J. B. Garber, Columbia, Pa., plants of several new varieties of grapes and seeds of trees and plants from the Northwest Territories—very interesting and valuable.

Josiah Hoopes, West Chester, Pa., plants of new raspberries and grapes.

Dr. C. W. Grant, Iona, near Peekskill, N. Y., plants of new grapes, with specimens of the Ohio Delaware, far surpassing the Isabella in flavor, and much earlier—quite decidedly the richest hardy grape ever tasted here.

Jesse Heacock, Millville, Columbia County, Pa., right for use of portable fence—McIlroy's patent. (Will be tried.)

Chas. Downing, Newburg, N. Y., Downing's seedling gooseberry, and the revised edition of "Fruits and Fruit Trees of America."

Wm. G. Huyett, Williamsburg, Blair County, Pa. His improved reaping and mowing machine, and cornstalk cutter and grinder. (The latter will be tried shortly—both machines have a high reputation.)

J. H. Gould & Co., Alliance, Ohio, box of husking thimbles, just received and tried one day. Some hands are greatly pleased with them—others prefer the old "skiver."

Messrs. D. Appleton & Co., publishers, N. Y., a copy of Gillespie's Surveying—a very complete and superior work—and Youman's Class-book and Atlas of Chemistry—a novel and beautiful work of evidently great educational value.

Hickling, Swan & Brewer, Boston. Tate's Natural Philosophy, and Hill's Lessons in Geometry—both well adapted to convey instruction.

Philips, Sampson & Co., Boston. Sargent's Readers—books of very high merit.

If there be any Man who can

Sit coolly down, amid the rush of letters that has crowded in upon us during the last two weeks, and in 24 working days do the amount of *thinking* needed to write, or get written, collect, select, correct and arrange the mass of articles, engravings, &c., required to fill a single paper of this size, and yet make everything in the paper tip-top, we should like to engage his services immediately at any price. We will surrender the chair editorial at once, and for ourselves act only as publisher. How many fine plans laid out for this number have been crowded over for a month, if not two. Let us get by the month of January, and we will see what we can do in the March number. It is unfortunate that the first two numbers of the volume which ought to be the best are necessarily the poorest of the year, for the reasons aforesaid.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

TO CORRESPONDENTS.—Please remember that the moment one paper is issued we commence preparing the next and all communications or articles designed for any number should be on hand, if possible, very early in the previous month. These pages are not made up of simple extracts thrown loosely together, but much care and thought are devoted to every column. Give us time, or expect articles to be "laid over." Further, just now we are receiving thousands of letters every week, very many of which contain more or less inquiries and suggestions on all kinds of work. Such letters are necessarily laid by for an appropriate season. For example, we have letters just received containing suggestions on corn husking, wheat sowing, &c., which will be just in season next autumn, and these are filed for that time. Others require special investigation, or engravings, and of course must wait their turn.

NAMES OF WRITERS must always accompany letters of inquiry, and indeed all others, or a notice of them need not be expected. We have received many letters from persons signing themselves "subscribers" only, and some of these have been from Post Offices where we have no subscribers. Such letters have gone into the "kindling basket." When a particular request is made to that effect, the name of any writer will not be published,

Sheltering Cattle.—W. C. A., Tioga Co., N. Y. Cattle should be housed at night as soon as the cold rains of Autumn come on. They should be yarded nights during the Summer season even, to be handy for milking and to save the manure. If the barn has open sheds or hovels attached, they will afford the requisite shelter until cool weather, when cattle should be stabled to keep them warm, to afford a sheltered place to feed them in, and to save the manure. These matters are discussed elsewhere in this number.

Trimming Hedges.—N. B. Robbins, of Plymouth Co., Mass., will find June and July the best time to prune or cut in hedges. They are then in a vigorous growing condition, and soon heal over the wounds made by the knife or shears.

Tooth Wash—Powders.—S. S. Medary, Wis. Never buy any of these, as you are quite as apt to get a positively injurious article as a good one. Those powders and washes which are most effective in cleansing the teeth and rendering them white, are just the things to spoil the natural enamel and thus destroy the teeth. Nine-tenths of the tooth-washes sold by pedlars are a mixture of hydro-chloric acid and water, costing 50 cents to $1 a barrel, but sold at from 12 to 25 cents the small vial. The acid in them soon destroys the teeth. A stiff brush and clean water, or water and a little hard soap is the best tooth-cleanser. The teeth should be cleaned just before going to bed, as food or decaying vegetable matter remaining on or between, the teeth sours during the night and decays the teeth.

Keeping Onions.—J. B. Medbock, of Elk Co. Pa., referring to a basket note, Vol. XVI, page 235, says he keeps his onions designed for planting in a dry place, but allows them to freeze and thaw freely, only avoiding any stirring or shaking of them while frozen. He says they grow just as readily in Spring. Those used for eating are put to cooking while still frozen, and he thinks they are all the better for the freezing.

THE NEW MAGAZINE.—The ATLANTIC MONTHLY, published by Phillips, Sampson & Co., Boston, promises to be a sterling affair. We have little time for magazine reading, and have found so little worth reading in most of the so-called literary magazines of the country, that we seldom take up any of them, with the exception of the National Magazine and the Ladies' Repository, both of which are issued by Carleton & Porter, of this city. In the first two numbers of the Atlantic Monthly, however, we have found a rich intellectual treat. It abounds in original thought addressed to the mind, the intellect, and not to the fancy or fashion. From the list of contributors engaged, and the character of the first numbers issued we shall look for a monthly intellectual feast, such as we have not before found in this country, and we have no hesitancy in recommending this magazine to the attention of all who desire a class of reading of the kind above indicated. It may be obtained of the publishers, as above, at $3, per annum, post-paid, or of most book and periodical dealers in the country at 25 cents per number.

Boys and Girls Own Columns.

What a Question to Ask?

Many hundreds of miles away, lives one of our old subscribers, whom we have never seen, but who must be our special friend, as he takes very much pains to set us right whenever he thinks we chance to step a little aside from the course which *he* thinks just proper in the conduction of these columns. We call him our "friend," because we think the very best friend we have is the one who is frank enough to tell us of our faults. All have more or less failings, which they are not themselves aware of, but which are plain enough to everybody else; now how kind it is in others to point out these failings, that they may be corrected. Boys and girls, you should be thankful to any one who will tell you of your faults, so that you may see them too, and guard against them.

But we are getting a great way from what we commenced to write above. A little while ago the friend alluded to sent us a pretty long letter, and almost the first sentence we saw in running our eye over the sheet was this: "Don't you think you are lowering the character of the *Agriculturist* by introducing that boys' and girls' department, filled with problems, children's stories, &c.?

No, sir, we do not. Why, man, what put that into your head? *Lower* the character of this paper because we devote a page now and then to such things as will specially amuse and interest our youthful readers? No, sir. Why, the happiest hours of our life are spent with children. How many times during the weary labors of the day are we cheered by the thought that when night comes, we can go way out to our country home and have a romp and frolic with our little ones who are waiting impatiently for "papa to come home." That long ride at sundown would be twice as long if there were no children (and their mamma, of course,) at the other end of the route. And when Sunday morning comes, and our weekday cares are laid aside, how we love to get up early and take a walk or ride to a distant school room, where we can gather around us a large group of happy children in a Sabbath School, and sing sweet songs and talk of pleasant things. Why, the whole week of talking with and writing for grown up people gives no *such* real pleasure as we enjoy during these few hours spent with children. How often we wish the tens of thousands of boys and girls who read these pages could now and then *all* come and join in one of those glorious songs we sing. Here is the first verse of one we shall sing to-morrow morning—it is Saturday night now, Dec. 19:

"All the week we spend full of childish bliss,
Every changing scene brings its happiness;
Yet our joys would not be full,
Had we not the Sabbath School.

Another song begins thus:

"Welcome, welcome, quiet morning,
I've no task, no toil, to-day;
Now the Sabbath morn returning,
Says a week has passed away"

And here's another which contains such beautiful sentiments that we will print the whole of it:

"There's not a tint that paints the rose,
Or decks the lily fair,
Or streaks the humblest flower that blows,
But God has placed it there.

There's not of grass a single blade,
Or leaf of loveliest green,
Where heavenly skill is not displayed,
And heavenly wisdom seen.

There's not a star whose twinkling light
Shines on the distant earth,
And cheers the silent gloom of night,
But heaven gave it birth.

There's not a place on earth's vast round,
In ocean's deep, or air,
Where skill and wisdom are not found,
For God is *everywhere*.

Around, beneath, below, above,
Wherever space extends,
There God displays his boundless love,
And *power* with *mercy* blends.

Is not that a lovely song? Suppose you each learn it by heart.

Tis the voice of the sluggard; I heard him complain,
'You've waked me too soon, I must slumber again.'
As the door on its hinges, so he on his bed,
Turns his sides and his shoulders and his heavy head.

We learned this verse when a very little boy. There is more of it, but we have forgotten two lines:

I passed by his garden and saw the wild briar,
The thorn and the thistle grow broader and higher.

Who is called the wisest man? We hear you answer "Solomon." Well, here is what he says of our picture

How long wilt thou sleep, O sluggard?
When wilt thou arise out of thy sleep?
Yet a little sleep, yet a little slumber,
A little folding the hands to sleep:
So shall thy *poverty* come as one that traveleth,
And thy *want* as an armed man. (Prov. vi., 9):

Indian Arrow Heads.

When a boy, upon a Western Farm, we used to find a great many small pieces of flint stone, of peculiar form, which were called "Indian Arrows." In some single fields there were hundreds of them, and every plowing turned up a new crop. It was a puzzle to us to know how the arrows could be of any use, for they never would fit our bows. We have since learned that these stones were simply designed for the heads of arrows, and the indentations in the ends and sides to aid in fastening them in the clefts of the shaft, with a thong, as shown in the engraving This is an accurate picture of one found at Norwich, Conn., near the burial ground of Uncas, and the other Mohegan Sachems. These arrow heads we have gathered in various parts of New-York, Ohio, Indiana, and in New-England. We have heard of them in Michigan, Minnesota and elsewhere. We suppose very many of our young readers, in various parts of the country, have specimens.

About that Paper.

Last month we laid out some work for winter evenings, which we had no doubt would be agreeable to many of our young readers. We did not ask or expect that all who took the hint and started "Home Newspapers" would send us copies, but it is pleasant for us to know that some of our suggestions have been followed. We have already received one number of a new paper, which we take the liberty of copying in full. Instead of being written, it is printed, and we have no doubt that the editor has taken a great deal of satisfaction in his experiment with types. There is a good deal to be learned from handling types, and we hope some time to write a chapter for boys and girls on that subject. But here is the paper, which does very well for a beginning.

PROSPECT JUNIOR.

Vol. I. Dec. 7, 1857. No. 1

Here is a new paper which will be published occasionally. Please to excuse all the mistakes you may find, for it is the first copy.

It is rather small; but I have not a very large number of types.

How do you like the name? 'JUNIOR'!

Answers to Problems.

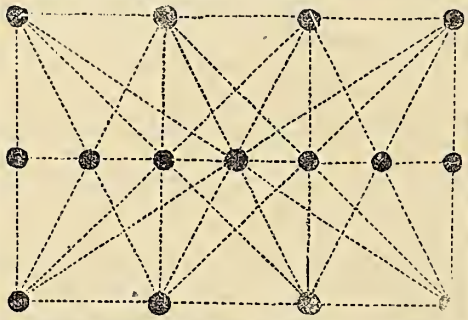
PROB. 11.—Answered correctly by Thos. J. Haile, Md., though differing from the cut in November No.

PROB. 12.—Proved to be rather difficult. Answered correctly (82 cents and 4 mills) by A. V. C., Madison, N. J., and S. Jones, Chester Co., Pa. Joseph H. Simpson, Arispe, Ill., answered 25 cents.

PROB. 13.—Size of box to hold five hundred million dollars in gold, reckoning gold 19½ times heavier than water, and worth $18 per avoirdupois ounce. A cubic foot of water weighs 62½ lbs. avoirdupois. Answered by O. W. D., Great Falls, N. H., 11½ feet; by G. H. La Fetra, Ohio, 11,3 feet; by Jacob Datesman, Pa, 12,44 feet; by J. E. Walker, Mass., 11,29 feet.

PROB. 14.—By Thos. J. Haile, Md.

PROB. 16.—15 trees in 16 rows, with 3 in each row; also, 2 rows of 4 trees, and 1 row of 7 trees.



Answered thus by A. Myers, Wales, Ill.; J. Vipond, Jo Davies Co., Ill.; M. A. Sterling, Brown Co., Ill.; G. H. La Fetra, Ohio; Chas. M. Foulke, Pa.; N. O. Loundsberry, N.Y.; Sam'l Ring, O. Correct answers, but slightly differing from the above figure, by Serenus Raesly, Pa.; D. Todd, Ill.; Jacob Datesman, jr, Pa.; Hannah E. Wilder, N. Y.; Francis M. Vancil, Ill.; Wm. A. McLean, Pa. A correct, ingenious solution, unlike the above, by J. E. Walker.

PROB. 17.—O. W. D., Great Falls, N. H.

PROB. 18.—Answered by E. W. H., Mass.; Milton R. Shaffer, N. J.

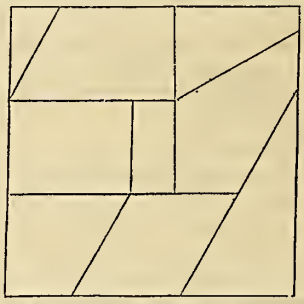
PROB. 20.—To arrange the numbers 1 to 64, in 64 squares, 8 each way, so as to add up perpendicularly and horizontally 260 in each row.

1	60	9	52	21	48	29	40	260
61	8	53	16	41	20	33	28	260
2	59	10	51	22	47	30	39	260
62	7	54	15	42	19	34	27	260
3	58	11	50	23	46	31	38	260
63	6	55	14	43	18	35	26	260
4	57	12	49	24	45	32	37	260
64	5	56	13	44	17	36	25	260
260	260	260	260	260	260	260	260	

Answered by J. R. Zeller, R. F. Brown, S. Raesly, Wm. A. McLean, Chas. M. Foulke, Wm. J. Seltzer, and Sophia, all of different counties in Pennsylvania; by Jasper N. Lantz, Moorefield; Hannah E. Wilder, N. Y; Harvey Shawver, Ohio.

PROB. 21.—To arrange the pieces in the following figure into a perfect square:

The above nine pieces are all in the following square.

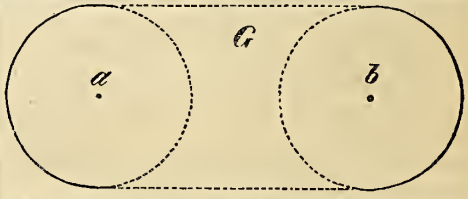


Answered by Jas. Twiggs, Samuel Ring, E. B. Beile, S. Shawver, G. H. La Fetra—all of sundry counties in Ohio; by Isaac Ostrander, N. Y., O. W. D., N. H. The following made commendable efforts, but their drawings needed a little different arrangement to make a perfect square: Wm. Sherwood, N. J.; Samuel Strong, N. Y.; Burdett Hubbard, Conn.; Parvis Puer, N. J.; Jas. T Hurley, Wis.

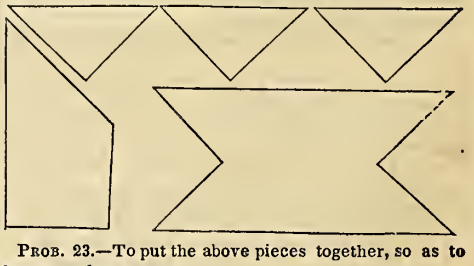
The above are only a small part of the answers received to the different problems, but are all the correct ones, if we have made no mistake, which, of course, we may have done in looking over so many letters.

NEW PROBLEMS.

We have 35 new problems contributed, but can only make room for two now. Others are engraved and ready



PROBLEM 22.—There are two circular flower beds each 12 feet in diameter. The distance from *a* to *b* is 20 feet Question—What will it cost to pave the space *G* between the two circles, with gravel, at 12 cents per square yard?



PROB. 23.—To put the above pieces together, so as to form a perfect cross.

A GOOD ANSWER,—"Well my lad, where are you traveling this stormy weather alone?" asked an inquisitive landlord in the north part of Vermont, during the last war, of a small lad whose father was engaged in smuggling, and had sent him, young as he was, with an important message in advance of the party.

"Going to draw my pension was the reply."

"Your pension," echoed the landlord; "what does so small a boy as you draw a pension for?"

"Minding my business, and letting that of other people alone."

Those Big Dictionaries.

We are happy to say that several Boys have already spoken for the "Big Dictionaries" offered in the December Number. In one case a brother and sister have joined their efforts and will own the Dictionary together.

☞ The offer is still continued through January.

Catalogue of Seeds for Free Distribution in 1858.

Every person whose subscription to the *American Agriculturist* is paid beyond February, 1858 will be entitled to select three parcels of seeds from the list given below.

☞ SEE REGULATIENS OF DISTRIBUTION BELOW. ☜

FIELD SEEDS.

(These are described on page 8.)

No 1—White Sugar Beet.—Our packages of these will contain about 500 seeds, requiring one 3-cent postage stamp.

2—King Philip Corn.—One 3-cent stamp covers about 30 kernels. We shall have packages for one, two or three stamps, whichever any one may choose to pay postage upon. Where seeds go by express (see note C below), the larger packages will of course be chosen.

3—Stowell's Sweet Corn.—About 40 or more kernels go under one 3-cent stamp. Subscribers may choose a single (1 stamp), or double (2 stamp) package.

4—White Poland Oats.—About 300 seeds go under one stamp. Single or double packages are offered.

5—Chinese Sugar Cane.—We shall have plenty of of this. One 3-cent stamp covers about 450 to 500 seeds including envelop; two stamps about 1,000 seeds (1 oz.). Subscribers may choose any amount frem one-half to two ounces. ☞If any subscriber selects no other seed, we will furnish him a quarter pound package put up in a muslin bag (postage 27 cents). These packages are of the same size and like those sold at $1 last year.

6—Ashcroft's Swedish Turnips.—Our packages contain 800 to 1,000 seeds each, and will require not over half of a 3-cent stamp. Seme other small package may go under the same stamp.

7—River's Swedish Stubble Turnip. Same as No. 6.

GARDEN SEEDS.

(Described on page 8.)

8—Dan'l. O'Rourke Pea.—Abeut 65 to 70 peas in a paekage. One 3-cent stamp required.

9—Champion of England Pea.—55 to 60 in a package, one 3-cent stamp required.

10—British Queen Pea.—Same as No. 9.

11—Hairs' Dwarf Blue Mammoth Pea.—About 45 in one package. One 3-cent stamp.

12—Green Kohl Rabi.—500 seeds. One-third of a 3-cent stamp.

13—Enfield Market Cabbage.—500 or more seeds. ½ stamp.

14—Alma Cauliflower.—100 or more seeds. ½ stamp

15—Mammoth Cabbage Lettuce.—400 or more seeds. ½ stamp.

16—Long Orange Carrot.—800 seeds. ½ stamp.

17—Red Strap Leaf Turnip.—800 seeds. ½ stamp.

18—Patience Dock.—100 or more seeds. ½ stamp.

19 Round Spinach.—400 or more seeds. ½ stamp.

20 Salsafy (vegetable oyster).—200 or more seeds. ½ stamp.

21—Winter Cherry—½ stamp—number of seeds will depend upon the supply yet to be received.

22—Mammoth Squash.—Number yet unknown ½ stamp.

FLOWER SEEDS.

(Described on pages 20 and 21.)

These are put up in small packages of various sizes and amounts, depending upon the rarity of the seeds, the number required for a common flower bed &c. One 3-cent stamp will pay the postage on *three* parcels of the flower seeds.

23—Large Flowering Mignonette.
24—Mixed Virginian Stock.
25—Mixed Nasturtiums.
26—Nemophila Insignis.
27—Cockscomb.
28—Dwarf Rocket Larkspur.
29—Mixed Double Balsam.
30—Chinese Pink.
31—Tassel Flower.
32—Portulaca.
33—Cypress Vine.
34—China Asters Mixed.
35—Mixed German Asters.
36—Golden Bartonia.
37—Zinnia Elegans.
38—Sweet William.
39—Marvel of Peru.
40—Escholtzia Californica.
41—Elegant Clarkia.
42—Fox Glove.
43—Red Lavatera.
44—White Lavatera.
45—Mixed Sweet Peas.
46—Mixed Lupins.
47—Morning Glory.
48—Flos Adonis.
49—Candy Tuft.
50—Schizanthus.
51—Phlox Drummondii.

☞ PLEASE NOTE ESPECIALLY,

A. That the above list contains *fifty-one* distinct varieties of seeds to be distributed, according to individual preferenees, among 30,000 to 50,000 persons scattered all over the country, new it will bo absolutely impossible to do this without immense labor, and many errors, unless each subscriber take especial pains to faeilitate the work, by following the directions below.

B. It is of course understood that, as heretofore, the recipient of the seeds will furnish *envelopes ready stamped and directed*, for mailing them.

C. We found it impracticable to make any arrangement here for sending seeds by Express. By enquiring at the nearest Express Office, the representative of any club of subscribers can ascertain whether it will be cheaper to have their packages come by mail to eaeh individual, or in a package together by Express.

D. If to go by Express, no envelopes will bc needed. In that case, simply send us a written list of the names, marking against each name the kinds of seed desired, *using the numbers in the above catalogue.*

Keep a duplicate of the list sent, and give particular directions at the bottom of the list, how the packages are to be forwarded, and to whom directed.

E. If to be sent by *mail*, please prepare the envelop carefully, after the following form:

5	3-cent
16	stamp.
20	
	3-cent
	stamp.

John Johnson Smith,
Hamilton,
Steuben Co.,
Ind.

Put the figures cerresponding to the Catalogue above, plainly on the left hand of the Envelop, and put all the postage stamps upen the right side of the Envelop , one above the other when two or more are needed, as shown in the diagram. This will prevent the seeds being crushed in the stamping process, in the Post Office.

F. Let letters referring te seeds be as brief as pessible, and yet plain. All such communicadons are referred directly to the clerk superintending that department. It is especially desirable that whatever relates to seeds should be on a *separate* slip of paper. (We shall probably distribute over *one hundred thousand packages.* A minute's time saved on each of these would amount to 166 working days, 10 hours each—more than half a year!)

G. Canada, California and Oregon subscribers will need to substitute 10-cent stamps in all cases where 3-cent stamps are named in the catalogue. When two or three send together from Canada, it will usually be cheaper to receive the seeds by Express.

H. Always put the stamps upon the envelops, and not drop them loosely into the enclosing letter.

I. It is always better to send envelops of the ordinary size and made after what is called the "Government pattern"—that is, those in which the back comes under the piece lapping over; these seal up more firmly. This point is not essential, however.

J. Usually, the lighter the envelop the better, that more seeds may go under the same stamps.

K. Send only the number of stamps required for postage on the seed. We have no seeds of any kind to *sell.*

L. Those forwarding *unpaid* envelops will of course not be disappointed if they do not return. We offer seeds *free*, but cannot, in addition, afford to pay postage also.

M. All seeds sent by mail are put up at our country residence, and each package is there mailed *direct*, to avoid its being overhauled at the Distributing Offices.

N ☞ We shall take time to mail all the secds carefully and regularly. This will occupy the entire months of January, February, and a part of March. Those going to subscribers on the Pacific Coast and in Southern States, where the seasons are earlier, will be mailed first and with dispatch. To others they will go as fast as the put ting up and mailing ean be accomplished.

Special Premium to Ladies.

To any lady procuring and forwarding six subscribers and $5, we will send any fifteen varieties of our flower seeds they may select.

To any lady forwarding TEN subscribers, and $8, we will send a package of every kind of flower seeds—Nos. 23 to 51.) The postage on 15 kinds put up together is about 12 cents, and about 21 cents on 28 varieties.

Business Notices.

☞ *Fifty Cents a Line.*

The above engraving illustrates the operatiens ef one of Grover & Baker's Sewing Machines, as managed by a lady. The Machines are unquestionably the best in the market for family use. This is attested by the experienee of upwards of five thousand families, of the highest respectability, in all parts of the United States. No wel. regulated family can afford to do without one.

The following, from the Secretary of a benevolent institution is only one of many of a similar eharacter, received by the manufacturer:

To Messrs. Grover & Baker:

NEW-YORK, Oct. 26th, 1857.

The managers of the "Female Magdalene Benevolent Association" take pleasure in bearing testimony to the great utility and efficiency of "Grover & Baker's Sewing Machines," which, for the past year, they have had in use in the sewing room of their Asylum, and they most cheerfully recommend it to those families who wish greatly to diminish laber and facilitate its successful and useful results,

On behalf of the F. M. B. Society.

A. L M., Secretary.

Editors of newspapers, teo, have some appreciation of their merits, as the fellowing opinion will show:

N. P. WILLIS, Esq., Editor of the *Home Journal* of November 7, comparing this with others, says: "The use of this machine, in the first place, is easier learned. Then the stitch is more elastic and much stronger for woolen cleths. It finishes off its own work, which the others do not. The work can be ripped and re-sewed, and does not rip of itself, without its being intended, though every third stitch be cut. The same machine runs silk, linen thread, and common spool cotton, with equal facility; and a very material advantage is that it sews from ordinary spools, not making it necessary, as in the other machines, that the cotton should first be respooled Its construction is simpler and stronger."

"The Grover & Baker machines are, *we believe*, supe rior to any others."—*Boston Daily Advertiser.*

"From the best information we have been able to ob tain as well as from careful examination of the work done with different machines, we are led to give the preference to Grover & Baker's. The fineness and beauty of the stitch made by these machines is unsurpassed, and as to the liability of the work to rip, it is out of the question."—*American Baptist.*

The reader is invited to call and examine them at 495 Broadway, N. Y.; 18 Summer street, Boston; or at 730 Chestnut street, Philadelphia.

Market Review, Weather Notes, &c.

AMERICAN AORICULTURIST OFFICE,
NEW-YORK, Dec. 23, 1857.

The Wholesale Produce Markets have been much depressed during the past month. The receipts of Breadstuffs have been considerably heavier than the sales, and as receivers have manifested unusua eagerness to realize, in anticipation of the regular requirements of the trade, prices have generally declined. Home dealers have been the principal buyers; the export demand has been restricted. The late news from Europe was not encouraging to shippers, whose orders are limited to a range of prices below even the reduced rates prevalent in this market. Canal navigation was protracted to the 15th instant, and the weather having been decidedly favorable for it, all the property afloat on the canals succeeded in reaching its destination. Henceforward we may look for diminished receipts of produce; but, as we begin the Winter with comparatively ample supplies of the principal commodities, the anticipation is that we will be able to meet all the probable requirements of purchasers during

the Winter months. The fluctuations in prices are not likely to be very remarkable.....The provision trade has also been quite heavy during the past month, owing mainly to the steadily increasing arrivals and the eagerness of factors to sell. The demand has been very moderate for the leading kinds, and prices have receded, closing with a tendency in favor of buyers, who purchase only such lots as they urgently need, expecting a further reduction....Groceries have been more sought after at firmer rates....Holders of Hops, Hemp and Grass Seeds ask former prices, but the inquiry is very tame....Cotton continues quite heavy and irregular, with small sales only reported daily The available supply here is 19,313 bales, against 70,545 bales the same date last year; yet holders are anxious to sell, in view of the unfavorable accounts from Europe, and the probable large diminution in he consumption, which may bring about a further decline in prices. The receipts at all the shipping ports, to latest lates this season, have been 725,839 bales, against 1,061,-311 bales to the corresponding period of last season. The total exports from the United States so far this season have been 373,132 bales. against 360,432 bales to the same date last season. The total stock on hand and shipboard in all the shipping ports, at the latest dates, was 379,877 bales, against 566,473 bales at the same time last year. The stock in the interior towns at the latest dates was 66,320 bales, against 125,595 bales at the corresponding date a year ago....Tobacco has attracted considerable attention, at full prices for desirable qualities....Meal was quiet and nominal, until within the last week, when a better inquiry prevailed, and holders evinced more confidence. The available supplies are ample, but they are in pretty strong hands, and will not be pressed on the market....Hay has been freely purchased at uniform quotations....Other articles of produce have been moderately dealt in at essentially unaltered prices ...The following carefully prepared list of prices will show the difference between the quotations given in our last, and the closing prices, to-day:

	Nov. 25.	Dec. 23.
FLOUR—Com'n to Extra State	$4 75 @ 5 20	$4 15 @ 4 65
Common to Fancy Western..	4 75 @ 5 25	4 15 @ 4 65
Extra Western..	5 00 @ 8 00	4 40 @ 7 50
Fancy to Extra Genesee.....	5 25 @ 7 75	4 75 @ 7 50
Mixed to Extra Southern....	5 20 @ 7 50	4 70 @ 7 25
RYE FLOUR—Fine and Super.	3 50 @ 4 60	3 00 @ 4 25
CORN MEAL.....	3 50 @ 3 75	3 25 @ 3 70
WHEAT—Canada White.....	1 17½@ 1 30	1 10 @ 1 30
Western White.....	1 15 @ 1 50	1 10 @ 1 42½
Southern White.....	1 22½@ 1 50	1 15 @ 1 40
All kinds of Red.....	95 @ 1 32	90 @ 1 20
CORN—Mixed, old.....	80 @	68 @
Yellow, new,.....	86 @	55 @ 65
White, new	88 @ 90	55 @ 65
OATS—Western.....	46 @ 48	45 @ 47
State.....	43 @ 46	42 @ 45
Southern &c.....	36 @ 40	30 @ 38
RYE.....	78 @ 79	70 @
BARLEY.....	70 @ 86	65 @ 80
White Beans.....	1 55 @ 1 65	1 50 @
Black-eyed Peas, per 2 bush..	2 75 @	2 75 @ 3 00
HAY, in bales, per 100 lbs.....	50 @ 75	50 @ 75
COTTON—Middlings, per lb....	Nominal	10½@ 10½
RICE, per 100 lbs.....	2 75 @ 3 50	2 75 @ 3 62½
HOPS, per lb.....	5 @ 8	5 @ 9
PORK—Mess, per bbl.....	19 00 @19 25	15 50 @16 00
Prime, per bbl.....	16 75 @	13 50 @13 60
BEEF—Repacked Mess.....	13 50 @	10 00 @12 00
Country mess	9 25 @10 50	9 00 @ 9 75
" prime.....	6 00 @ 7 00	5 75 @ 6 50
HOGS, Dressed, per lb...	6½@ 7½	6½@ 6¾
Lard, in bbls. per lb.....	11 @ 13	9¼@ 9⅝
BUTTER—Western, per lb.....	12 @ 17	10 @ 16
State, per lb.....	15 @ 25	13 @ 24
CHEESE, per lb	6½@ 8½	6 @ 8
FEATHERS, Live Geese per lb.	40 @ 44	38 @ 43
SEED—Clover, per lb.....	10 @	9½@ 10
Timothy, mowed, per bushel..	2 00 @	2 @
Timothy, reaped, per bushel...	2 50 @	2 50 @
Flax, Am. rough, per bush.....	Nominal	1 20 @ 1 25
SUGAR, Brown, per lb.....	4½@ 8½	5¼@ 8½
MOLASSES, New-Orleans, pr gl	37½@ 40	33 @ 35
COFFEE, Rio, per lb.....	9¼@ 11	8½@ 10¾
Hyson Teas, per lb.....	33 @ 55	25 @ 55
CongouTeas.....	30 @ 45	30 @ 45
TOBACCO—Kentucky, &c. pr lb	7½@ 18	7 @ 18
Seed Leaf, per lb.....	13 @ 35	10 @ 35
WOOL-Domestic fleece, per lb.	27 @ 45	27 @ 45
Domestic, pulled, per lb.	20 @ 31	20 @ 28
HEMP—Undr'd Amer'n pr ton.	Nominal	1 20 @ 1 30
Dressed American, per ton....	Nominal	1 45 @ 1 65
TALLOW, per lb..	9¾@ 10	
OIL CAKE, per ton.....	26 00 @42 00	
POTATOES—Junes, per bbl.....	2 25 @ 2 37	2 25 @ 2 37
Peach Blow, per bbl.....		2 75 @ 3 0
Carters, per bbl.....	2 50 @ 3 00	2 50 @ 2 75
Nova Scotias, per bushel.....	85 @ 90	90 @ 95
Beet, Del., per bbl...	3 25 @ 4 00	2 75 @ 3 00
Mercers, per bbl.....	2 25 @ 3 00	4 25 @ 4 50
Sweet, Va.. per bbl.....	2 00 @ 2 50	3 50 @
ONIONS—Red, per bbl....	1 25 @ 1 50	@ 1 62
White and yellow, per bbl.....	1 25 @ 1 75	1 75 @ 2 50
CRANBERRIES—Per bbl.....	5 00 @ 7 50	5 50 @ 9 00
QUINCES, per bbl.....	3 00 @ 4 50	
APPLES—Common, per bbl....	2 00 @ 3 00	2 50 @ 3 00
Spitzenburgs, per bbl.....	3 25 @ 3 50	3 50 @ 4 50
Newtown Pippins, per bbl.....	3 50 @ 4 00	4 00 @ 5 00
Greenings, per bbl.....	2 50 @ 3 00	3 00 @ 3 50
Fall Pippins, per bbl.....	3 00 @ 3 50	
TURNIPS—Ruta bagas, per bbl	75 @	62 @ 75
SQUASHES—Marrow, per bbl..	1 75 @ 2 00	2 00 @ 2 50
CABBAGES—Per 100.....	2 00 @ 4 00	2 50 @ 1 00
CAULIFLOWER—Per dozen....	75 @ 1 25	
CELERY—Per dozen.....	75 @ 1 00	75 @ 1 00
POULTRY—Fowls, per lb.....		9 @ 11
Chickens, per lb.....	10 @ 12	8 @ 12
Ducks, per pair.....	75 @ 1 25	75 @ 1 00
Partridge, per pair.....	63 @ 75	63 @ 75
Grouse, per pair.....	1 50 @	1 00 @ 1 25
Turkeys, per lb.....	12 @ 14	10 @ 14
Geese, eper lb..	1 00 @1 50	8 @ 11
PIGS—Roasters.....	1 25 @ 2 00	1 25 @ 2 25
VENISON—Carcass, per lb....	11 @ 12	8 @ 10
Bear meat, carcass, per lb.....		12 @ 16
Rabbits, each.....		10 @ 15

We annex a statement of the total receipts of the leading kinds of Breadstuffs by railroad, river and coastwise, and of the total sales here for four weeks, ending to-day:

	Receipts.	Sales.
Wheat-flour, bbls.....	571,541	265,534
Wheat, bush.....	710 726	563,900
Corn.....	131,131	287,660
Rye.....	17,266	57,760
Barley.....	44,000	30,100
Oats.....	109,704	

This statement affords the following comparison of the total receipts in each of the last two months:

	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
30 bus. days last mon.,	521,000	1,803,375	360,943	13,375	33,625	107,332
23* bus. days this mon	571,541	710,726	131,311	17,266	44,000	109,704

It also enables us to give the following comparison of the total sales in each of the last months:

	Flour.	Wheat.	Corn.	Rye.	Barley
30 business days last month,	493,362	1,799,125	666,250	23,375	84,375
23* business days this month	265,534	563,900	287,660	57,760	30,100

* Nov. 26, 1857, having been Thanksgiving Day in this State, no business was transacted.

We annex a comparison of the receipts and sales here for the four weeks ending with Dec. 23. in each of the last two years:

	1856.		1857.	
	Receipts.	Sales.	Receipts.	Sales.
Flour, bbls.....	448,000	346,505	571,541	265,534
Wheat, bush.....	1,143,550	1,360,540	710,726	563,900
Corn, bush.....	78.500	858,000	131,131	287,660
Rye, bush.....	22,250	109,500	17,266	57,060
Barley, bush.....	39,500	29,700	44,000	30,100
Oats, bush.....	86,500		109,504	

Statement of the Shipments of Flour and Wheat from the Ports named, this Season to Dec. 1.

	Flour, bbls.	Wheat, bush.
Milwaukee	225,297	2,695,411
Kenosha.....	3,154	103,795
Racine	6,614	615,763
Port Washington	4,811	2,316
Sheboygan.....	5,705	46,864
Total	245,581	3,444,109

The following is a summary of the Chicago Breadstuff movement since the opening of navigation, to Dec. 14:

RECEIPTS.

	Flour, bbls.	Wheat, bush.	Corn, bush.	Oats, bush.
Totals.....	309,467	9,373,607	6,118,962	1,127,619

SHIPMENTS BY LAKE.

	Flour, bbls.	Wheat, bush.	Corn, bush.	Oats, bush.
Totals.....	159,436	9,530,961	6,880,433	383,188

Stock of Breadstuffs, in store, in Chicago. Dec. 1.

Flour, bbls.....	2,625	Rye, bush.....	806
Wheat, bush.....	175,167	Barley, bush.....	21,641
Corn, bush	6,454	Oats, bush.....	8,600

Richmond, Va.; Produce Receipts, from July 1 to Dec. 1.

Flour, bbls	69,280	57,099
Corn Meal, bbls.....	8,282	6,697
Wheat, bush.....	961,515	1,096,233
Corn, bush.....	107,711	122,636
Rye, bush.....	4,264	16,679
Oats, bush.....	16,300	2,064
Bacon, lbs.....	40,687	24,993
Butter, kegs,.....	1,504	1,843
Tobacco, hhds.....	16,309	9,996
Tobacco, manufactured, p'gs	72,836	61,910
Wool, bales	370	380

The following is a statement of the exports of the leading kinds of Breadstuffs from the Atlantic ports of the United States since Sept. 1, 1857:

TO GREAT BRITAIN AND IRELAND.

From.	To Date, 1857.	Flour.	Wheat.	Corn.
New York.....	Dec. 3	231,135	2,218,083	413,794
New Orleans.....	Nov. 22	23,411	31,814	3,386
Philadelphia.....	Nov. 25	19,988	54,529	65,988
Baltimore.....	Nov. 27	36,970	95,495	7,900
Boston	Nov. 27	131	——	8,920
Other Ports	Nov. 20	3,343	101,457	——
Total from Sept. 1, '57.....		313,978	2,501,378	499,988
Same period in 1856.....		359,003	5,164.486	1,941,267
Same period in 1855.....		346,437	2,195,639	725,632
Same period in 1854.....		20,779	54,229	1,960,101

TO THE CONTINENT.

From New York to Nov. 24.	31,684	80,009	——
Fmm other Ports	57,595	52,760	250

LIVE STOCK MARKETS,—There is a continued falling off in the receipts of BEEVES; only 11,700 being reported for the past four weeks, against 12,733 for previous month. This is 1,239 less than for the same period last year, but as small as is the supply, there have been quite enough for the diminished wants of consumers, and prices now range as they did last month, or about 1½c lower than at this time last year. The markets have been dull for some weeks past, and have usually closed with a supply on hand. Receipts for the week ending Nov. 25 were 2,890; Dec. 2, 3,195; Dec. 9, 2,649; Dec. 15, 2,972. Prices varied as follows: Nov. 25, ½c higher; Dec. 2, ½c lower Dec. 9, ½c higher; Dec. 15, ½c lower, leaving the prices just as they were last month, that is: For first quality, 10½c.@10¾c.; medium quality, 9c,@9½c., poor quality, 7½c @8c.; poorest quality, 6½c.@7c. Average sales, 8½c.@ 8¾c. ℔ lb., net weight.

SHEEP AND LAMBS.—The receipts have been light for the past four weeks, although the markets have not been lacking for supplies. Only 35,521 have been offered, against 43,294 for the previous month, and 38,931 for December, 1856. Prices are about as last month, ranging from 3½c. to 4½c. ℔ lb., live weight. Some of the finer animals offered last week brought $11 ℔ head The trade is dull, except for superior animals.

HOGS have been very abundant. The heavy receipts of the week ending Dec. 8th caused a marked depression in prices. They continue to arrive freely, and ranged, Dec. 15th, at 5c@5½c, gross, for corn fed, and 4¼c@4½c for distillery hogs. The abundance of warm wet weather has been opposed to packing operations.

THE WEATHER has been variable for the past four weeks, though generally very mild for Winter, with but one light snow, which lasted for a few hours only. The coldest weather was toward the latter part of November. There is now (Dec. 23) no frost in the ground, and but for the late rains, plowing might still be done....Our condensed notes read: Nov. 25, very cold and windy, mercury 15°, which is the lowest it has fallen here this Winter 26th, clear, and still cold, mercury 16°; 27th to 29th, clear and milder; 30th, rain.—Dec. 1st to 4th, clear and mild, with no frost in the ground; 5th, three inches of snow on the ground A. M., but melted before night, clear; 6th, heavy N. E. rain storm; 7th and 8th, mild; 9th and 10th, rainy; 11th to 13th, clear and pleasant, with freezing nights; 14th to 17th, milder, and ground open; 18th, rainy A. M., clear P. M.; 19th and 20th, clear and pleasant; 21st, cloudy, with rain at night; 22d, cloudy and mild; 23d, clear and warm.

☞ *With a single exception, the actual regular circulation of the Agriculturist to subscribers is about* **Fifteen Thousand greater** *than that of any other Journal in the World devoted to Agriculture and Horticulture only.*

Almanac for 1858.

June. | 1858.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	..	..	..	..
	..	..	..	..	..	1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31	..	..	..	..	..	..
July. |	..	..	..	..	..	..	..
	..	..	..	..	..	..	..
	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31	..	..	..	..
Aug. |	..	..	..	1	2	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	..	..
Sept. |	..	..	..	..	..	1	2
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American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS &c. &c.

☞ The matter of each number will be prepared mainly with reference to the month of issue and the paper will be promptly and regularly mailed at least one day before the beginning of the month.

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ORANGE JUDD,
No. 189 Water-st., New-York.

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We will bind the numbers of any past volume neatly in embossed muslin covers, gilt backs, for 50 cents a volume. The covers ready prepared will be supplied at 25 cents each. They can be put on by any bookbinder for 25 or 37 cents each. The covers would get spoiled *if sent by mail*.

SPECIAL NOTICE.

An exception to a general rule.

Our invariable rule has been to stop this paper whenever a subscription expired, and this we shall continue to do—with this single exception. The time of over 20,000 subscribers expired regularly with the December number, most of whom have already renewed, and the rest are coming in very rapidly. Indeed, we do not know of a dozen persons who do not wish the paper continued. But owing to the "Hard Times" many renewals have been delayed to the last moment.

Finding it utterly impossible, with the present RUSH *of letters, to get the names all entered for several days to come, we have decided to consider every one's paper paid for to January, and we therefore send this number to all names upon our books for last year. Any one, if there be any such one, who gets this copy, but does not wish to continue through the year, will please consider it paid for, and not return it, but read it and pass it along to a neighbor. By next month we shall get our Mail Books regulated, and send to none but those having renewed—if there chance to be any who have not then done so.*

A DICTIONARY FOR GROWN PEOPLE. Premium Extra.

A FIRST-RATE PAPER, and our free distribution of seeds to *all* subscribers, are the only PREMIUMS we expect to pay as a general thing.

Last month, as a special favor to Boys and Girls, we offered a copy of Webster's large unabridged Dictionary, to any one of them who should get up a list of forty subscribers. Many of them are doing so. But several "old people," write to say, that they will willingly rank themselves as "boys," if we will offer them the Dictionary too. We accept the proposal:

To any grown up person who will send us forty subscribers at regular club rates, we will present a copy of the above Dictionary, the receiver to pay only the expense of getting the book from this city.

A New Year's Present Worth Giving.

What better present can be given to a relative or friend than a receipt for a year's subscription to the *Agriculturist*. It will be noted that this would be equivalent to sending *twelve separate* gifts; for every successive arrival of the paper will be a fresh remembrance of the giver. Whenever a paper is subscribed for in this manner, we will, if it is desired, enclose with the first number sent, a receipt for the year, stating upon it the name of the person paying therefor. The last November and December numbers, if desired, will be sent along with the January number without extra charge.

Clubs Increased at Club Prices.

Any person, or association of persons, having formed a club of six, ten, or more subscribers, can at any time add new names (to begin at the same time) at the prices paid by the original club, to wit: names over five and under ten, 84 cents each; ten or over, 80 cents each. The subscriptions forwarded by any individuals to make up a club need not necessarily all be at one post office.

Many Thanks

Are due from us for the lively interest taken in the circulation of the *Agriculturist* by old subscribers. We are daily receiving lists of six, ten, twenty, forty and more subscribers from post offices where only one copy was sent last year. Our prospects are now good for 100,000 subscribers, certainly next year, if not this. Every new subscriber adds to the facilities for increasing the intrinsic value of the paper. We would prefer to publish the *best* and *cheapest* paper in the world for a bare living, than to issue a poorer one and get rich in money by so doing. Every man has his hobby—this is *ours*.

Volume Sixteen.

We have now an abundant supply of these, bound and unbound, and can print from the stereotype plates any quantity desired. They will be furnished unbound for $1, or neatly bound in embossed muslin, with gilt backs, for $1 50.

If to be forwarded by mail, 12 cents must be added for prepayment of postage on the unbound number, and 42 cents for the bound volumes. The bound volumes could go by express with less risk of injury than if sent by mail and often more cheaply.

Contents for January 1858.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

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☞Business Office at No. 189 Water-st.
☞For Contents, Terms, &c. see page 64.
☞Notes to Correspondents, page 60.
☞For Business Notices, see page 60.
☞For Advertisements, see page 63.

Special Note to Editors.

As a last resort against certain inveterate *poachers* who draw constantly upon this journal for original articles and illustrations *without giving a shadow of credit*, it has become necessary to Copy Right the numbers. The matter of these pages is nearly all ORIGINAL, much of it being procured at high rates and the Proprietor will continue to secure the best practical Editorial talent in the country, at whatever cost.

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ORANGE JUDD, Proprietor.

February.

"What prodigies can power divine perform
More grand than it produces year by year—
And all in sight of inattentive man.
Familiar with the effect, we slight the cause,
And in the constancy of Nature's course,
The regular return of genial months,
And renovation of a faded world,
See naught to wonder at." COWPER.

There is much not only to wonder at, but to instruct us, in the methods, by which Nature renovates a faded world. By a constant succession of changes the face of the earth is made continually attractive. The rotation, which the Divine mind has impressed upon all the planets of our system, is carried out in all the details of animal and vegetable life, upon the face of the globe. We have a constant succession of seasons, each having its own peculiarities, and preparing the way for its successor, in the circling year. Each month has its strongly marked features, and its appropriate work, by the forces of Nature. The Winter is, by no means, a season lost to the purposes of vegetable growth, though all plants are apparently struck with paralysis, and no changes visible to the eye are going forward. The agencies of frost and water are now active in field and forest, disintegrating both the organic, and the inorganic materials of the soil. The frost breaks down rough hard clods into a finer tilth than the plow and the harrow can ever secure.

In the forest, a constant succession of trees and plants are kept up However bountifully the walnut may shed its nuts, they are not to reproduce their kind upon the same soil of the parent tree. They will be borne down the stream by the waters, or transported by squirrels to a new locality, to take possession and replace the oak, the chestnut, or some other forest tree. We rarely find an extirpated forest, left to itself, replaced by the same varieties of trees. Hard wood trees are often succeded by pines or firs, and these evergreens are followed by deciduous trees.

The same law of rotation is observed in the smaller plants and grasses.

In the field where wild strawberries flourish in the greatest abundance, after a few years, few if any will be found. The grasses which before were scanty have entirely supplanted them. In salt marshes, the black grass, which is most coveted for food, is gradually driven out by the onion grass, and other coarse varieties. Shut off the sea water, and drain these marshes, and a new order of vegetation starts into being as if by magic. Shore weeds come in, and have their brief day, then mosses, dandelions, dock, and thistles, to be supplanted in their turn by upland grasses, clover, herds, and red top.

ROTATION OF CROPS.

Nature then points the husbandman to a rotation of crops, as one of the necessities of his calling. It was not until about a century ago, that this subject received much attention. If shifts in the crops were made, it was not with any understanding of the philosophy of the change. The fact was forced upon the attention of all, that land continually kept in grass, gradually became barren and unprofitable. Plowing and manuring was a remedy, and hoed crops, either roots or grain, would pay for the labor and manure necessary to fit the land for grass again. Yet there was a reason for this rotation, aside from the benefit of stirring the soil and adding new elements to its fertility. Arthur Young, an eminent English writer upon agriculture, was among the first to point out the advantages of a good succession of crops. He claimed, that whenever very good or very bad husbandry is found on arable land, it is more the result of a right or wrong arrangement of the crops, than of any other circumstance; that no district is well cultivated under bad rotations, while it is extremely rare to find one badly cultivated under such as are good. It is, perhaps, owing as much to his labor, as that of any other one man, that England now has a well defined system of cropping her farms. The given routine for a certain variety of soil is followed with great uniformity, and is rarely departed from, except for the purpose of experiment. The experience of her best farmers has determined this rotation, and it is found to be more profitable than any other arrangement of the crops.

The philosophy of this rotation is explained by two theories. The *first or excretory theory* accounts for the phenomena thus: One crop does better where it follows another, because every plant leaves in the soil certain excretory matters, that are not friendly to other plants of its own species; while they are appropriate food for different plants. Plants seem endowed with something of the same instinct as animals, and avoid their own fœces or the dead matter thrown from their own bark and roots. Until these are decomposed, and removed from the earth by other plants, or by the gradual effects of decomposition, the same crop cannot be advantageously planted in the same soil. Hence in raising bulbous flowers, like the hyacinth which grows in water, there must be a frequent change of the water, in order to remove the excretory matter thrown off from the roots of the plant. This same foul water, however, is found to be a good stimulant to other kinds of plants, and will sometimes make them flourish even better than pure water. It is also a well known fact, that nurserymen find it difficult to make a second crop of young apple trees grow, where they have been grown before. Even with heavy manuring, they find it better policy to take a piece of ground that has been occupied with some other crop. If there are exceptions to the advantage of rotation, as there seems to be, in the case of the onion, and some other garden crops, it is in case of gross feeders, where a great deal of manure is used, which, by its fermentation in the soil, decomposes the excretory matter of the crops of the preceding season. The onion crop is almost always heavily manured, and dressed with ashes, which furnish lime and potash, two powerful alkalies, that act with great rapidity upon all vegetable fiber. So much for this theory.

The *second* theory may be stated thus: Each plant absorbs some essential constituent from the soil, which, in time, becomes exhausted. If, for instance, the wheat plant demands phosphate of lime, and there is but a small quantity in the soil, it fails to be perfectly developed when it cannot find a full supply of this mineral. It must be restored by the application of manure or by a fallow, or the growth of some other crop that does not require much phosphate of lime for its perfect developement. Another example is frequently given of root crops, which usually contain considerable quantities of alkalies. This theory supposes a root crop to exhaust the ready formed alkalies in a soil, and that alkaline manures must be added or a change of crops be made, while a further disentegration of the soil is setting at liberty new supplies of alkalies.

We think there is some truth in both of the theories as above stated, but that neither of them, and especially not the second one, will fully account for the advantages of a rotation

It is probably the exhaustion of the *organic* or vegetable matters in the soil, more by one crop than by another, that chiefly has to do with the benefit of a change of crops. The main points in these theories were discussed in our manure articles in last volume.

A rotation is not only demanded for the sake of furnishing a new pasture ground for the roots of plants, but to prevent the increase of predatory grubs and insects. The instinct of these wonderful creatures leads them to deposit their eggs where the young, when hatched, will find their

favorite food in readiness. The intelligence of man circumvents his instinct, by changing the crop, and cutting off the supplies of the young grub.

The light lands of England are commonly cultivated under a four or five course system. The four course begins with fallow ground, manured 1st year, turnips fed off; 2d, oats or barley; 3d, grass seed; 4th, wheat. The five course is: turnips; oats or barley clover; peas; wheat.

On heavy clays the rotation is usually fallow, with manure; wheat; beans; wheat manured; clover; oats or wheat.

While rotation is rigidly adhered to, the variations are considerable, to meet the varieties of soil, and the conditions of the market.

There is, perhaps, no point in good husbandry that calls for the examination of American farmers more urgently than this. It has wrought wonders in England, and there can be little doubt that it would work quite as favorable a change in our own agriculture. It is a common fault with us, to keep our land too long in one crop. Grass, not unfrequently, occupies the same field for eight or ten years, until less than half a ton of hay is cut to the acre.

We have seen large tracts of excellent light land made barren, by cropping with rye in alternate years. The same result follows with wheat and buckwheat. Now is the time for farmers to mature their plans for the coming season, and to enter upon a judicious rotation of crops.

Calendar of Work for the Month.

FARM.

February has been called a month of leisure. There is nothing especially driving, but for the provident farmer, anxious to relieve a more busy season from every possible care, there is plenty of work that may appropriately be done now. The chief employment will be the daily care of stock of all kinds, to see that they are regularly and properly fed, and that nothing is suffered to waste about the buildings. Too many farmers look upon the Winter season as a time when little can be earned, without sufficiently bearing in mind that to husband is to earn. The barn, the workshop, the woodshed, the cellar, the forest or wood pile will admit of a variety of labor in clear or stormy weather. The Southern planter will now be actively at work manuring, plowing and putting in early crops

Cattle require a large amount of care during this month, both on their own, and their owners' account. They should not fall away in flesh as Spring approaches, nor should a lavish, wasteful method of feeding be pursued, thus exhausting the fodder before grazing time. Use the straw cutter daily, and if there is much coarse feed, a steaming apparatus will be found very valuable. Give extra feed to cows about calving, and allow them plenty of room at night.

Cellars—Watch against frost, keep sweet and clean, sort over fruit and expel or catch rats and mice.

Corn—Note the spoiling bins and shocks at the West, and as far as may be apply a remedy in future. Procure seed early and test its vegetating powers by sprouting samples in the house. The planting season will commence at the far South during the latter part of the month.

Fences—Continue to get out materials, as directed last month. Repair and build new ones where the frost will admit.

Flax and Hemp—Complete dressing any yet unfinished.

Fodder—Cut and steam as much of the coarse as possible, feeding with Indian meal, bran, and cut roots. Use racks in the yard, as figured on page 43, rather than scatter the fodder where it will be trampled by stock. We trust the practice of feeding at distant stack yards has been discarded.

Fowls—See directions of last month, and give cooked potatoes or other vegetables in addition to their grain feed. Select and set eggs during the latter part of the month for early chickens. Read articles on "Poultry raising" page 47.

Grain—If any remains unthreshed, leave it no longer a prey to rats and mice. See that vermin are kept from the granaries, and cattle and sheep from the growing fields. Eating off at this season will be very injurious. Look out early for Spring seed.

Hogs—With a full supply of warm cooked food, give charcoal and salt occasionally, especially to breeding sows. Keep their pens well supplied with manurial agents, and a good bed of straw or leaves.

Horses and Mules—Give grain or carrots with cut feed. See that working horses are well shod, during icy weather. Keep blanketed when not in use, and well bedded at night.

Ice Houses—Watch for the first opportunity to fill with thick clear ice, if not already done. Pack close, filling crevices with broken pieces. All this, *if* you get any ice this Winter. We have seen none to this date (Jan. 23).

Manures—Continue to manufacture and cart to the fields as directed last month. Leave it in large heaps until wanted for use, covering them with muck, loam or soil. Save all the liquids of the yards and stalls by absorbing them with the muck or leaves stored for the purpose. It is to be hoped that the manure is all kept under cover, if it is only a roof of poles thatched with straw or corn buts.

Plowing for the Spring crops of cotton, tobacco, corn and grain will now be going on at the South Guage the furrows a little deeper than last year, or follow with a subsoil plow.

Potatoes—Sort over for seed. Planting may be done at the South during the latter part of the month.

Sheep—Keep them sheltered from storms and separate from cattle and horses. Feed grain and cut roots with coarse fodder. Let them have free access to a trough of salt, with pure water in the yard.

Sugar Maples—Will require tapping during the middle or latter part of the month in mild latitudes. The particular period must be governed by the season. Provide the necessary troughs or buckets and spouts. Have the boilers arranged and everything in readiness for operation. Read the articles on pages 5 of last number, and 37 and 38 of the present issue.

Tools—Employ the stormy days in putting them in order and making any new ones wanted in the Spring or Summer. Waggons, carts, harnesses and farm gear of all kinds should be looked to. Read the article on "Boys' Tool Chests." page 42.

Turnips and other Roots—Feed daily, giving after, rather than before milking. Use the root cutter to reduce them fine enough for sheep even. See "Carrots for Stock" on page 42.

Wood—If the supply of last year is now exhausted, get up a larger pile this Winter. Improve the sledding at the north, and good wheeling elsewhere to the best advantage while they last. Cut, split and store under cover enough to last till April, at least of next year. There will be economy in it, in more ways than one. Read "Green Wood vs. Dry" on page 42 of the present number.

ORCHARD AND NURSERY.

Where grounds are frozen or covered with snow, little can now be done among the trees, save scraping off moss and rough bark, pruning and clearing the snow from the branches of small trees. In some localities the ground is open and transplanting may be done, lands manured and plowed, nursery trees taken up, packed and sent away.

The comparative leisure of this month will afford a good opportunity to go through both Orchard and Nursery and cleanse old and young trees from moss, rough bark and insects, using soap suds freely, as recommended in the December number of last volume, for the bark louse, and in the present on pages 49 and 51. The moss can readily be washed from the branches of large trees immediately after a rain, by a brush broom tied to a pole. If a little potash or soap be added to the water, so much the better.

Evergreens—Watch closely after damp snows, and shake off what might otherwise break down the branches.

Fruit—Look over that upon shelves removing the decayed.

Grafting the roots of seedlings put in the cellar last Fall may now be done, if you still pursue this questionable method. Read the second Chapter on "Orchard Culture," page 49.

Imported Trees frequently arrive during the present month, and are often badly frozen in moving them from the vessel to their destination. For the treatment of such see page 258, volume xvi.

Insects—Examine for and destroy scale, borers, moth cocoons, and the caterpillars eggs which are now found near the ends of the branches of apple trees.

Manures—Manufacture and collect as recommended under the "Farm." Muck, ashes and lime are valuable for both orchard and nursery.

Pruning—We advise not to prune during this month, notwithstanding it is the time formerly chosen by old farmers. The wounds do not become sufficiently seared over before the sap ascends in the Spring. The tree suffers from the loss of sap, which, from a vital element with is changed to a poisonous fluid as it runs down the outside of the tree. June and July are preferable months.

Scions—If a full supply is not already secured cut them during the early part of this month. Be sure of the kinds, and having labeled them, bury in dry earth or sand in the cellar.

Snow banks often do much damage as they settle in the nursery. Shovel out the trees which would otherwise be stripped of their branches by the settling drifts.

Stakes and Labels—Make a good stock for a more busy season. A large number of labels will be wanted during the Spring planting, or sales of nursery trees, and they should be made, painted and strung now.

Transplanting may be done at any time during this month where ground is in working order, provided it is not freezing weather. Large trees can be moved where the ground is frozen, by digging up with a large ball of earth adhering to the roots.

KITCHEN AND FRUIT GARDEN.

While the Southern Gardener is now busy preparing his grounds and sowing the early vegetables, setting out fruit trees, or planting from the hot-bed or cold frame, the grounds of the Northerner are frozen or buried beneath the snow banks. In such situations, little can be done save mapping off the garden, collecting manures, procuring bean poles and pea brush, repairing tools, arranging for hot beds, &c.

Cold Frames--Watch and use similar treatment to that described last month. If buried by a deep snow, leave them until the weather is quite mild, when the banks may be shoveled away and an airing given. Protect from frosts by a thick covering of straw or mats at night.

Cuttings of Currants, gooseberries, grapes and quinces, may be made at any time during February, when the wood is not frozen. Wrap in moist moss in the cellar or bury in dry earth in the open ground. Merely hurying in a snow drift is sufficient so long as the snow lasts.

Fences may be made or repaired where no frost is in the ground.

Grape Vines should have been trimmed last Fall. If omitted then, prune in the early part of this month.

Hot Beds—Make during the latter part of this month, if very early vegetables are wanted. See full directions with illustrations on page 53.

Manures—Manufacture and collect all that can be obtained. See that a quantity is in preparation for the hot bed.

Prune but little during this month. The grape vines, currant bushes and fruit trees should have been sufficiently trimmed last Summer and Fall. If omitted then do it sparingly now.

Rhubarb—Where no frost is in the ground a few roots may be taken up and put in boxes of earth for forcing in the green or hot house; or the end of a barrel sawed in two may be placed over the roots in the open ground and buried with manure as described last month.

Seeds—Procure early and prove them in the house before trusting the garden with those of uncertain growth.

Tools will soon be wanted. See that good ones are procured. A garden drill will soon pay for itself in the saving of seed and labor, besides sowing more uniformly.

Trees and Vines—Cleanse from moss and insects as recommended under the "Orchard."

Trellises and Arbors—Construct new ones as required and repair the old.

FLOWER GARDEN AND LAWN.

Very little is usually done in these grounds at the north during February, although the remarkably mild weather thus far promises an exception.

Where new grounds are to be laid out in the Spring, plot them off now, or if to be done by a landscape gardener have it done now, arranging walks and beds, locating trees, shrubbery, &c.

Evergreens will need some care to prevent their breaking down by heavy snows, (if we yet have any,) or settling banks. Shake the newly fallen snow from the branches, and shovel out the lower limbs where necessary.

Hot Beds may be made the last of the month, for sowing early annuals.

Labels and Stakes—Prepare during leisure weather for the planting season.

Manures will be wanted in the Spring and may be collected and carted to the grounds now. To every load of stable manure add a load of muck if you can get it.

Pruning of Roses, Honeysuckles, Altheas, &c., may be done during mild weather, if neglected last Fall.

Transplanting deciduous trees and shrubs can also now be done, if the ground and atmosphere are both favorable. Do not expose the roots in freezing weather.

In the Southern States, besides laying out and grading the grounds, trees, shrubs and flowers may properly be set out, beds made and sown with the more hardy annuals, box edging and hedges planted, and other Spring work done.

GREEN HOUSE.

The Winter thus far has been so mild in this latitude, that fire heat has been needed, only occasionally to dry the atmosphere, and maintain a moderate temperature. But keep the furnaces and shutters ready for a "cold term," should such occur.

Where a hot house is dispensed with, or the two thrown together, a greater degree of heat is required and the plants are pushed into growth. We now suppose this house to contain only those plants which it is necessary to shield from frosts and prepare them for the warmer atmosphere of the hot house.

Air is essential even with very little fire heat, else dampness will pervade the house and do much injury.

Bulbous Plants—Take a few of those beginning to start, to the hot house for early bloom. Carry them in at different periods to keep up a succession of flowers.

Carnations may now be layered and cuttings made.

Camellias are mostly in a warmer house. Those in this department will need a moderate watering and the warmest part of the room.

Chrysanthemums are beginning to grow; water sparingly.

Cleanliness is essential. Keep plants dusted, dead leaves picked off, and insects out of the house. Wash the floors and syringe occasionally, ventilating or using fire heat to dry up the moisture.

Cuttings of many half hardy plants such as Geraniums, Fuchsias, Hyacinths and Myrtles may now be put in pots.

Insects—Fumigate with tobacco, wash with soap suds, syringe and hand-pick until the house is entirely free from insects.

Oranges, Lemons, Oleanders and Myrtles—Prune and water sparingly as they begin to push into growth. Remove a portion of the surface soil from the tubs containing them, and replace it with rich earth.

Seeds—Sow a few annuals for early bloom when taken to the hot house or planted in the border of the garden or elsewhere.

Temperature—This must be regulated according to the collection of plants. Where a mere protection from frost is desired, the mercury may range from 35° to 40°. This will only require fire heat in cold weather. Where the hot house is dispensed with, some of the plants in this collection, especially camellias will require 45° to 50° to push them into growth and bloom even.

Water—A little will be needed occasionally but an excess of moisture at this season is very injurious. In damp foggy weather an occasional fire heat will be necessary to dry the atmosphere.

HOT HOUSE & CONSERVATORY.

Maintaining a proper and even temperature during the usually changeable month of February will require much care and none but competent persons should have charge of the heating apparatus. A thermometer should be kept in each room at all times and frequently examined. Inattention to this particular, even for a short time, will often cause serious injury to the finest plants. Cleanliness should be scrupulously observed, removing all decaying leaves and stalks, dusting and washing the plants, sweeping and washing the floors, and removing moss and weeds from the pots.

Air the rooms daily if the weather will admit. Growing plants and a fire heat soon vitiate the atmosphere. Mid-day is the best time to admit fresh air through the upper ventilators. By all means avoid cold drafts or currents.

Azalias are now flowering. Water and syringe more freely. Repot young plants.

Bulbs—Bring a few from the Green House at intervals to keep up a constant bloom. Change the water of those in glasses twice a week.

Carnations—Turn occasionally to keep the flower stalks erect. Water more freely.

Camellias under proper culture, are the pride of the cultivator at this season of full bloom. Water and syringe freely, but avoid wetting flowers which would hasten their decay.

Cinerarias—Treat as last month, shifting to larger pots as they increase in size.

Cuttings of Epacres, Heaths, Fuchsias, and very many other plants may now be made, to increase the Spring stock.

Fuchsias are now pushing into growth and require an increased, though moderate amount of water.

Gloxinias and Achimenes—Pot off young plants and place in warm situations.

Grapes require different treatment according as early or late fruit is wanted, and heat, moisture, and other care must be in accordance, as described at length in the February number of last volume.

Heat must be regulated according to the collections of plants. In some rooms 45° to 50° will be sufficient while in others 60° to 65° will be more suitable, and with a purely tropical collection, 75° to 80° is none too much. The shutters will be required during cold nights and snow storms.

Insects—Tobacco fumes, syringing, cleansing with soap suds, and other washes are the proper antidotes when insects are once established. It is far better to vigilantly prevent them getting a foothold.

Pelargoniums—Watch the approach of the green fly and destroy by fumigation. Water more freely now that they are in a growing state. Cuttings may also be made.

Repotting—Many of the rapid growing plants require larger pots at this season. Shift to those of sufficient size to flower in.

Seeds—Sow a variety of annuals for early blooming, both in the house and open borders.

Verbenas and Petunias—Plants intended to bloom in pots now require a shift to those of a flowering size. The stock may be increased by cuttings and layers.

Water—The colder the weather the more fire is required and a drier atmosphere is the result. The quantity of water must therefore be increased, but an excess avoided. Syringing the walls, dampening the floors and exposing vats or pans of water will assist in maintaining a humid atmosphere. Water should always be exposed to the warm air before giving to the plants. A tank in the house is the proper reservoir to draw from

Make a Map of the Farm.

Few of our farms are in a finished state. Most of them are more in the raw state that nature left them, and have to be recovered from the consequences of the bad management of their former occupants. They are yet chaotic, and it will take more than six days of labor, to round them into form, to separate land from water, and to turn the waste into a fruitful field. They are yet to be *made* as much as the house that has only its frame-work reared, or the ship that stands on the stocks, with unplanked ribs and beams. Many are waking up to this unfinished state of their farms, and have already begun certain improvements, and have planned certain others, which bide their time.

But the improvement of a particular field is too often undertaken without any reference to the rest of the farm, and a great deal of labor is needless-

ly expended. We have seen one field drained, and its water carried off on to the adjacent field only to make it more wet and valueless than ever. The only way in which farm improvements may be managed with economy, is to regard the farm as a whole, and to make every improvement with reference to a system which shall embrace the whole. A house to suit the occupant, can be built much cheaper at the outset, than to modify the plan and make successive additions, in so many successive years. The architect finds a plan indispensable to his work. The whole work is projected from cellar to garret, the size of every room and its estimated cost put down. The ship builder does not touch a stick of timber, until he has his model completed, and the length and size of every timber in the vessel estimated.

The farm, as it ought to be, is simply a machine for the production of crops, as the ship is a machine for navigating the water. It has to be made out of the materials which nature furnishes, all requiring more or less modification, to adapt them to the purposes of production. It is manifest, then, that the first step of the farmer toward improvement, is to form a clear idea of what he wants in a farm. He is the owner of, say three hundred acres of land, embracing the usual variety of forest, swamp, pasture, and tillage. Some of it is light sandy land, some heavy clay, and another portion is so rocky, that it has never been plowed. The forest of fifty acres, he wishes to retain for fuel, and timber, so that that may be regarded as a fixture. He has determined upon a rotation of crops embracing a six years course. He therefore needs but six large fields to carry on his course of cropping. Deducting ten acres for his farm buildings, lawn, garden, orchard, &c, he has 240 to be cut up into six lots of forty acres each. This is his plan. His farm, as it lies now, is divided into twenty lots, or more, has rocks to be removed, brush pastures to be cleared up, and swamps to drain. This cannot all be done in one year, but in six years, he can do it, and make it pay. So he draws his map of the farm as it is, and determines to begin his improvements upon the lower side, where there is a good outlet for all the water that he wishes to drain off. He finds upon this side of the farm, four or five fields to be thrown into one; a swamp of five acres to be drained; and a swale of three acres with a hard clay subsoil, that must be furnished with tile; and several gravelly knolls that need a coating of clay.

With a map before him, the farmer can project all these improvements, as he sits by the Winter fire. He can calculate very accurately how many rods of new fence will need to be made, how many rods of ditch must be dug, and how many tiles he must order, and about what will be the cost of the whole operation. He can tell, within a fraction, how many loads of clay and muck he will need upon the gravel hills, to cover them an inch thick. His whole pathway of improvement will be clear and luminous, and he will not become discouraged, and leave a thing half done, like a man who is feeling his way in the dark. The assurance that he is on the path of improvement is worth everything to the farmer. There is no good reason why he should not pursue his purposes with as much cheerfulness, and confidence of success, as the house or the ship-builder. Let him map his farm, and go forward in the execution of a plan, resolutely, and patiently, and in due time, he will have a machine for producing crops, admirably adapted to his wants, and to his market.

Thou canst not joke an enemy into a friend; but thou mayst a friend into an enemy.

Reapers and Mowers, &c.

FIELD TRIAL OF IMPLEMENTS BY THE UNITED STATES AGRICULTURAL SOCIETY, JULY, 1857.

To the Editor of the American Agriculturist.

I have received a copy of the Report of the above Field Trial of Harvesters, and as it was considered the most important, or, at least, attracted the most attention, of any yet made in America, with your permission I will offer a few remarks thereon.

All who went into this trial supposed it was to be a fair and honorable one, and that the Report thereof was to be *accurate* and *complete*. Let us see how these just expectations on the part of the public have been fulfilled.

It appears by Table A, page 71, that on the first and most important day's trial, in a *clover* field, the machine awarded the First Prize, *did not work*, while its half brother, and substantially the same kind of machine, *broke*, and *did not cut its lot*. By all that is just, these machines should have then been immediately "*ruled out*." But instead of this, they were permitted to go on; and as the Prize Machine worked "perfectly," according to the "Points" (40), on the second day's trial, among straight and dry timothy grass, &c., it was taken and deemed to have worked perfectly *throughout* the trial, and thus awarded the First Prize!

On the same principle, the very worst machine on the ground might have been set to work to cut a *single foot* of grass, which, by great good luck, having accomplished "perfectly," it should then be adjudged to have worked "perfectly" throughout the seven days' Trial, and receive the First Prize! Would not this be just as fair in the latter case as in the former? I think we may so infer from what the chairman of the Board of Judges, Hon. John Stanton Gould, says, in the following words:

"If a majority of you agree that I have construed the Scale of Points correctly, viz.: that merit in 'Quality of Work' depends on merit in *all* kinds of work, and not on *one* kind of work alone—the awards will stand as in the report."

The above extract alludes, as I suppose, to "Report" in Table H, page 79, in which he gives the First Prize to another machine. See Mr. Gould's letter, page 85.

Suppose on a "Trial" of speed, at an Agricultural Exhibition of road horses, that one of the competitors did not start the first heat, or if so, he broke down after the first few steps and withdrew; and then being permitted the advantage of starting on a second day, on another and more favorable course or track for *his* powers, he should win this second heat; would any man be found so bold and unjust, as to vote him the first prize?

I am told by farmers who have used this famous First Prize machine, that it does not usually work well in clover; it chokes badly, &c. Was this the reason why it was kept from essaying its merits, or rather *de*merits, on the first day's Trial, at Syracuse? "*Discretion*" was, in this case, perhaps, "the *better part of valor*."

The sub-committees were instructed to report, on no less than sixty-one different "Points." See pages 23, 4, 5, and 6. But many of these "Points" were *entirely disregarded*; others were *imperfectly reported* on; while *important* notes and figures were *defaced* and *obliterated*, and even *lost*; and yet, with all these garblings and shortcomings, the decisions of the prizes are made up with the same bold front as if these Reports had been rendered perfect!

Let us hear what the chairman of the final Report himself, says, on this head. The italics are mine.

"Everything that *calls off* the *attention* of the judges from the working of the machine, is very certain to cause the *omission* of some *material fact* in their note books, and the *continuity* of the *whole chain* of observation is broken by the *absence* of a *single link*." Page 18

"Blank books and pencils must be provided for the judges, otherwise the minutes will be kept on loose papers, subject to *obliteration* by rubbing, and to *loss*. *Small* as this item of *precaution* may appear, the *whole* of the *objects* of the *trial* may be *frustrated* from the neglect of it." Page 19.

"Interests of *great magnitude*, both to the manufacturer and to the *farmer*, are put at hazard, and all concerned, are *morally bound* to take *every precaution against error*, and *every security* for the *discovery of truth*." Page 19.

"It is obvious that the *greatest care* should be taken on the one hand, to give every opportunity to develop the good points of each machine; and on the other, to *expose everything* that is *wrong*, for the *protection* of the *farmer*." Page 20.

Good and weighty words are the above quotations from the Report under review. Would that they had been *fairly* acted upon. If they had been, in my opinion, the *First Prize* would have gone to a very different machine than that to which it was awarded. I next come to another kind of quotation from the Report before us.

"It is often overlooked, that time as well as force is an element in the consideration of power. A variation of ten pounds in the draft of two machines is looked upon by many as a mere bagatelle. It is not considered that this force is extended throughout every second of time of working. If, then, the two machines work for ten hours, the difference of force is not represented by 10lbs, but by that number multiplied into the number of seconds in ten hours, viz.:— 10h x 60m x 60s x 10lbs = 360,000lbs." Page 51.

Now, in accordance with the above calculation, if we look at Table D, page 75, we shall see that the draft of the *First Prize* machine is put down at 418.3lbs., while that of the minimum, Hussey's (and not Burrall's, as stated in the Report, page 49), is noted with side draft 354.4lbs, Difference between the two, in round numbers, 64lbs., equal to 2,304,000lbs. for the day's work. That is to say, the horses in the First Prize machine will have to drag two millions, three hundred and four thousand pounds more, in ten hours (an ordinary day's work), attached to that machine, than if attached to Hussey's machine; and yet we find that in the general "Scale of Points," made up in the final Table, page 87, where 100 Points are the standard of *perfection*, that the First Prize machine gets 61, while unfortunate Mr. Hussey gets nothing—absolutely *nothing!* What an arbitrary Scale of Points. It will require something more than the blind figure of Justice, standing erect and poising the balances in her hand, to reconcile the unsophisticated farmers to such a turning of the scales.

The Committee, in their Report on the First Prize machine, page 44, say, that its "weight, price, and complexity," are a "drawback to its excellence." In this, I have no doubt, that the farmers who pay its high "price," and puzzle their brains over its "complexity," and the poor horses that are doomed to drag this extra two millions, three hundred and four thousand pounds day after day, in the heat of harvest time, will unanimously agree in opinion with the said Committee.

But I must conclude for the present; but, with your good leave, Mr. Editor, I will pursue this subject in a future number, as I have scarcely arrived yet at the threshold of the *merits* of this Report and its decisions. **H. L.**

Syracuse, January 20, 1858.

What part of a ship is a farmer? The *tiller*, of course.

Maple Sugar Making.

In response to our request last month, we have received a large number of valuable and seasonable communications, all of which we would gladly publish did space allow so much on one topic. We give the following articles, and in our next we will make room for one or two more of those now on hand. Correspondents will please accept our thanks for their valuable favors.

To the Editor of the American Agriculturist.

In response to your solicitation for practical information relative to the making of sugar from the maple I offer my mite. It is well known that Maple Sugar is one of the staple productions of the Western portion of the "Southern Tier" of New-York It has of course, been a matter of no little interest to our farmers to manufacture in the best manner, both as to quality, and economy, an article of so much importance, and many have promptly adopted the means and appliances which ingenuity has suggested and experience proved worthy. The first premium awarded at the late State Fair, was given for an article made in Allegany County. In offering a statement of the process and implements used, I give those adopted and used by those that are engaged somewhat extensively in sugar making, and who make a very superior article.

In tapping, a $\frac{5}{8}$ or $\frac{3}{4}$ auger bit is used, making the hole $1\frac{1}{2}$ or 2 inches deep. The spout is made of hard wood, four or five inches long, a hole bored with a small bit through its length, and turned in a lathe, one end to fit the hole made by the bit in the tree, and the other with a head, over which the wire loop attached to one edge of the bucket, is slipped and held. The end of the spout is made quite tapering, or "stunt" as it is sometimes termed, so as to fill the hole perfectly tight at its entrance in the bark of the tree. This allows all the sap to pass through the spout, and prevents its escape otherwise. To "freshen" another hole is bored and another spout inserted near the first, so that the same bucket receives the sap from both.

The buckets are usually made of pine, hooped with ash or iron, and sometimes the outside is painted. On one side at the upper edge of the bucket, a wire loop is inserted, just large enough to pass over the end of the spout after it is firmly driven into the tree, by which the bucket is hung. This dispenses with the sheet iron or tin spout, the gouge, and the nail. Many furnish covers to each bucket, which are made from blocks of pine, sawed of the proper length, from which thin pieces are riven with a shingle frow. On one side or edge of these thin pieces a notch is cut, through which, when properly placed on the bucket, the sap drops from the spout. This cover excludes all rain and snow, leaves and bark. When the "Sugar Camp" is inclosed, (and all should be,) and all kinds of stock excluded, the bucket should be hung near the ground, but otherwise, they may be hung out of the reach of sheep and swine, and reasonably from cattle.

The boiling is done in sheet iron pans, made by the tinner, usually of two or three sheets joined by rivets, the sides and ends turned up five inches, a heavy wire around the upper edge in the manner of a dripping pan. Iron loops are rivetted on at proper distances to serve as handles. Three of these pans placed on a well constructed arch, the two back pans placed each its hight higher than the one immediately before it, small faucets placed in the two rear pans so that the back one may be discharged into the one next forward it, and that into the front one is found to be a great convenience.

A large store tub, placed so that it will stand its whole hight above the upper or back pan, should be provided with a good cover, a good faucet and spout reaching from the tub to the pan. By the faucet and spout the sap may flow from the store tub to the upper pan, and from that to the second, and so to the third or front pan. The supply may be regulated by the faucets in each, so that the flow to all will be regular and sufficient. For gathering, a sled should be provided with a moderate sized tub firmly fastened upon it, which tub should have the upper head placed four or five inches below the upper end. Two 2-inch holes should be bored through this head. In gathering, a team attached to the sled passes along the roads that traverse the camp at proper intervals, the sap is taken from the buckets in pails, and poured on the upper head of the gathering tub, and passes through the holes until the tub is full. It is then drawn to the proper place to be discharged into the store tub. The discharge is through an inch-and-a-fourth hole in the bottom of the gathering tub, by a spout reaching to the top of the store tub. It will be seen that the ground where the "camp" is built, should be uneven, so that the store tub may be placed above the highest pan on the arch, and the gathering tub when standing on the sled ready to discharge may stand a little above the top of the store tub. The discharge from the gathering tub is closed by a long "*plug*" which passes through one of the 2-inch holes in the upper head into the $1\frac{1}{4}$ hole in the bottom. The spout from the gathering tub should be well made, with the end receiving the discharge tightly covered, and a hole through the cover large enough to receive the discharge and not waste. This spout is placed on the sled-runner and easily and firmly secured.

When the season is somewhat advanced, the weather warm, and the buds begin to grow, it is often difficult to make sugar. This difficulty is obviated by putting a spoonful of quick lime in each bucket. The sap again becomes sweet, and the syrup granulates freely and is quite as white and pleasant as ever. In "sugaring off" the syrup is carefully strained into a medium sized cauldron kettle, and carefully reduced until it becomes sugar, some adding milk, or other substances to "cleanse," and others rejecting it entirely. Indeed, when covers are used on the buckets, the gathering and store tubs, the pans well placed on a well constructed arch under cover, and the whole process conducted with the utmost neatness and order, the "cleansing process" is quite unnecessary.

The cost of bucket and spouts is \$12½ to \$15 per hundred, according to materials and workmanship; pans, \$3, to \$5 each, according to size, and quality of materials. Iron hound pine buckets are preferable to tin, and cost much less. The pans made entirely of iron, in the manner described, are far better than those with wood sides, less liable to leak, easier kept clean, sweeter, and more easy to handle. The cost for the same size and quality of iron is not materially more.

With this suit of apparatus, perfect cleanliness may attend the whole process, the sap and syrup are not stained, embittered, nor soured by a combination of sap, rain, snow, bark, leaves, buds, coal, and ashes. An article is readily and economically produced, almost rivaling the snow in whiteness and purity, pleasant to the sight, and exceedingly pleasant to the taste, as I hope you may have the opportunity of testing, when

"Fair handed Spring unbosoms every grace."

S. Scudder.

Randolph, Cattaraugus Co., N Y. Jan. 2, 1858.

Further on Maple Sugar Making.

To the Editor of the American Agriculturist.

My experience leads me to differ somewhat from your correspondent in the January *Agriculturist*. By using spouts made of pine, with a hole burned through, or sumach with the pith removed, and properly tapered at one end to *fit* the hole, I save the labor of re-tapping or "freshening," for if the sun and air are well excluded from the interior surface it will not dry up or coat over; while tin or iron quarter circles, as recommended by Mr. H., leave the hole open and fully exposed to sun and air. The spout need not be more than three inches long if the buckets are hung up, except in case of using one bucket for two or more spouts, when longer ones will be useful. Pail handles, such as are ordinarily used on tin pails form excellent and very cheap spouts where they can be procured, and they might be turned to order to fit any required bit.

I prefer turned buckets of pine, or still better of cedar, the size of common water pails, fitted with a sheet iron "ear" upon the outside, to hold it to the tree upon whatever is driven into it, for which I recommend a piece of $\frac{1}{8}$ or 3-16 inch wire sharpened at one end. Properly ground, a wire can be driven into a tree without causing the too frequent "bleeding" which often follows where nails are used, and there is no head to catch the ear. This bleeding is not only an eye-sore, but is very injurious to the tree, and lessens the quantity of sap secured. These buckets can be procured, painted and eared ready for use, at any pail factory, at a cost of from 15 to 18 cents each, and are superior to *tin*, in that they will stand much more rough usage and banging about, will last longer, and cost only one third as much.

Pans for boiling should be made of Russia iron bent up six inches *all round*, and stiffened with a $\frac{3}{8}$ inch wire round the top; and wire handles can be affixed to suit. Such pans will not leak, whereas it is nearly impossible to nail or screw the iron bottom to wood sides and have it keep tight—trial has proved this. They cost but a trifle more than those with wooden sides, and it is always cheapest to get a good, reliable article, even at a double price, to say nothing of the vexation and loss of a continual *sizzle* when boiling. The wooden sides do not prevent boiling over; it is the absence of heat upon the sides, and an iron sided pan is safer if possible than one with wooden sides. In addition to this pan arrangement, it will be found highly advantageous to set kettles in the arch between the pans and the chimney, to use the heat which would be otherwise wasted in heating the sap preparatory to putting it into the pans. One who never used this arrangement will be astonished at the amount of time, wood and trouble saved by it; and kettles are not objectionable when the liquid is not allowed to stand in them I advise setting the kettles higher than the pans, and having a metal faucet or cock inserted in them, and leading over into the pans, to save dipping the hot sap.

Great care should be taken to have the pans set *exactly* level; and in everything remember that "better not done than half done." The supporting bars used by Mr. H., are not necessary where a genuine, whole pan is used.

In building the arch, make a wall two thirds of the distance back from the front, which shall come up within two inches of the pan—if you have a strong draft, bring it up within one inch; but be the draft strong or light, do not fail to build it in old and new arches, for it will pay for itself a hundred times in a single Spring. My fires had a strong draft, and though having never heard of this wall, I built one as an experiment, and am

confident that upon first trial it saved fully one-third of the fuel formerly required. This wall you will find under all steam boilers, and a man would be thought foolish to set a boiler without it; and what is good for a large fire is good also for a small one.

In tapping I choose the north or west side of the tree, for this side will run when the south side will not, and will not cease running so soon in the season and will give more sap; of this latter I am confident. The trees should be tapped about four feet from the ground, with a ½ to ¾ inch bit, and two to three inches deep according to the size of the tree; for it is only the *sap* part of the wood that yields sap, and perforating the heart of the wood is very injurious to the tree, causing decay. Four feet high will be found a very convenient hight (though the roots and limbs will yield liberally), for then in gathering, the bucket need not be removed from the wire, but merely tipped up and the contents collected very easily and rapidly. Also, if the buckets are set on the ground they catch many leaves blown by the wind, which is avoided by tapping high; and notice the fact that *white* sugar or syrup CANNOT be made from sap in which dead leaves have soaked—there is scarcely anything more deleterious.

Let "boxing" *never* be practiced. It is a barbarous and suicidal method, and the man who would do it ought to be yoked up with him who kills bees for their honey, and placed on the dunce's seat along side the old woman who killed the goose to get at the fountain of golden eggs.

If your "hush" is small and compact, the sap can be collected in pails with a "yoke," but if large or scattered, and upon inclined ground, you will save much hard labor by making long spouts or troughs, and lay them in a line, with a tub or barrel at the head, into which you can turn your collection and let it run gradually through a faucet and along the small troughs to the reservoir, while you are gathering more. In my orchard I used three lines of troughs whose aggregate length was about a quarter of a mile, and the amount of back-aches they saved is incalculable. These long troughs can be cheaply got by having a long log sawn into stuff two inches square, and then with a carpenter's plough, a groove one inch wide, and 1¼ deep is easily made; widen the groove at the upper end, and lay them in a line as described, and having once used them you will not soon part with them.

When the sap is boiled to "syrup" set it away in tall wooden or glazed earthen jars to "settle;" let it remain two or three days, according to the thickness, perfectly still and undisturbed; then turn it slowly off, leaving the dregs to be mixed with hot sap and again settled till the sweetness is extracted. The clean syrup is then put in a pan, and to every pailful of syrup add a half teacupfull of *new* milk, (a farrow cow's milk will not answer,) stir it well together while cold, and when still, build a slow fire; as it grows hot, a black cloud of scum will rise through the entire mass, which must be removed the moment it boils.

If for cakes or grained sugar, it is done when strings of it cooled on hard snow, or in cold water, will snap off like glass; then remove it from the fire and stir it incessantly till it begins to "grain" when the quicker it is in the plates, the better.

If for "grained" sugar keep on stirring till it is dry, when it will look like fine coffee, or brown sugar, according to the care taken.

For "drained" sugar, take it from the fire, when it will "flake" off largely and freely in dropping from a tin skimmer and set it away in tubs or *glazed* pots, for use. The purest of this will settle or crystalize, leaving the rest in thinnish molasses, containing nearly all the impurities. In a few months you will find the sides of the tubs coated with these crystals of sugar, all shaped like an oblong house with one side of the roof longer than the other, hard as glass, and of exquisite and almost immaculate purity. These crystals when melted over and re-manufactured, possess a flavor peculiar to themselves, and quite distinct from ordinary maple sugar. Cakes made from these crystals are almost transparent, and are a rare curiosity, well worthy the young people's efforts to make them.

A pint of old cider in a hogshead of sap will prevent it from graining; and sap so doctored can never be got beyond molasses. Also if syrup is allowed to "sour" and become "ropy," it will never cake or grain, but can be made into candy, preserving the true maple flavor.

Excellent vinegar can be made from sap by boiling down one half, and putting it in a clean barrel with gauze or fine wire netting over the bung-hole to keep flies and insects out. It will soon ferment and turn to vinegar preferable for some uses to the best cider vinegar. Having written too much already, I will only repeat the injunction that everything *must* be kept in perfect cleanliness if a nice and salable article is desired.

W. G. WRIGHT.

Hornellsville, Steuben Co., N. Y., Jan. 1858.

How to Clarify Maple Sugar.

To the Editor of the American Agriculturist:

In the first place, the buckets should be made of good white pine or some other good clean material, and at the commencement of every sugar season, they should be carefully brushed out, to remove any dust or cobwebs that may have collected, then immersed in boiling water, washed thoroughly with a cloth, and rinsed with cold water. Storage and boiling apparatus should go through a similar operation.

The sap should be strained through woolen cloth and evaporated in sheet iron pans set in such a manner that the fire can only reach the bottom of the pan, and the chimney carried up outside the building so that no smoke or ashes can fall into the sap while boiling. The evaporation must be as soon after gathering as possible. The syrup must be passed through a woolen strainer when as thick as it can be made to run through when cold. "Sugar off" in a pan made for the purpose. I use one made of the best Russia iron, three feet long, a little over two feet wide, and nine inches deep. A little sweet cream may be dropped in occasionally to keep it from boiling over.

When dry enough to retain its form well when taken from the moulds, (which may be known by stirring a little in a saucer till cold,) pour it into an iron or brass kettle and stir till it begins to thicken considerably, and pour it in oblong moulds made of tin, and holding, say five pounds each.

When cold, take out of moulds and lay the glazed surface downward, which will prevent draining until you are ready for this operation. As the weather grows warm, or when ready, place the cakes of sugar on their edges in some convenient vessel to catch and retain the molasses, and if you do not have as nice sugar as can be made by any ordinary process, then I am no judge of the article.

I have tried clarifying with various substances, skimmed milk, saleratus and whites of eggs beaten together, &c., and I am satisfied, that where proper care is taken to keep everything sweet and clean, the sugar is clearer, pleasanter and every way better without than with any such additions.

Nearly all the impurities contained in common maple sugar, are either foreign matters which get in after the sap runs from the tree, or are caused by burning.

I ought, perhaps, to state that the buckets should be taken in immediately at the close of the sugar season, and go through a thorough washing and scalding process again, to remove every particle of sourness, and every other vessel used in the manufacture, should be cleansed immediately and laid away very carefully.

Now Mr. *Agriculturist*, perhaps some of your readers may think there is too much trouble in all this. Well, if they prefer to boil down a solution of ashes, smoke, snow, flies, and sour sap, and then *partly* remove the foreign matter by the use of some clarifier, all I have to say is, their taste differs from mine....Inclosed is a small specimen of the sugar I manufactured by the above process last Spring. [The sample is as white and fine as the usual "Stuart's refined" sold in the market. ED.]

WM. F. BASSETT.

Ashfield, Franklin Co., Mass., Jan. 4th 1858.

Domestic Pigeons.

Now, in mid-Winter, if you have not already got them, is the best time to commence your pigeon stock. They breed less at this time than in the other seasons of the year, and are more easily *wonted* to a new home. If you get old ones, clip one of their wings slightly—not so that they cannot fly from the ground to their boxes—but so that they cannot take a high, nor a long flight. Do not get them *too* young. They should be *fully* grown, and able to fly well, and pick up their own food; otherwise, they will droop and die. A single pair will do; for if they have good accommodations, and enough to eat, you will have a score of them by next Fall; and next year you may count them by the hundred, provided no accident befalls them. Nor, do not be too financial, or nice, about your pigeon-house. You may have a fancy one if you like—merely for the look of the thing—but the pigeons don't care a copper about it. All they want is to be safe, and cosey.

The best place for pigeons is a loft in the gable end of a barn, stable, wagon, or carriage house, or wood shed. Let the floor be tight, with nothing under it; warm, and rat-proof—for rats, minks, and weazels, make sad havock among them when they can get where they are. Let there be few entrances for the birds—one to half a dozen is quite enough—and only large enough for a pigeon to enter, with a shelf both outside, and inside, to light upon, and that on the outside where no cat, or quadruped of any kind can reach it. Let the room inside be altogether; large enough for a man to walk into, through a hinged door, and the sides made up with tiers of boxes six inches inside, by eight inches long, and four to six inches deep. Each pair will select their own, and there lay, and habit, and bring up their young. They are quite as well as in separate close boxes, and it is much more convenient to go in and take the squabs as you want them for the table. Ten or fifteen feet from the ground is high enough for the pigeon house.

We are going to give the plan and drawings of one sometime this year, in our series of farm buildings, and erections, and shall then have more to say about their treatment—particularly as our young friends, the boys, like to have them about the premises.

A Brief Talk on the new Sugar Cane.

With many hundreds of letters before us marked by the opening Clerks "on sugar cane," still unexamined, we confess to be yet unprepared to say what we intended to offer this month. Owing to our special efforts in introducing seed last year, our office has been a kind of central point to which the mass of reports and notes have chiefly tended. We published the material parts of the first sixty letters received, hut these proved to be only the sentinels of a coming army. Suffice it now to say that, for weeks past, every day has brought new confirmation of the belief that the Chinese Sugar cane is adapted to cultivation in the Northern States for the production of sweetening, both syrup and *sugar*. We have seen abundant samples to convince us that sugar has been made, and that it can be made—and we begin to hope, profitahly too, when we shall fully understand the conditions and proper modes of manufacture. This is taking stronger ground than we have hitherto dared to do.

Without estimating numerous other coincid-ing proofs, the experiments of Mr. J. S. Lovering, at Philadelphia, would seem to be conclusive on this point. We have before us a variety of samples of sugar made by him, of various grades, from the coarsest "brown" up to the finest "loaf sugar;" and we are not inclined to dispute the final conclusion arrived at by Mr. Lovering, that:

"With these conditions secured, it is about as easy to make good sugar from the Chinese cane as to make a pot of good mush, and much easier than to make a kettle of good apple-butter."

But, having said thus much, we feel bound to state that, we consider the *present* knowledge of the best process of manufacturing, still too imperfect to warrant farmers in entering largely into the culture of the sugar cane for sugar making the present year. The past season has demonstrated; *first*, that the plant will flourish in our Northern latitudes; *second*, that it is valuable as a forage crop; *third*, that, even with our present imperfect knowledge, it can be used profitably for making syrup in localities remote from market, (see note 12, in Dec. No., Vol. XVI, page 296;) and *fourth*, that it is adapted to the production of crystalized sugar, under proper modes of manufacture.

The experiments of at least one year more, seem to be required to ascertain exactly what are the proper modes of manufacture. We therefore think it wise to wait the developments of this year, before attempting sugar, or even syrup making on a *large* scale as a source of profit.

Our advice to farmers generally, is, that, they should cultivate a small plot the present year, in order to study still further, the character of the plant, its best mode of culture, its feeding properties &c. By next year, there will, we hope, be abundant information to act upon with reference to its further enlarged cultivation.

OUR OWN EXPERIMENTS

the past season have been widely called for. We might sum up the whole by saying, they were, *for special reasons*, unsatisfactory, in some respects, though instructive. But a brief detail.

We planted something over an acre. The cane grew well, but, owing to the season, ripened little seed. It was treated with a variety of manures, but we found very little difference in the results on the plots planted at the same time. Our conclusion was, that it should be treated in all respects, like Indian corn, except in the distances of the seeds.

We commenced preparations for grinding and boiling, and here our mishaps began. First, the "money panic" coming on, we felt hound to give up our entire time and attention to our Publishing Business in the city, so that we had scarcely one hour of daylight to spend in the country.

The "plantation" was two miles from our residence, and we were under the necessity of putting the entire work of cutting, grinding, and boiling, into other hands, with only the occasional supervision of an hour in the evening. Our mill came to hand late and broke down the first hour, which delayed the work a week. Next, the boiling arrangements were found to be too slow, and not of the best kind. The fires were placed in a single close building, and with a damp atmosphere and much rain at the time, the evaporation was found too feeble. The arch around the main boiler was too high, and all the first samples were inevitably scorched. New boilers were prepared with the base only upon the fire, and several lots of beautiful syrup were produced when they had fine dry weather, of which, there was very little. Much time was consumed in sundry experiments, instructive in themselves, and furnishing many valuable hints which will aid us materially in advising others hereafter.

All these matters delayed our operations until it was too late to continue further with hope of profit, and having accomplished our aim, which was soley to *experiment*, the work was suspended. We found ourselves somewhat "out of pocket," but with much instructive knowledge acquired.

With all the drawbacks, with next to no personal supervision, we obtained from less than half an acre, nearly one hundred gallons of syrup, much of it poor, but some of it very good. Some of it has since been crystalized, so that on the whole we have abundant reason to he satisfied with our experiments, believing, as we do, that in any new enterprise, partial failures, at first, often teach more than a chance success.

Management of the Sty.

The fame of the pig as a manure maker is great, but we doubt, if he is half appreciated, even in his forte. He is commonly fed with richer food than other domestic animals, and the manure is found to he stronger than that of any other quadruped. The old method of treating the pig was to let him run upon the common, or in the pasture during the Summer and put him in the pen only two or three months before he was slaughtered. The sty was merely an ample pen, with a poor hovel for his shelter by night. For lack of material to work over, he thrust his snout into the hard soil of his pen, turning it over, and every stone and bone in it, within a foot of the surface. The result perhaps was a card of well washed manure, to each pig. This method is still popular in many parts of the country.

But our best farmers have a better system of management. The pig is considered in the light of a worker, as well as a gentleman of leisure, and his snout is turned into a farm implement of very great value. As a disintegrator of sods, it excels both the plow and the harrow. The sty is mainly covered, with the exception of a small yard where the animals may have the sun, and take exercise. The covered and the uncovered parts are kept abundantly supplied with muck, or coarse sods, which are reduced to a fine powder in a short time. Sometimes the sty occupies a part of the barn cellar, heneath the stahles, and the pigs are made to do the work of composting the stable manure with muck, and loam. It is done in this way much more thoroughly, than it can be done with fork and shovel.

With this class of farmers "pigs in clover" has become a figment of poetry, for the pig never smells their clover fields, though he has plenty of clover and other green succulent fodder in its season. They cannot afford to waste the manure, and to lose their services upon the compost heap. No flesh is wasted in chasing after nuts in the forest, or grass and weeds upon the common. Pigs kept in styes, and furnished with muck, can easily be made to average four hundred pounds of pork, and eight cords of manure, at a year old. If a farmer falls below this standard, he is not living up to his privileges.

Making Deep Wells.

We have very numerous inquiries in regard to the best modes, the machinery, &c., for digging and boring deep wells. The desired information we cannot give, and we shall therefore be under obligations to such persons as may communicate anything on this topic of interest to our readers. We hear, incidentally, that Messrs Dupont, of Louisville, Ky., have sunk an Artesian well in that city nearly 2,000 feet. The Louisville Courier says, that city "has now the deepest well in the world; the next deepest well—1,300 feet—being at Greville, near Paris, France."

Wire Fences—Information still Wanted.

In October last (vol xvi, page 228), we published a call for information, respecting the feasibility of wire fences, best modes of construction, &c. We have received a few responses, but nothing like the number we looked for, considering the importance of the subject; and we are still waiting for further responses before taking up the subject thoroughly. Probably many of those who were best able to give practical information, chanced to he those least accustomed to the use of the pen; while others refrained from discussing the subject, on the supposition that everybody else would write on a topic of so much interest. We again call for further details of experience, on both sides of the question. Any present subscriber disposed to assist in throwing light on the subject, and not having at hand the October number above referred to, will be furnished with a copy very cheerfully, on sending his address to us. We know there is great demand for further information, and we shall use every exertion to supply it.

Summer-day—not Sunday—Error Corrected.—The type-setters made a "wicked blunder" in our last number, page 26. The whole tenor of that and all other articles in this journal, would, we trust, shield us from the suspicion of sanctioning sabbath breaking, even in the slightest degree. But, to avoid even "the appearance of evil" we make the above correction. The faulty word was *written*, Summer-day.

What a Dog!—Mr. Editor.—I see in the December *Agriculturist*, this item:—One little "garden patch" of ours has heen very profitahle this season. The snails ate up the cucumbers—the chickens ate up the snails—the neighbor's cats ate up the chickens, and we are now in search of something that will eat up the cats! Can any of our agricultural friends aid us!—Alabama Planter. ....You can inform the Planter that I have a dog that will eat up his cats (and him too) if he will take the trouble to bring them to the dog's yard.

Richard Young.

Rio Grande, Tioga Co., Ohio

Wanted! An Agricultural School.

No single question has been proposed to us so frequently of late, as: "where shall I find a good Agricultural school, combining the practical with the scientific, to which I can send my sons?" This question has come from various quarters, but chiefly from residents of this city, and its vicinity, and from gentlemen in Virginia and adjacent South Middle States. There are perhaps, fifty or a hundred—perhaps five times as many (there ought to be) who have been engaged in business pursuits in New York city alone, who are now desirous of sending their sons into the country, where they may develop their muscles by out-door labor, learn something at least by daily observation of both the practice and theory of the greatest and noblest industrial pursuit, and at the same time devote more or less attention to the development of the mind by the daily study of the usual branches of education.

There is an increasing interest in this matter now. Perhaps the "financial events" of the past few months may have had some influence in this respect. Perhaps our citizens are waking up to a sense of the fact that our city reared boys are deficient in that muscular vigor which is required to fit them to compete with the annual influx of country bred boys, who are, after all, the class that constitute the real "bone and muscle" of the commercial circles in this and other cities. We have no better evidence of the increased interest in rural matters than in the fact, that we have on our books as subscribers, nearly 3000 merchants in this city alone, with a large number in nearly all the leading cities in the Union. The increase in this respect has been ten-fold within three years.

To the inquiries for an Agricultural School of the right character, we have been unable to give a satisfactory answer. Various attempts have been made to get up State Agricultural Schools and Colleges, but with two or three exceptions these have been so mixed up with politics that little good has resulted, and we have little hopes in that direction. If the secret history of the past efforts in this State (N. Y.) could be written, we fear, as farmers of the Empire State, we should blush at the exposition.

Michigan has succeeded better than any other State thus far, and has now in operation a good State Agricultural College, comparatively free, so far as we have learned, from the contaminating influences of political intrigue and favoritism. Pennsylvania will follow suit by the opening of her Agricultural College during this year.

But aside from these two institutions—which are, unfortunately for the rest of us, neither of them open to pupils beyond their respective States—we can scarcely point to another institution where all the advantages sought after by numerous inquirers, can be realized, viz: extensive daily practice in the field, combined with constant attention to the usual branches of school education.

We offer these observations, not in a fault finding mood, but for the special purpose of calling out information from different sources, in regard to the actual condition and facilities of the various professedly agricultural schools in the country. We shall be happy to publish anything from unprejudiced, uninterested sources of a reliable character—if it comes brief and to the point.

NEW USE FOR CHLOROFORM.—It is reported that in Taunton, Mass., several fat hogs have been stolen by first administering chloroform, and then taking them from the pens, without so much as raising a squeal.

Agricultural Humbug at Washington.

A CALL UPON CONGRESS FOR INVESTIGATION.

We have long considered, and more than once referred to the Agricultural Department of the Patent Office at Washington, as a humbug—an imposition upon the farmers of this country. First—the whole business is tacked on to another department with which it has no legitimate connection. Second, as stated in our last, of some $75,000,000 expended by our Government annually, but $75,000—or *only one dollar in every thousand*—is devoted to promoting the interests of agriculture, even nominally.

But our chief cause of complaint is in the *way the business is managed*. We will here repeat a paragraph from our last No., page 6. In reviewing the Patent Office Report for 1856, we said:

"Or the whole, as the upshot of a year's work "in the Agricultural Bureau of the Patent Office, "we cannot say much for the book. Half-a-doz- "en agricultural periodicals that we can name, "give us an annual fund of information, far ex- "ceeding this in value, and reach *ten times* the "number of readers that the book will do, distrib- "uted as it is. The *annual distribution of seeds* "*by the department*, through the members of Con- "gress, by way of the Post-Offices, with few and "far between exceptions, we consider an *arrant* "*humbug*. We have had scores of packages, in "nine cases out of ten only to try and condemn "them, as far as anything *valuable* was concerned. "This practice ought to be discontinued instanter. "It lumbers the mails and frets the people who "get them, with disappointment. If anything "really new and important could be obtained by "the Patent Office, in that line, it would be well "to distribute it among our farmers; *but the* "*purchase of seeds, common and unclean—as many* "*are—if it be made a jobbing affair, for the benefit* "*of a few favorites, instead of a public object, the* "*less of it the better.*"

The last sentence, in italics, has a deeper significance than most of our readers may have supposed. That *impure* and *untrue* seeds have been sent out we presume no one will deny.

That this business is made "*a jobbing affair for the benefit of a few favorites*," may not be so easily demonstrated simply from the fact that the guilty officials, with the control of the Government machinery, have the facilities for "*covering their tracks*" so effectually as to baffle investigation by *private* individuals.

Hints have from time to time reached us respecting the way seeds have been *purchased* for the Department, but not in such a definite shape as to warrant the responsibility of a personal investigation. These have referred, among other things, to Bills of seeds upon which a discount is said to have been allowed to *relatives* or friends of the government officials making the purchases.

But, passing these for the *present*, we ask attention to the proceedings of the U. S. Agricultural Society at Washington, Jan. 13th, 14th, and 15th. Mr. Wray there showed up some recent acts of a government officer, in an attempt to interfere with his private business. (We wish Mr. Wray had gone back further, and related some of his former experiences, when in consultation with government officials about the sale of seeds, the securing of a patent for his sugar process, &c. We have an inkling that if summoned by the proper authorities as a witness, he could make some revelations not all creditable to our Agricultural Department.)

Our present object is to call upon our Representatives in Congress, who have, or should have, a common sympathy with the farming interests of the country, to look into this matter. Let there be an intelligent committee (not a political one) especially appointed to examine the past transactions of the government Agricultural gentlemen, to whose kind care this great interest has been intrusted. Let the committee investigate the *sources* of the seeds distributed in times past, the *prices* paid for them; and, further, enquire if they have been directly or indirectly "tolled" for the benefit of *relatives* of government officers. One such case at least has been communicated to us. For its truthfulness we cannot vouch, but we can give names and statements.

Let this committee further inquire what has been the ultimate disposition of the seeds—whether they have been equitably distributed, or whether some members of Congress have not sent off by mail, hundreds of parcels of costly seeds, (or those costing much) which have never found their way into the soil. Are there any instances known, where new varieties of grain have gone into the stables of favorite horses of the said members?*

Let them inquire further, what becomes of the Patent Office Reports, printed ostensibly for distribution among farmers. We can point them to two places in this city where they are sold for 37½ cents each, and we have to-day bought them thus, with the offer of *plenty more*, and by the hundred, too, "AS SOON AS THEY COULD BE SENT FOR."

We hold *direct* communication with more than *thirty thousand* of the leading farmers of the country, and indirectly with many more; and on behalf of them and others, we respectfully call upon our Representatives not to pass the matter idly by. We can assure them, in the most positive manner, that there is a deep and growing feeling among the mass of farmers, that the management of the Government Department of Agriculture is little short of an imposition, and that they will not long remain silent.

Our government can and should do much for the promotion of agricultural improvement. This interest is second to none. It should not be, so far as government is concerned, left entirely to the tender mercies of one or two inefficient persons, with *power* to prostitute the good intentions of our representatives to their own selfish ends.

We know, among our Representatives at Washington, more than one noble-hearted man, who is alive to, and deeply interested in our common agriculture; and we can but hope they may be led to take some present action in regard to the subject. We shall have more to say on this topic.

* A case of this kind was related to us a short time since, but we have lost our informant's address. If this meets his eye, will he please communicate with us. Any other facts bearing on the topics of this article we shall be glad to have brought forth.

What Weather!!

Is the almost universal exclamation. Here it is, January 25, and neither snow nor ice—or but a very little yet seen hereabouts. It is worthy to be recorded, that in 1858, up to January 25, green grass has hardly disappeared from the fields, and there has not yet been frost enough in the ground to prevent plowing, trenching, and most kinds of outdoor work, from being carried on with about as much facility as in November or April. Perhaps Winter has gone into a nap for a year; but we suspect he will yet wake up and growl a little, when we least desire his presence. So it will not be amiss to plow a few fields, and spade the garden, if we still have opportunity, and thus be partly prepared for a late Spring, should we have one.

Wonders of the Bee-Hive.

NUMBER VIII.

In our last article on this subject, we gave an illustration that enables us to explain the wonderful fertility of the mother-bee, and the rapid increase of numbers in the early summer. We showed also the appearance of the worm hatched from the egg, as it changes its appearance from day to day. It is while it is in this condition that the *bee-bread* comes into use, being worked over for the food of the helpless worm, and, (as some *suppose*,) mixed with honey and partly digested in the stomach of the working bees. It is considered a settled fact that honey alone is insufficient for the nourishment of the brood; but in the Winter and Spring the bees are often glad to get unbolted *rye-meal* as a substitute for the *pollen* of the flowers, even when their last year's stock is not exhausted.

After the worm has been fed four or five days, and has attained its full size, it is left to undergo another change, and is closely covered up in its cell, like a child left to sleep in its cradle. Fig. 5 gives an enlarged representation of its appearance in the cell, and Fig. 6 shows it prepared to spin its cocoon. It has been a *larva*, it is to become a *nymph* or *pupa*. The cell is covered by the worker bees with a brown substance, somewhat like paper; and as soon as this is done, the larva spins its cocoon, which fits closely to the inside of the cell. After completing this work, for which thirty-six hours are said to be necessary, it gradually undergoes that remarkable change common among insects, which we see when caterpillars become butterflies, and the silk-worm a miller. So this worm is to become a winged bee, in obedience to the law of life, given it by its maker. If the cell is opened after a few days, the *pupa* is found, a white object represented in Fig. 7, in which the different parts of the perfect bee can be traced; and at the end of three weeks from the laying of the egg, the young bee, whose head is always turned to the opening of the cell, may be seen biting away the cover, and at last emerging from its cradle, to take its part in the duties and responsibilities of the hive. It leaves its cocoon behind it, a strong dark colored, paper-like web, which is never removed, and within which successive generations of bees form their cocoons in like manner. When a piece of *old* brood comb is melted, these cocoons retain their form, and may easily be separated from those in adjoining cells.

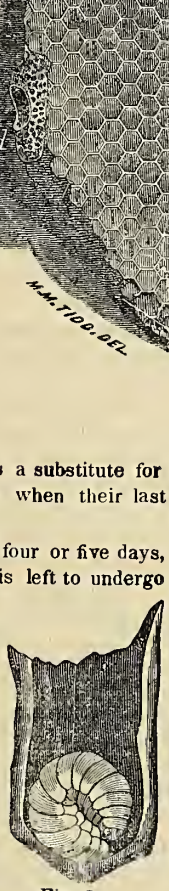


Fig. 5.

Fig. 6.

Fig. 7.

Our next illustration, Fig. 8, is one that bears a good deal of study, and represents on a reduced scale, some of the most interesting objects in the hive. The greater part of the cells here shown are of the worker size; a few on the lower side at the right hand, are drone cells. A hole at

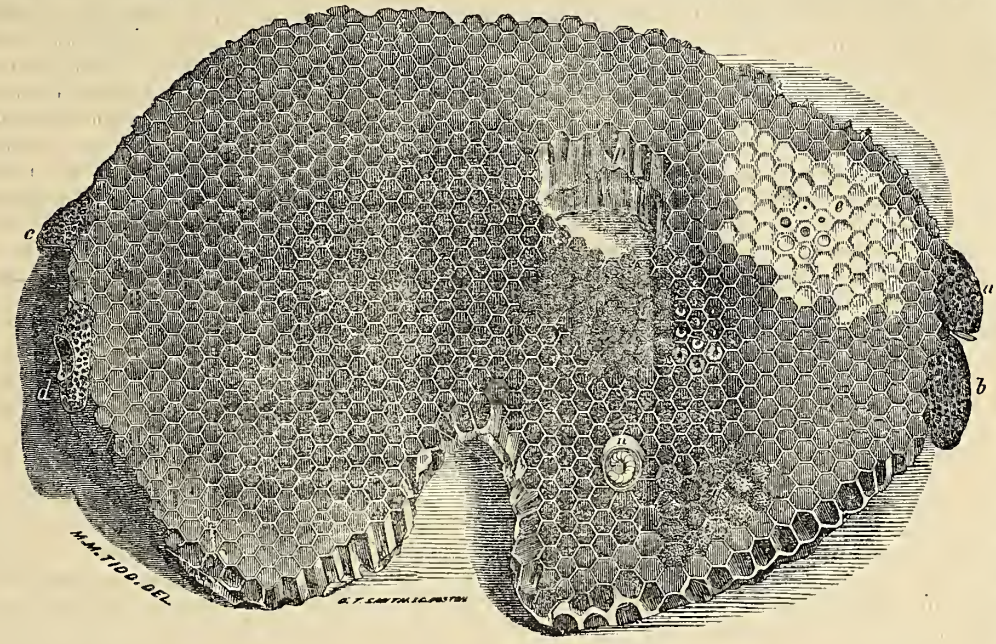


Fig 8.

p shows the thickness of the comb and the depth of the cells on either side. Just below this, at *f*, are brood cells sealed over, from one of which a young bee is just escaping, having succeeded at least in thrusting its jet-black head and antennæ through the cover, while a little to the right, we can see more distinctly the worms, of various ages and sizes. Some of the drone cells below, at *f*, are also sealed over. The honey cells are seen at *e*, some of them full and capped, while others are only partly covered. These are sealed with wax, and have a lighter color than the covering of brood cells. The *form* of the cover is also different. In the brood comb, each cap projects outward, convex in form. In the honey cells there is a slight depression, as if to resist the pressure of the honey.

The engraving represents also the cells in which the queens are reared. They undergo like changes with the other bees, but come to maturity sooner. While the workers require twenty-one days from the egg, and the drones twenty-four, the mother-bee is ready to leave her cell on the sixteenth day. She is reared in an apartment of very different shape from other bees, and is fed with a different kind of food, to which the name of *royal jelly* has been given. In figure 8, *b* is a queen cell in which the inmate is still confined; from *a* the queen has escaped, and the cover of the cell, which opens downwards, instead of horizontally, is seen attached to the side. At *n* we find a cell, not yet complete, in which is a royal worm. The cell at *c* has answered its purpose, and being useless henceforth, the wax has been nibbled away, so that only an acorn cup is left; and at *d*, is represented a cell whose inmate has met with death by violence; for even among so industrious a community as a bee-hive presents, there is sometimes a conflict for the mastery.

Fig. 9.

Fig. 9 shows a queen cell of the natural size, in its ordinary position. Such is their love of order and symmetry, that the workers have laid the foundation of cells around the base, and have dotted the whole exterior, as if they would like to cover it also with hexagons. Indeed, there is a great amount of attention devoted to the cradle of the queen, from the first moment its construction is commenced. It is the constant object of anxiety and almost devotion. Every bee in the hive seems to consider itself a special committee of inspection, for, one after another, in quick succession, they run to it and examine it, inside and out, with the greatest care. They do not apparently commit the work to an "intelligent committee" and take no further thought except to pay a levied tax. In this respect, as well as in many others, our city dwellers—our tax payers might well imitate the tiny inhabitants of the bee-hive. Their more frequent visits to, and surveillance of our parks and public buildings in course of construction, would ensure not only better work, but more economy in outlay.

Fig. 10.

Fig. 10 shows the position of the queen in the cell, while yet a nymph, and at the top of the engraving—which is the proper base of the cell, may be seen the royal jelly, which is furnished in such abundance that some remains after the queen breaks away from her confinement. These beautiful illustrations give our readers a far better idea than mere words can do, of the inside of a bee-hive, but our facts are not exhausted, and we have yet many more wonders to relate in successive numbers of this present volume of the *Agriculturist*.

Farming and Gold Digging.

We often hear the complaint of ill-luck in farming. Over and over again, we are told that agriculture don't pay for the toil and troubles connected with it. Easily discouraged and discontented young men are leaving their country homes to seek their fortunes in the city, or are roaming away to California to dig for gold. But how few *find* fortunes in the city; or, if found, how uncertain is their possession. The history of the past year is full of striking lessons on this point. Nor is the success of gold-digging much greater. In almost every community you will find families dressed in mourning, over the loss of a son or brother who went to California years ago, in pursuit of fortune, but who, by undue exposure and toil, or the diseases of the climate, or the hand of ruffian violence, was brought to an untimely end. Or if you find one, here and there, who has been more successful, you will also find many who gained nothing, and very many who saved only enough from their hard earnings to buy their passage home. Had those gold-seekers invested

their means in purchasing farms in the West, and expended their time and labor in cultivating the land, would it not have been a better policy? In gold seeking, one has a bare *chance* of acquiring wealth; in farming he has a *moral certainty* of obtaining an independence for life—and that without the sacrifice of home, health, friends, morals, and all that is most valuable in life. A great ado is made, because the annual yield of the California gold-mines amounts to forty or sixty millions of dollars. A nice little pile, surely; but the hay crop of New York State, or the wheat or the corn crops of Ohio, are no less valuable. Yet no ado is made over these facts. Where are the shoals of discontented young men rushing to the meadows and grain fields of these States? Alas for them! in their blindness they are rushing in every other direction. By and by, perhaps, a good farm, and contentment therewith, will be found one of the best things under the sun.

Dry Wood vs. Green.

Now is the time to secure the annual supply of wood for fuel. Now, the labors of the field are suspended, and men and teams are mostly unemployed. The wet and quaking bog will now bear up the wood chopper and his sled, and heavier loads can be drawn over the roads than in Summer. The cold weather, too, braces up the farmer with a superfluous strength, which makes the severest labor pleasant. Now, then, is the time for gathering this Winter harvest.

We do not mean, however, that the wood now cut, should be used this Winter: let it be secured now, and dried for consumption next Winter. It pains us to see the wasteful and barbarous custom of burning green wood still prevalent in many parts of the country. The very poor man, we suppose, can not lay up a stock before hand; he must buy at market price from month to month, green or dry; but the farmer, at least, is under no such necessity. He can and he should fell his trees in Winter, haul the logs sled-length to his back-yard, and then chop or saw, and split them into stove-wood; and by the time farm work in the field begins to press, his wood should all be neatly stored away under cover.

Yet there are some who look on this as unnecessary trouble: they have always used green wood and got along very well; what need of so much ado in drying and shrivelling up wood before burning it! Oh, plea of laziness! Will such persons please exert themselves enough to look at a few figures, illustrating the *economy* of this thing. A log of unseasoned wood weighing, say one hundred pounds, will weigh, when dry, only sixty-six pounds. What now has it lost? Any combustible matter? anything that will warm your house or cook your food? No: it has lost 34 pounds of *water*. That won't burn very well in a log of wood or anywhere else. Nay, it has got to be *driven out* of the log before the wood will burn. And how must that be done? Solely by a waste of the heat necessary to convert that water into vapor and steam. And where is the economy of this? If about one-third of the weight of green wood is water, then there are 1,443 pounds of water in every cord, which have got to be made into steam before the wood can be burned. Instead of using up our heat in the steam-making business, and so throwing it away, had we not better save it to warm our houses? At least, if there is economy in that business, we are too dull to see it. Will some sharp witted advocate of green wood please enlighten us.

But aside from the question of economy, good, well seasoned wood has much to do with domestic happiness. It is no light matter to be compelled to kindle fires every day and several times a day, with green wood. Especially so in Winter. And the man who provides nothing for his house but green wood, is just the man to lie abed Winter mornings, and compel his wife to make the fires, dress the children, and prepare breakfast before his lordship bestirs himself. A wife must be a miracle of patience, energy and physical endurance to bear such treatment a long while cheerfully. No wonder that such families are often scenes of discord and gloom. No wonder that the wife and mother in such households breaks down prematurely, and that the children grow up rude and lawless, and with no love of home. If matters go wrong in the kitchen, they are quite sure to go wrong elsewhere. Well says an indignant cotemporary: "Green fire-wood should be rejected as the demon of discord in the family; while it smokes, and steams, and sputters, and refuses to toast or roast, or bake or boil, it makes the children sulky and tart, the husband gloomy and severe, and the poor wife anxious and disheartened. Many a scene of domestic felicity has been smoked and sizzled out of existence, by the use of *green fire wood.*"

Why use cut feed?

An intelligent farmer asks for the philosophy of cutting hay. He can understand that it is useful to cut corn stalks, and coarse fodder, because the cattle will eat them better. But when cattle will eat up good English hay perfectly clean, why should it be passed through the hay cutter?

Our friend evidently supposes, that the stomach does its work upon everything that passes into it, with equal facility, and without any tax upon the rest of the system. This is manifestly an error. All food has to be ground up before it can be assimilated, and pass into the circulation of the animal. If food is not artificially prepared by cutting, grinding, or steaming, the animal has to prepare it himself, so far as he is able. Certain kinds of food will pass through the system, imparting to it only a part of their nutriment, because the teeth of the animal have not perfectly masticated it. Whole kernels of corn or of oats are frequently seen in the fœces of an old horse.

The more perfectly food can be prepared, the more completely will the system appropriate its nutriment. If the whole labor of grinding up the food is thrown upon the animal it is a serious tax upon the vital energy, which every good farmer wants for other purposes. In the case of the horse and the ox, you want the strength applied to locomotion and to draft. Whatever strength is applied to grinding food, is so much taken away from their capacity for labor. If three or four hours of strong muscular labor are spent in working up hay and straw into a pulp, there is a great loss of strength and of time.

In the case of fattening animals, you want the aliment to go to the formation of fat, and flesh. This process goes on successfully, just as the animal is kept quiet, and comfortable. No useless labor should be expended in the grinding up of food. The straw-cutter, working up the hay into fragments of half an inch in length or less, performs a good part of the work of the jaws, and makes the feeding of the animal a light matter. If the hay could be ground up into a fine meal, it would be still better; as it would make the work of the animal still lighter, and would more completely yield up its nutriment. If it could be steamed it would be best of all as it would then be wholly appropriated.

We have no doubt that it pays quite as well to pass hay through the machine, as the coarsest fodder. A root-cutter is also an indispensable adjunct to the barn, and the more perfectly it comminutes the roots the better.

The farmer who has ever experimented with these machines, and marked the results of feeding with hay, and roots prepared in this way, can have no doubt of their utility. Laziness, we apprehend, has quite as much do with the neglect of these machines as ignorance. It is work to turn the crank to cut up hay enough to feed twenty head of cattle, and in prospect of spending the elbow grease, it is very convenient to believe that it will not pay. Sloth, however, is a poor counsellor in this case, as in all others. We should as soon think of feeding cattle in the open field in this bleak Winter weather, as of feeding them with uncut hay. A warm stable and a straw cutter are both good investments.

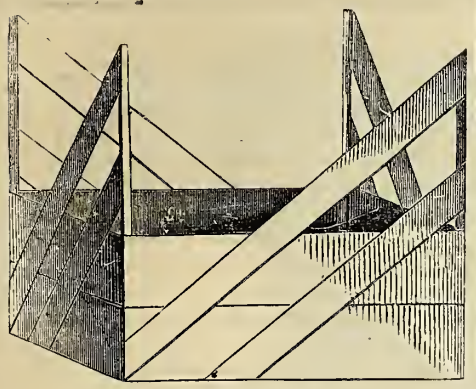
Carrots for Stock.

Can anything be better as Winter food for all kinds of animals, than this familiar root? We have used it for several years with most gratifying results. It is not only useful as a "relish" with other fodder, as apples and vegetables are for mankind in the Winter, but it contains valuable nourishing properties, and may be used as an alternating substitute for other food. We are not surprised to learn that the keepers of livery stables in cities are beginning to use carrots for horse food. They hold that a peck of carrots and a peck of oats are better for a horse than two pecks of oats. All animals require for their health and comfort green food to mix with their dry fodder, and their winter bill of fare is deficient, if it does not include carrots.

We have the report of an experiment made by a careful farmer to test the relative value of several kinds of food for milch cows, with the following general result; three pounds of carrots equal to one pound of hay. This would make three tons of carrots equal to one ton of hay—*i.e., for producing milk*; but for fattening purposes, we should place the carrot nearer upon a par with hay. This also is true of it, that it yields larger crops than the potatoe, is more nutritious, is better adapted to this climate than ruta-baga or turnips, can be more readily and better kept through the winter, and is more easily prepared for feeding, as it does not require boiling or steaming, unless it be for swine. We sometimes meet in our exchanges, with various recipes for coloring Winter-made butter a rich golden hue, like grass-made butter; but we believe the best way to accomplish this is by feeding the cows on good orange carrots, and leave to them the work of coloring the butter.

The Culture is not difficult. Give the ground a liberal manuring with well decomposed dung, and if to this is added a mixture of muck or chip dirt, it will help the matter. Of course the plowing and harrowing must be thoroughly done. Sow in drills two feet apart, if for horse tillage; if done with the hand, at less distance. Sow when the soil is a little moist, and press the earth firmly over the seed.

As carrots germinate slowly, look out for the weeds as soon as they appear, or they will get the start of the carrots and overshadow them. If this seed is drilled in, two pounds to the acre will be sufficient; if sown by the hand, three or four will be needed. Thin the plants at each hoeing, until they are four or five inches apart. By good management, a crop of 500 to 700 bushels to the acre may be expected. The Long Orange is generally considered the best variety; though the White Belgian is very nutritious and is most easily harvested.



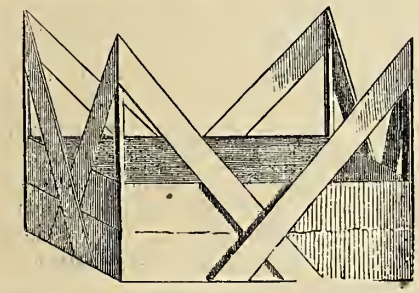
Feeding Racks.

To the Editor of the American Agriculturist.

I forward herewith an imperfect sketch of a Cattle Rack which I think superior to that of T. C., described and illustrated on page 281 of vol. XVI. The advantages of this one are, that the cattle feed at the *corners* where the weaker do not stand in fear of the stronger, as is the case when they feed opposite. The rack is six feet square, with six feet posts. ALFRED DEY.

REMARK.

We thank Mr. Dey for his sketch, which we have filled up and had engraved as above. (We shall be greatly obliged to all who will furnish sketches of various farm and garden or household implements, as well as of plants. We cheerfully pay the expense of engraving anything which will prove instructive or interesting to our readers.) In order to show the two kinds of feeding



racks, we re-introduce in connection with the above, the one before given. We think Mr. Dey's plan an improvement upon this one. There are various other contrivances for feeding cattle in yards, and we shall be glad to have sketches of those in most common and most approved use in different parts of the country. It is an undeniable fact that there is a large amount of waste in the ordinary modes of "foddering" stock. The annual loss of the country at large, in this item alone, must amount to many hundreds of thousands, if not millions of dollars.

WHO IS THE GREENEST!—We have often been not a little amused to see a company of diminutive, pale-faced city striplings, poking fun at country boys "because they were so green." We say amused, for it always makes us think *how* green those same city boys are when they go into the country. We have a good story on this point, about half written out for the *Agriculturist*—it will be finished sometime—we were reminded of it just now by hearing a New-Yorker tell his experience up in New-Hampshire. While riding with a rough farmer, as he called him, he asked him how he would like to go down to New-York; to which the farmer, with words long drawn out, replied: "I s'pose if I went deawn to New-York I should geawk reaund *jest as yeau folks deau up here*"

American Cattle.

We are going to have a talk about cattle. Some of our readers have written that we were not saying enough about such things of late, thinking, perhaps, we have either little, or no knowledge in that line, or having, declined to publish it. Whether that be so, or not, they will probably find out before we get through. At all events, they may be assured that we have the *will* to say all we can to either interest or instruct on a subject so important to our American agriculture, as the production of *all* classes of *good* farm stock. The past days when immersed in the cares and anxieties of the farm business for weeks together, we have longed at a leisure moment, for some good farming friend—a real judge in such matters—to drop in and have a down-right good cattle talk with us, so much would it raise our spirits, and divert our attention from the monotonous hum-drum occupations on hand, and catching the spirit that then at times animated us, we shall, as occasion serves, in the absence of the uncertain farming friend aforesaid, take a talk on our own hook, with our readers for audience.

THE KINDS OF CATTLE WE NEED.

The wide diversity of soil and climate, in the United States, demands different varieties or breeds of cattle, as may best be suited to them. The rich valleys of our Eastern, the strong soils of the Middle, and the wide tracts of deep alluvian, and secondary deposits of the Western States require, and will sustain a larger, heavier beast than the light and comparatively sterile soils which abound on the Atlantic slope, and are occasionally interspersed among the States West. These comparatively thin soils are better suited to the lighter, and more active breeds, which can graze and fill themselves with less difficulty. Therefore it is necessary for an economical agriculture that the beast be adapted to the soil, and the climate, as well as to the immediate *use* for which it is wanted in the hands of the farmer. And here lies the grand question with the farmer, to *actually know* what he wants in the way of cattle for his own best purposes. Our agriculture has been so miscellaneous since the settlement of the country, and is so miscellaneous now, in its productions upon the same soil, and our farmers are so fitful in their plans and practices, that, excepting in a few sections of the country, there is nothing like a persistent course of farming pursued, and an intelligent system of culture adopted. They have lived in the make-shift way. They have "sheeped" it for a year or two; "dairyed" it awhile; raised grain for a period; laid their land into meadows, and sold hay for a time; raised stock promiscuously, for a few years; dawdled about a little longer; and finally, so far as established results, terminating in a fixed course of farming is concerned—done nothing.

Now, within the most populated districts of the several States, as well as in our new Territories, we have immense tracts of lands naturally suited to all the different branches of agriculture, and portions of them eminently fitted for one branch more than another; while wider portions of soil are adapted to all, or a mixed course of farming. We have the finest sheep walks in the world. We have wide regions capable of keeping the finest dairies. Others fitted for the breeding and growth of young stock. Others again, for grazing, and feeding off cattle for the Shambles—all on a large scale, and capable of employing millions of capital, and a wide spread population more profitably in those occupations than in any other. The appropriation of these lands to their most productive objects requires a *division of labor*—not that their exclusive occupations should be one of the pursuits, which we have indicated, but that it should be mainly of one kind, producing annually, however, other things of immediate necessity for their own consumption which they can cheaply and reasonably do. Even in the restricted Island of Great Britain, which is scarcely larger than the six New-England States—not so large as New-York, New-Jersey and Pennsylvania, combined—they do so. Their agriculture is divided. They have almost entire counties, and in some instances several of them together which confine themselves mostly to one or two staple productions such as we have named; and among them all they combine as wide and profitable a range of agricultural products as the climate and soil will afford, and in greater amount than any like body of land in the universe. The land holders there have long studied their soils, their capacity to produce certain articles of husbandry; and then, with a steady perseverance, kept on with a regular course of cropping, stock rearing, grazing, feeding, or whatever it may be, until they have arrived at as near perfection as the case will admit. In that little Island they have various breeds of cattle, sheep, horses, swine and poultry—all better adapted, as they believe, each in its place, to the particular soil they occupy, than to any other. In this they may, in some instances, be mistaken, and may change their proceeding as they improve and enrich their soils, but in the main, their experience proves them to be correct.

Such being the fact in so narrow a compass as England and Scotland, with how much greater force will the like sub-division of occupation in our agriculture apply to the broad lands, and diversified soils of America. We have been slowly arriving at it in some particular districts, and the tendency of late years has been to extend the system of sub-division in agriculture still further; but it will not be profitably, nor completely done, so far as the breeding and growth of cattle are concerned, until we have thoroughly studied the best breeds to be established in our different climates, and on our different soils. Therefore it is of high importance to examine and determine which are really the best for our different uses; and knowing that, proceed to adopt them.

WHAT ARE OUR COMMON AMERICAN CATTLE?

It is no slander to say, that taken altogether, they are, comparatively, poor things. Brought into the country with its first emigrants, without selection, and as part of the goods and chattels of comparatively poor people, as the early emigrants were, and bred and reared for many generations after they were brought into the country, through poverty and hardship, nothing else than a very ordinary race of cattle could be expected to grow out of them. Yet these cattle answered the purpose, and were probably as good as the rest of the farming of the country. Some of the people, no doubt, improved their stock by good feeding, and a little selection in their breeding animals, but excepting in few and remote instances, until about the beginning of the present century by importations of better breeds from abroad, our native stock remained as they were, a low grade of animals, yet adapted by birth and usage to the extremes and vicissitudes of heat and cold, fullness and hunger, as the circumstances of their owners might govern; that is to say, the cow gave milk, the ox labored, and both made beef—after a fashion.

Things need be so no longer. We now know better. The best breeds of cattle for all purposes from abroad have been introduced among us. They are already made up to our hands in a perfection of physical conformity to their several uses, to such extent that we have nothing to add to them. The work is done, and we have only to select

and adopt them as our several wants may determine. Although we may not obtain them in such numbers, nor so cheaply as to stock our farms with those of *pure* breed, yet having the common stock of the country as a basis, we can obtain the better breeds in sufficient numbers to rapidly improve the old stock, and in the course of a few generations, to completely renovate and revolutionize the wretched unprofitable brutes over which we now spend our time, and waste our substance. It is of no use to argue the superiority of the improved breeds of foreign cattle over our own common things. That question has been settled in all intelligent minds, and the only one to which we need now address ourselves is

MODEL SHORT HORN.

WHAT BREED SHALL WE ADOPT.

That must depend upon circumstances. For a full understanding of this, we shall give a brief description of each; and in the course of that description, the particular properties of the breed will be shown, so that no one may be at a loss to adopt that which will prove both satisfactory and profitable to the condition of his farm and the uses for which they may be required. Rejecting the cattle of Continental Europe as unfitted for the immediate objects we have in view—judging from the specimens which have been brought among us—we take the best breeds of England and Scotland for our models, and will name only:

Short Horns, *Herefords*, and *Devons*, of ENGLAND

Ayrshires and *Galloways*, of SCOTLAND.

Alderneys, *Guernseys*, or *Jerseys*, (called by all these names) of the Channel Islands, dependencies of Britain.

These different breeds comprise all which have been brought into America, of any note, and embrace all which have any acknowledged excellence for economical purposes with us—or in Britain either, excepting the West Highland cattle, of Northern Scotland, which are simply a local breed, in districts where nothing else will thrive.

Each of these breeds have their own distinct history, given in different English publications, with their predominating qualities, the localities where they have long been kept, and where they have been for many generations past, and still are favorites, and where they are claimed to be the best possible breeds for the people who retain them. But as we are to apply them to *American* uses, with the limited experience they have had in this country, we shall consider them simply as adapted to our own soils, climates, and localities, so far as we can arrive at conclusions with any certainty, and leave our readers to adopt or discard them, as they may choose. First in order we will take

THE SHORT HORN.

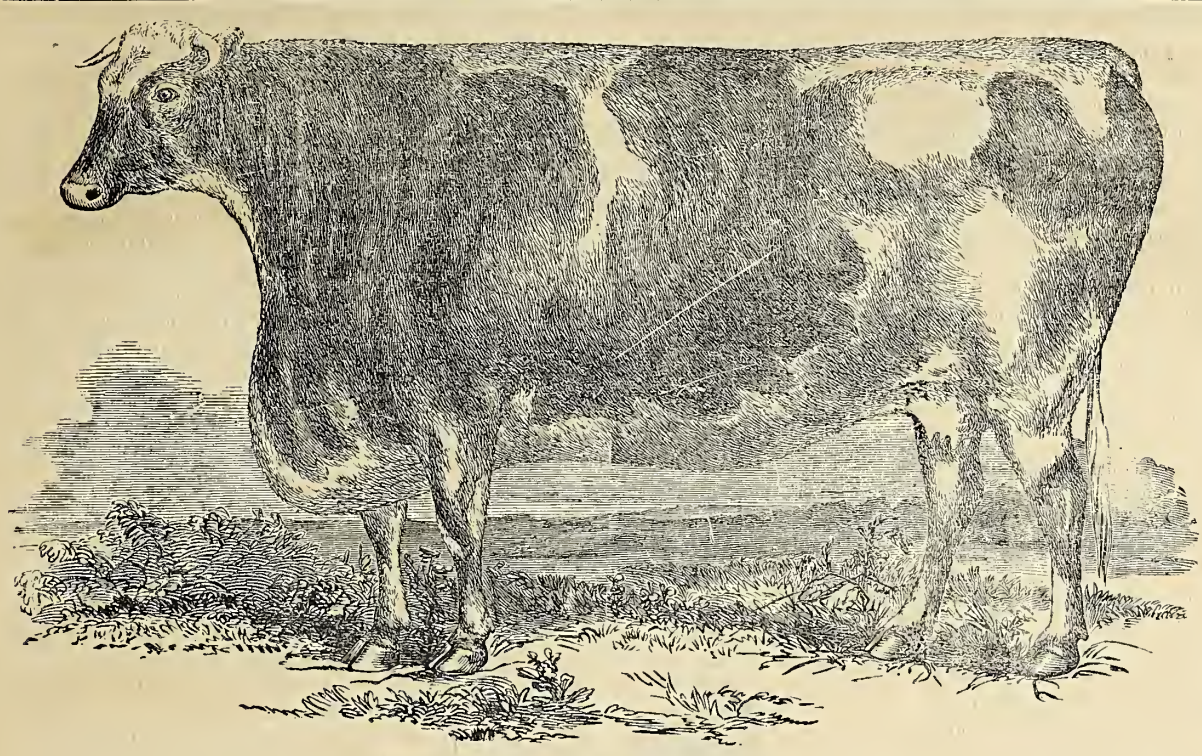
This animal, in its best estate in size, color and appearance, stands peerless among the bovine race. Its history, in England, dates back, by well authenticated testimony, to the fourteenth century. It was, undoubtedly, brought into the North-Eastern Counties of England at a much earlier date—probably before the Norman conquest—from the coast of the neighboring Continent, where a class of cattle retaining many of the prominent characters of the race are still known. What the condition and appearance of the breed were at that early period, it is impossible to say. No doubt they were rude and coarse, compared to what they now are, as were the people themselves, and all their agriculture, of which we have any account. But that these cattle possessed the elements of improvement such as to make, by a long course of care and attention, the magnificent specimens that are now familiar to us, there can be no doubt.

That they are a *pure* breed of cattle, there can be little question. They exhibit characteristics such as no other breed of British cattle possess, and which have never been produced by any sort of admixture of other known breeds. Quacks, and pretenders in cattle history have undertaken to say—and so have written it—that the Short Horns are a *compound* breed, or an artificial race, got up by crossing one breed into another of a widely different kind; but the fact has not been proved, and no other authority than *conjecture* has been given on which to base such opinion. Such as they were originally, (gradually improved by a long course of careful breeding and better practices in feeding and shelter, down to a century ago), we first hear any extended written accounts of them in the North-Eastern Counties of York, Durham and Northumberland, where they had arrived at a high degree of perfection, as yet in the hands of a limited number of breeders. In the latter part of the last century their merits had become so conspicuous in the region where they most abounded that, in the hands of a few of their enterprising breeders, who sent some of the finest specimens over the neighboring counties as a show, they began to attract attention in different parts of the kingdom, and were soon sought by enterprising cattle breeders. They have since been widely and rapidly disseminated throughout not only England, the better agricultural portions of Scotland and Ireland, but are making progress on the Continent, as well as in the British dependencies of Canada and Australia. We, too, have adopted them, to our manifest advantage, where they are probably, for all future time to remain, and become extended, as one of our choice varieties of profitable stock in all sections of the United States *wherever the soil and climate are suited for their production and development.*

As we are not writing a history, or a treatise on the Short Horns, even, but a popular examination of their merits we must refer our readers to the proper authorities for those particulars, and shall next speak of the particular merits and uses of the race. Of these, those who are familiar with, and breed them, need no extended remark; but as we address many who may be unlearned in the subject, we will note their appearance and the chief merits claimed for them.

DESCRIPTION OF SHORT HORNS.

In size they are the largest cattle known. Their shape, when in perfection of growth and condition, is long, round, and full. From the junction of the neck, with the shoulder, back to the tail, the body is nearly an oblong square with the angles rounded off, so complete are their proportions. The head is small, fine and symmetrical; the neck also fine, yet properly proportioned, and gracefully set, with a clean throat, and little or no dewlap; the chest full and round; the brisket low, and prominently projected forward, well covered with flesh; the shoulders wide, and set well forward; the back straight and level; the ribs round, deep and extending well back to the loin; the flanks full, and low; the hips broad, and level; the rump level also back to the tail, where they are wide; the tail on a level with the rump, fine and tapering to its extremity. To these it may be added that the bone throughout is very fine, and the legs no larger than to give sufficient strength and mus-



MODEL SHORT HORN.

cle to carry the carcase above them. In short, there is the least possible amount of "offal" in a *well bred and thoroughly developed Short Horn.*

OF COLORS,

Short Horns have but two—red and white. Occasionally, they are almost, and in rare instances, fully red. They are oftentimes purely white. But n most cases these two colors, either in patches, one or the other more or less prevailing by themselves in agreeable alternation, or mixed in deeper or lighter roans predominate, giving a beautiful and picturesque effect to the fine contour and imposing size of the animal. A "red roan" is the most fashionable, and the most desirable color of any other, and other points of quality being equal, will command the highest price.

For the gratification of such as would like to see a portrait of the best Short Horn bull in England, half a century ago, we present on the preceding page, that of the celebrated Comet, bred by Charles Colling, and sold by him for one thousand guineas—$5,000—then six years old, at his great and final sale of Short Horns in 1810. The cut we borrowed from the editor of the American Herd Book, in the third volume of which it is represented, and said to be a capital likeness.

At the time of Comet, the Short Horns had been bred up to the highest point of perfection then arrived at in England. They may have been improved somewhat, by a few breeders, since; but as a breed, they have not declined in *good hands*, and in the aggregate, the standard, at this day, is no doubt improved over that of the mass of English Short Horns at the commencement of the present century.

SHORT HORNS AS BEEF.

The two chief merits claimed by the advocates of the Short Horns, are for the production of *beef* and *milk*. Their superiority for beef is claimed in their rapid growth, early maturity, and aptitude for taking on flesh at any age. In these qualities they are not over-rated, let the merits of other breeds be what they may; even in these particulars, the Short Horn, in his rapid preparation for the shambles, has no superior. At three years, to four, in age, with good feed, the steer has arrived at his most profitable condition for market; and although he will grow and improve until his sixth, or even seventh year, taking on flesh to the extreme of obesity, his profitable age is attained at four years. Even at two years they make surprising returns in beef, when the common stock of the country are made up of nothing but bone and muscle, and can not be brought to a profitable carcase of flesh until five or six years of age; and then at far less weight than the Short Horn, to say nothing of the inferior quality of meat, and the larger proportional quantity of offal in the native beast.

SHORT HORNS AS MILKERS.

As a milk, and dairy producing cow, *properly bred, and educated for that object*, the Short Horn has no superior. In England, before they were in so great demand as of late years for breeding and feeding purposes, her feats at the pail were triumphantly set forth by her breeders; but of late years, so much more profitable have been her returns for breeding purposes alone, that the milking quality has been measurably neglected for the greater benefit of obtaining a better calf in the sacrifice of a large portion of her milk. That is to say: If the cow is milked to her utmost capacity in quantity, and time in yielding it, it must be to a considerable extent at the expense of the growth and development of the fœtus, or embryo calf within her: she can not do two things in the best possible manner at one and the same time—give a great yield of milk, and produce the best developed calf together. One or the other must suffer, as the best breeders consider, and the calf being of most consequence, the milk is sacrificed. There are good physiological reasons for this opinion which might be given; but as we are not discussing the science of breeding, it need not now be dwelt upon. But, that the Short Horn has the natural capacity, and when reared and managed for that object, the tendency to produce milk equal to any other breed whatever, there can be no question. Numerous recorded instances in this country as in England, attest that fact. The several volumes of the American Herd Book may be referred to where Short Horn cows have produced thirty to even forty quarts per day, for weeks together, of the richest milk, making a corresponding weight of butter.

In longevity, continuous breeding to an advanced age, and a final profitable termination of her career at the shambles, the Short Horn cow has no superior, and few equals. The bulls are remarkable—when properly treated—for the continuance of their virility, although their American breeders and owners, by a forced growth and pampered condition, while in their prime, in a mistaken estimate of their fine appearance as to condition, too often destroy them as stock getters, at an early age.

We give above a portrait of the cow "Dutchess, by Daisy Bull," bred in the year 1803, by Charles Colling, afterwards the property of the late Mr. Bates, the celebrated Short Horn breeder, of Durham, England, taken also from the third volume of the American Herd Book.

This cow was seven years old when her portrait was taken, just after being dried off from milking; and although in ordinary condition, she presents many of the finest points of a well developed Short Horn cow.

AS A WORKING OX,

the merits of the Short Horn have been questioned by many of those who have used them, compared with the best of our native, or common cattle and those of some other breeds. For continuous and severe labor, our own opinion is that they are *not* equal to some others. We have tried the thorough bred Short Horn for laboring purposes, and although they proved tractable and patient, and did their work satisfactorily, their figure as a breed is not so well adapted to the yoke and the draught as that of a leaner race. Their shoulders are too straight, and too open to bear well against the yoke. They are too slow in action, too heavy in gait, and too short winded for the activity required in the best working cattle. Yet, these deficiencies are disputed by the extreme Short Horn advocates, who give prominent instances of their excellence in the yoke at various labors; but the physical conformation of the animal we think settles the question, when compared with the best working oxen of some other breeds. This quality, however, we consider unimportant in those sections of the country best fitted for the rearing of Short Horns. Oxen are little used in them at all for laboring purposes, and when required, only for such slow movement as a Short Horn can easily encounter in the occasional service for which he is needed. This comparative unfitness for labor, therefore, coupled with the fact that his labor is little in demand where he is most reared, detracts but slightly from his value when measured by the possession of his other superior qualities which we have considered.

We shall continue (in *shorter* articles) further remarks on Short Horns; also descriptions and illustrations of the Herefords, Devons, and the other prominent breeds named above.

The Boy's Tool Chest.

We have known many an excellent mechanic made just from the fact that in boyhood they learned the use of a few joiner's tools. A boy if he be not utterly stupid, takes to using a hammer, and driving a nail as soon as his right hand can lift the one or the left hand hold the other. And as they grow older nothing engages their attention, or fixes their thoughts, when wanting recreation, like pottering about some-thing-or-other, with a saw, a hammer, some nails, and a gimlet. No matter what they make—whether it be a martin or a wren box, a rat-trap, or a hen-coop; it is all the same, so that they make *something*, amuse themselves, and learn the use of tools. In fact, we consider a well furnished tool chest for boys, of as much consequence, and as profitable an investment as we do a set of school books; and a boy, who, at the age of fifteen years, cannot make a good substantial dry good's box to pack his traps in, why—that boy's education has been neglected. We do not confine these remarks to Farmers' boys alone, they apply to everybody's boys—city, village, and country. Nor, where there is a gardener, or farmer, should the little garden tools be omitted. The boys should have the best of tools—and fitted to their own size and strength. We have seen many a bright, ambitious boy driven out of the garden, the field, and the meadow, because he could make no headway with a miserable cast off tool given him, which no one else would use, but "it was good enough for a boy!" We consider it an outrage, as well as injustice of the grossest kind to turn a boy out to labor with a poor tool. If you hire a man, and expect him to do anything, he has got to have *good* tools, and if a man of any spirit, he will not work without them. And so with boys; they should be taught that *their* labor is worth something, and nothing will so readily convince them of the fact, as to furnish them with the best of tools, such as they are.

This is an important subject, although many men and parents do not heed it. Boys are simply miniature men, and their little yearnings and tastes require equal gratification, for they are far more innocent, and easily supplied than those of most men. We have had some experience in this. We have known boys who had a little office or workshop of their own, well furnished with tools, where they would spend their leisure hours, or vacation days from school, happy as need be, when others of like condition, excepting the workshop-men, racketing about the streets full of noise and mischief, or wasting their time in idleness. It needs but little guessing to decide which of these boys grow up the most thoughtful, useful man. A boy's workshop can be fitted up almost anywhere. It is not much used in Winter, the days being short, and the nights appropriated to reading, study, or social intercourse. Any small part of an outbuilding will answer the purpose. But it should be a "workshop" partitioned off by itself, and devoted exclusively to the boys' use, and be *their* property and nobody else's. It should be well lighted; a little workbench in it, a tool chest, nails and hooks upon the walls to hang tools and other things upon, not stowed away in the chest; and complete in all its little traps and furnishings. The whole affair costs but little—not half what a great many men spend in a freak of nonsense, and the boys are made happy. Then, furnish the shop with a little cheap timber, a few nails of various sizes, a paper of tacks, an oil stone to sharpen the tools, and they will soon learn to repair various little things about the house, and larger things about the farm, which in a short time, will save many a dollar paid for a professed mechanic, and at much greater inconvenience. The boy thus finds himself to be an important member of the family; he becomes self-reliant, and soon gains to himself, a character.

In all this we do not propose the workshop and the tools as imposed on the boys as a labor, or a task; but simply as a thing of amusement and recreation. They will take to it as readily as a duck to the water.

But few people we find have a definite idea of the *real* education of boys. Some think the book and the birch—and that all the time—the true method; while others, just the reverse, think boys will come up well enough of themselves. Our notion lies between the two: the book in its due season; the birch, when it is imperatively necessary—and that, not often; play, frolic, and amusement, at stated times, with no period of either, and the workshop where they can go at will, when not at study, and employ their hands and thoughts to some useful purpose, and let their life be as it may, they will surely find the skill so acquired, to be useful.

Blinks From a Lantern.

BY DIOGENES (REDIVIVUS).

In the olden time, when I was a younger man than now, with a lantern I sought diligently for a man among the Greeks. My success, on that occasion, was not remarkable, and the people were accustomed to find fault with me, and called me a cynic, and other hard names, because I did not see in them, all those beauties and excellencies which they thought they saw in themselves. But the public opinion of my character was egregiously wrong, for I was not to blame for seeing what my eyes, with the aid of my lantern, put before me. It could not be fairly expected that I should see with other people's eyes, and clothe them with all those extravagant colors, in which their self-love veiled their deformities. I did very little barking in my day, and if my words bit, teeth, and not words, were the dog's weapons; so that there was no propriety in calling me a cynic, or snappish cur.

I think my lantern might again be of service in the world, and I have concluded to relume its faded taper and go in search of a farmer. "A farmer!" all the wise *acres* will exclaim. "Pray, have we not farmers everywhere in the country? Are not four-fifths of the people of this mighty nation, farmers? and very good ones, too, the backbone and sinews of the country, the intelligent yeomanry.?" That is just what I want to ascertain. If the country is so full of them, a few blinks from my lantern will only make their good deeds shine so that the world can take knowledge of them. If farmers are rather scarce, or nowhere to be found, it is time we waked up to the fact. I shall only report what I see with my own eyes amid the cracks and crannies, where sunlight does not always shine with sufficient distinctness. If the sights I see are painful for the sensibilities of people, they can easily remove the objects of their disgust, and so be rid of the annoyance. I shall be very careful to keep out of all quarrels myself, and if my readers come to blows with the ghosts and bobgoblins, that the lantern scares up, I shall not hold myself responsible for the bad temper, or broken bones that ensue—And first, I will throw the light of my lantern upon

THE LEAKS OF THE FARM.

"Leaks!" exclaim the gentlemen of leisure, who amuse themselves upon the farm, and are better acquainted with rhetor*ick* than with *ricks* and their contents" Leaks pertain to ships, and other vessels. Farms do not leak. "Leeks!" exclaim gentlemen of the old school, who have read Moses more faithfully than Liebig." Leeks pertained to the Agriculture of Egypt, but are now a discarded crop. "Leaks!" exclaim the disciples of John Johnson. "What do you want better than leaks. The whole farm ought to be a leaky vessel, with tile drain four feet below the surface to carry of the drippings."

With all due deference to the men of literature and of science, and with suitable veneration for the gentlemen of the old school, who still remain in the Egyptian darkness of the old skinning method of husbandry, I, Diogenes, assert that there are leaks in the farm, that ought to be stopped With your permission, Mr. Amateur, I will look over your premises with my lantern, and show you some of the leaks.

Here is a fine house, to be sure, Italian style beautiful lawn, well grown evergreens, nice graveled walks, and carriage drives, an assortment of the best fruits, and a garden that the gods might envy. Diogenes has nothing to say against all these things, if a man is able to own them and take care of them. In a poor man's hands, they would be leaky perhaps. Let us look at the barn, where those beautiful black horses are kept. I do not need a lantern to detect the smell of ammonia, that is constantly steaming up from the stable floors—the floor is indeed cleaned every day, but nothing is put on to save this constant waste. Plaster is cheap, and muck is cheaper; either, would stop a constant leak in your stable. This ammonia is injurious both to the lungs and eyes of the horses, and the dosings to which they are subjected by the disciple of Dr. Dadd, might all be saved, if you would use plaster plentifully. Thus, the stopping of one leak, would stop another, and give your horses much better health.

But when the manure is removed, I see that you throw it out under the eaves in the yard, where it is drenched by the water, evaporated by the sun, and blown away by the winds. The rain induces rapid fermentation, and the manure is very soon fire-fanged, and depreciated in value. You are losing at least twenty dollars per annum on these horses alone by these small leaks. The arangements for your cows and oxen are no better, and there is a dead loss to you, in the single item of manure, of over a hundred dollars per annum. I am unable to say what the length of your purse is, Mr. Amateur, but this leak, where money is dropping out in dollars, eagles, and double eagles, is not beneath the attention of a rich man, if he means to keep his vessel afloat. It is the advice of Diogenes, that you pay less attention to his rhetorical figures, and more attention to your manure.

Put a cellar under your barn, and sheds around the yard, where muck and manure can be sheltered, and where you can exercise your skill in making composts There is a great leak in your establishment.

And now, my friend, that regards leaks as antiquated, let us look at *your* premises. Your house is very plain, and snug, and your barn altogether too narrow for your stock You boast of your economy, pay as you go, and have nothing but what you can afford It is a zero night, and

the blink of my lantern falls on your cattle, in the open field, under the lee of a stack yard. They shiver on the frozen earth, the bleak wind carrying off the heat, faster than they can generate it by the largest consumption of food they can make. Every muscle quivers, every bone shakes under the penetrating blast. And you, good easy man, are by your cheerful fire reading Moses and Solomon, and thanking God for protection from the inclement season. Does not Solomon say that "a righteous man regardeth the life of his beast." And yet you do not care a fig for Solomon in your treatment of your dumb cattle.

But this miserable custom is as wasteful as it is cruel. Hay is a part of the farmer's wealth, and it becomes him to use it, in the most economical manner. The cattle, fed under the open skies during the Winter, will consume full a third more than they would in a comfortable stable. Here, then, is a leak of ten or twelve dollars per annum for every animal so cruelly treated. Besides this, a large part of the manure is wasted, making nearly as much more to be added to the leaks of your farm. This, certainly, is not very thrifty, for a gentleman of the old school, who lives in a plain house, pays as he goes, and never has anything, but what he can afford! If you can afford to throw away twenty dollars of the profit, that every good farmer ought to make on a cow, you are a much richer man than you pass for. Diogenes cannot afford such prodigal waste.

He would recommend to you, and to all other extravagant farmers, to stop the leaks.

Poultry—The Chittagong Crossed with Dorkings—The Diseased Fowls of Rock Island, Ill.—Young Turkeys.

To the Editor of the American Agriculturist:

I was much pleased to find in the last number of your excellent paper several articles upon poultry. Farmers have been humbugged so much by different kinds of fowls, many of them worthless, that they do not give that attention that they should to this kind of stock which can, I think, be made more profitable than any other.

Having had much experience in the poultry line, I can not wholly agree with your Rhineheck correspondent. There are, as you know, several kinds of brown Shanghais, besides the black and the grey or more properly named Chittagong. Some of the brown Shanghais are good if carefully bred, but the Chittagong (grey Shanghais) I think the best *pure blooded* fowl for the farmers. I have known cocks of this kind to weigh ten lbs. at seven months old. Their flesh is much better than the other kinds; they are better layers (one hen of this breed layed 152 eggs in 155 days); their eggs are as large as the Shanghais; and they are smaller eaters than the common dunghill fowl.

Yet after all, I think a cross of the pure blooded Chittagong and the pure blooded White Dorkings (say the kind imported by Dr. Wight of Mass.) is the most profitable fowl for the farmer. The Dorkings being a very full breasted fowl supply a deficiency in the other kind, making a much better proportioned fowl and coming to maturity sooner, which renders them more profitable for marketing early chickens. The Dorkings being profuse layers do not injure the other breed by the cross.

With regard to the Rock Island chickens, I think they must have had access to salt. This will dry up the crop and prevent their eating. They droop, lose all strength in their legs, and finally die, if not cured. The best remedy for this that I know of, is boiled milk, sweetened, forced down their throats, this will soften the crop and restore life. E. D.

FROM ANOTHER CORRESPONDENT.

Jas. C. Jackson, of New-Castle Co., Del., writes: "Your Rock-Island correspondent may save his chickens by grinding his corn coarsely, or rather by breaking the kernels into only five or six pieces each. At least such is our experience. Two years since, we lost a large number of fowls by just such a disease as he describes, and we have since fed with the corn prepared as above, with good results."

ANOTHER.

A subscriber at Bridgeport, writes, that he had a fowl similarly affected to those at Rock-Island; and that a friend visiting with them, suggested that there was an extra coating upon the tongue which kept the chicken from eating. On examination this was found to be the case; the coating or skin was removed, and the chicken recovered immediately.

AND ANOTHER.

A young subscriber 15 years of age, residing at Davenport township, Iowa—just over the Mississippi river from Rock Island, Illinois—who says he has been chief of the poultry department since seven years of age, writes: I would recommend Rock Islander to mix black pepper (how much,) with corn meal and feed his chickens when they show signs of the disease he mentions. He may be obliged to force them to eat it, but once feeding greatly revives them, so that they will eat readily afterward. Always keep fine gravel for them to use, and a bed of ashes with a little lime in the coop for them to wallow in. Let the hen and chickens out about an hour every evening, after they once become habited to the coop, and you will find your chickens will do better for it. They should be fed fresh meat chopped up fine once or twice a week, or, which is as good, worms, which can be always found in the barn yard by spading up the ground. After they have attained the age of three weeks they should be turned out of their coop, at least one half of the day.

I have had among chickens a great deal of the disease referred to, and have found the above treatment to be the best remedy. I have sometimes wet my meal in a solution of Epsom salts and given it to them, which has a similar effect to the pepper; but not so good. You confine poultry so they cannot run at large, and they will soon show symptoms of the disease. I have often noticed in market stands where they keep those for sale which have been cooped up two or three weeks, that they contract disease and get very poor, although they have plenty of grain and drink; it is for want of gravel to use, in their coops, for when they have no gravel they lose all relish for food of any kind. DAVENPORT.

MORE OF THEM,

We have any quantity of other letters on the same topic, but beyond the above, first at hand, we cannot make room for more on this topic now, save for the one following.

To the Editor of the American Agriculturist:

The difficulties which have beset your Rock Island correspondent, in poultry raising, might probably be overcome, if he would feed his chickens for a few weeks with *sour milk*, with which he might mix wheat bread crumbs or wheat meal. *Raw* Indian meal is not suitable for chickens; it is a fruitful cause of pip and other diseases to which chickens are subject. Since its use was discontinued in this vicinity, far better success has attended the efforts of poultry-rearers. Indian meal, stirred up with water and *baked*, is by some considered tolerably good to crumb into sour milk, but not by any means as good as wheat meal.

We feed young turkeys, also, with sour milk, keeping the mother-turkey in a capacious coop until the grass is cut. This prevents the young brood from running in the wet grass and getting chilled. As soon as the grass is cut, they are of sufficient size to feed upon the grasshoppers, and the coop is dispensed with. We hatched, last Spring, forty-one turkeys, and lost only one—and that one would douhtless have survived until Thanksgiving week had she not had the misfortune to incur the ill-will of little Malice Aforethought, who cast at her one of those hard compliments so numerous in the GRANITE STATE.

Marlboro N. H., Jan. 4th, 1858.

What is the Matter with the Turkeys?

"We have seen very few really good turkeys this year," said we, the other day, to a large poultry dealer at the market. "What is the trouble?"

"Trouble enough. I've been scolding at the farmers for a month past, for bringing such lean, half-grown things to market at all; and all the answer I get out of them is, 'They are the best we have, and you must take these, or none.'"

On examination, we find the truth to be, that, as the last Spring was late, cold, and wet, the turkeys laid late, hatched few chickens, and during the wet Summer brought up a much less than the usual quantity of young. A turkey must get its growth, or nearly so, before it will take on flesh. The pullets are tolerably fat and plump, but less juicy and sweet than usual; but the gobblers are decidedly lean, dry, and *stringy*. They will not be really good till March, and must have good feeding for that. As grain is plenty and cheap, we advise our farmers who have many turkeys not now in proper condition, to winter them till they are really good; then bring them to market, and they will get a good price for them.

Don't feed them on raw corn, either, all the time. Give them a change—such as buckwheat, oats, and barley, if you have it; and then cook it thoroughly, with small potatoes—if you have them—carrots, beets, rutabagas, or parsnips, if the prices of the roots are cheap enough to afford it. A deal of flesh-making material is used up in masticating, through the operations of the crop, so much hard provender as is usually given to poultry, while cooking does all that severe work for them, and they feed much easier with such help. It is said, that charcoal aids the fattening process in turkeys, greatly. We have not tried it thoroughly, but have heard so many well authenticated facts related about it, that we are inclined to think it may be so.

We believe in Turkeys, decidedly—particularly on Thanksgiving, Christmas, and New Year's. We raise them, too, as good as any body, and a great deal better than some. Get a hen turkey fat in the Fall, and it costs no more to winter than it does a pullet chicken. They saunter about the place so meekly and modestly, while the gobblers strut and fume about so vociferously—just like some *men* we have seen.

A POOR ENDORSER.—A worthy but poor minister requested a loan of fifty dollars from the cashier of a bank; and in the note requesting the favor, he said that if the cashier would oblige him, he would "pay him in ten days, on the faith of Abraham." The cashier returned word that by rules of the bank, the endorser of a note must reside in the State

A Model Highway.

As a general fact, highways in this country are in the following condition: The road-track itself is indifferently made, and composed of the soft rich loam scraped up annually from the side gutters; deep ditches are left on one or both sides, making it difficult to turn out; a few trees are planted here and there, near the fences, but many of them have been badly gnawed by horses hitched to them, or thrown out of the perpendicular by all sorts of street-going animals rubbing against them; sheep, cows, and geese are roaming at large, or lying down in the carriage-way; hogs are rooting up the ground on every side, and preparing it to grow a fine crop of weeds, for the benefit of neighboring fields and gardens; and each one of these vagrant animals is looking out for every open gate, and every weak spot in the fences, to get into the gardens, door-yards, and cultivated fields, which adjoin the street. We need not fill out the picture more minutely—it is so familiar to everybody.

But we rejoice to say, that signs of a better state of things are beginning to appear. In some towns, the barbarous custom of street pasturing has been voted a nuisance, and been voted out; the carriage track is neatly rounded over in the center, and covered with gravel; a slope is made on each side, just sufficient to turn off the water, and is covered with a firm and smooth carpet of grass. Trees are planted abundantly by the roadside, and they are cared for, and they live and grow. The grass on the margin of the track almost rivals in luxuriance that of the neighboring fields, and both when growing and when newly mown, present a beautiful sight.

We honestly affirm, that *there are* such roads, and we hold them up as examples of a Model Highway—examples worthy of imitation.

A Simple Remedy for Barked Trees.

To the Editor of the American Agriculturist:

In the Fall and Winter of 1856, I was obliged to keep a couple of goats for the sake of their milk, for an infant. During my absence to the City one day in the Winter, the goats got loose and committed depredations in my garden, by stripping the bark from several young Apple and Pear trees, and through a broken paling found their way into a neighbor's garden, and subjected his Apple and Pear trees to the same treatment, gnawing the bark off as high as they could reach. I supposed of course, the trees were all killed, and concluded to experiment on those in my own garden. I procured several newspapers, cut them into convenient strips for handling, and covered them with good boiled flour paste, wrapping several thicknesses around the wounded parts of the trees, thus forming an artificial bark. My trees were covered with foliage during the Summer and Autumn, and I could not perceive any difference in them during the whole season. My neighbor did nothing with his. In the Spring and early part of Summer, they looked promising, but as soon as the extreme heat of Summer touched them, they were withered and completely dried up, with an abundance of shoots from the lower part of the trunk below the wounds. All the trees are about six years old, and were transplanted from the nursery about three years since. There were two young Elms on the front road that shared the same fate as my neighbor's trees. Can it be that the covering protected the circulation of the sap and answered the same purpose as the natural bark?

J. D. V.

Westchester Co. N. Y.

Fig. 1.

Ornamental Work for the Garden, Lawn, Buildings, &c.—No. II.

The readers of our last volume will recall some sketches and descriptions we then gave of ornamental structures for the Garden. We now propose to resume that subject, our sketches of Southern Vegetation, commenced in the January number, not being sufficiently complete at present for the engraver. The illustrations, at this time, are copied, with one exception, from our own grounds or those of our stated contributors. There is room for a great variety in such ornamental work, and what is of consequence to the multitude, every one can consult his own taste and *finances*. An old tree, a wall, the side of a house or other building, may be the ground-work for a display of the beautiful. A few seeds, roots or cuttings, will often furnish the poorest laborer with the means of embellishing his home, and making it to vie with the abode of wealth in attractiveness.

We give in fig. 1 a classical vase which stands on a terrace in our lawn. It is of cast iron, and is painted white to represent marble. It stands on a base of cut limestone, which rests on a foundation of quarry-stone laid below frost. For one or two Summers we filled it with soil and planted it with verbenas, petunias, periwinkle, &c., but found that they required almost daily watering to keep them from perishing; and even then they made a sorry appearance. At length, happening to meet with the trailing vine *Moneywort*, we found it, on trial, preferable for this purpose to all others within our knowledge. It resembles the common periwinkle, somewhat, though the leaves are more oval and a lighter green, and its flowers are yellow. It endures warm weather patiently, and it trails over the sides of a vase or rustic basket in a most beautiful manner.

We beg leave to add here a word or two in favor of such ornaments as vases, sun-dials and the like, for the pleasure-ground. All who have once seen them will bear testimony to the air of elegance and refinement which they confer upon a home scene. Many of these ornaments being made of cast-iron or terra-cotta, can now be had at a cheap rate. Embellishments of this kind, vases especially, should be set near the house; they are in keeping with the artificial forms of the architecture of the dwelling, and form a sort of connecting link between the house and the cultivated grounds about it. Mr. Downing says: "It is the architectural idea carried a little beyond the house, and shows that the same feeling of taste and embellishment reigns in both departments of the residence." Rustic work, whether baskets, vases, seats, &c., may be set in remoter parts of the premises.

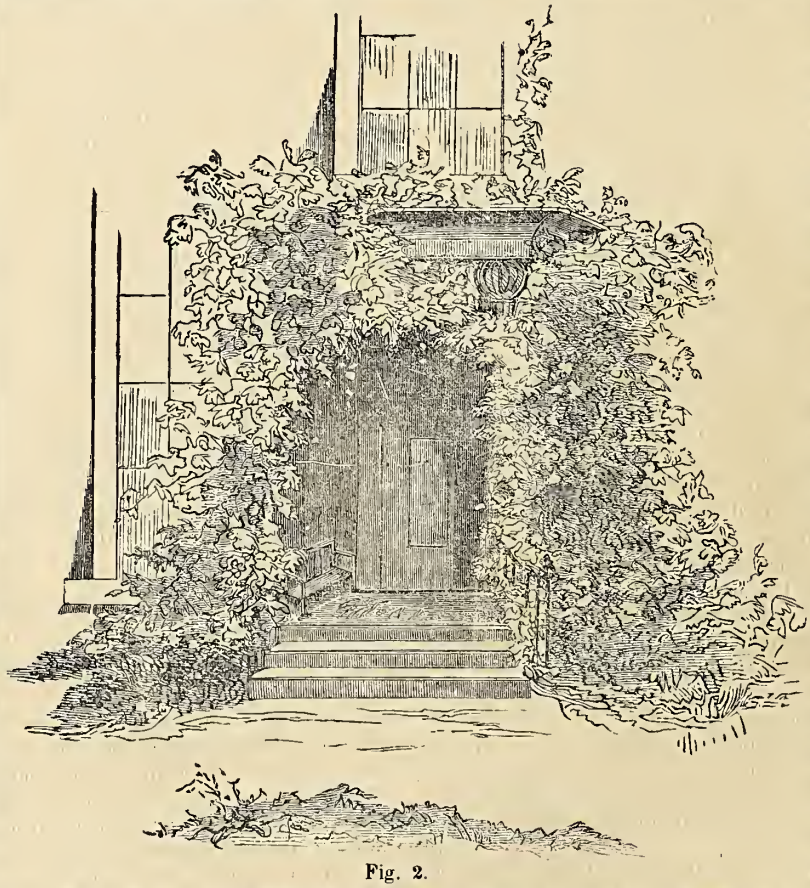


Fig. 2.

Sketch No. 2 represents the porch of Prof. Edward North's dwelling, in Clinton, N. Y.—The iron pillars and railing are completely covered with vines, and form beneath an impenetrable shade. The Chinese Wistaria, American Ivy, Clematis and Matrimony vine, all grow together in loving companionship. The Ivy begins to betray some ambitious propensities, and

is clambering up the wall of the house and around the second story windows. Taken altogether, this porch forms a very pleasing scene in Summer, and the arrangement of the vines is worthy of imitation

The sketch, fig. 3, is designed to show the pleasing effect produced by training vines over the verandahs and along the cornices of a dwelling. It is copied from the "wing" of the writer's house. The vine is the American Ivy, which, after covering one end of a piazza, spreads itself along the cornice of the wing, clinging to the brackets and eaves, and making itself as happy as it pleases. It shields the piazza from the mid-day sun, and hangs down gracefully in long festoons over the library windows. In the autumn, it is tinted with purple and scarlet, such as no pencil can imitate.

No architure is so perfect as not to receive an additional grace from flowering vines; and most private dwellings, it must be confessed, are so defective in proportion or finish, that they need a little drapery to hide their deformities.

Many an uncouth house, now naked as a barn, and only a little more attractive, would look quite home-like and pleasant, if it were only surrounded with trees and flowers, and festooned with vines.

We give the dimensions of our Summer House, (fig. 4 below,) and the materials of its construction, because it satisfies our own taste, and is generally admired by all who see it. It has eight sides, three of them open, the others latticed and covered with vines. The posts are of cedar, three inches by four, and eight feet high above ground. The sides are four feet wide. Height of the apex from the ground, twelve feet. Diameter of a circle sweeping within the posts, nine feet. There is a scalloped verge-board at the eaves, which is not represented in the cut. All the woodwork, except the posts, is of pine. The whole is planed and covered with three good coats of light drab-colored paint. On its different sides are painted grapevines, honeysuckles and running roses To make it a pleasant and healthful resort at all times, we excavated the soil within the house a foot and a half deep, filling in cobble stones at the bottom,

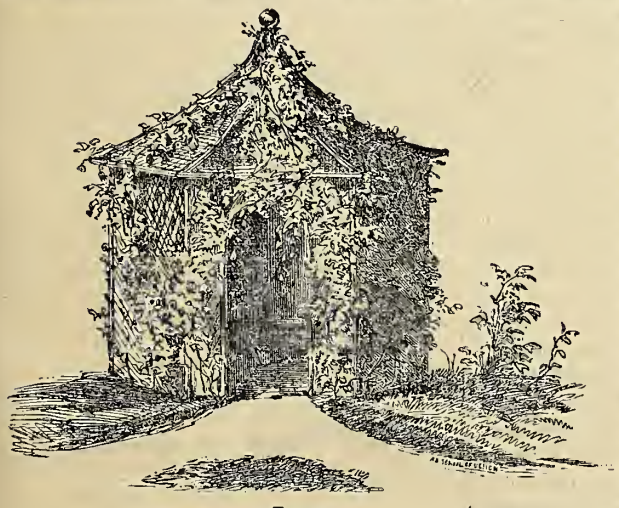


Fig. 4.

then putting on a layer of gravel, and finishing off with clean sand. This makes the ground always dry to the foot of lady or child. And we may here say that this summer house is a favorite resort of the family throughout the warm season. Many a book has been read, and many a children's tea party has been held, in its pleasant shade. The pencil of our lady friend, expert as it truly is, could not sketch the blushing roses, the purple grapes and the scarlet honeysuckle flowers, nor the snowy dresses and laughing faces with which every Summer adorns this lovely retreat May

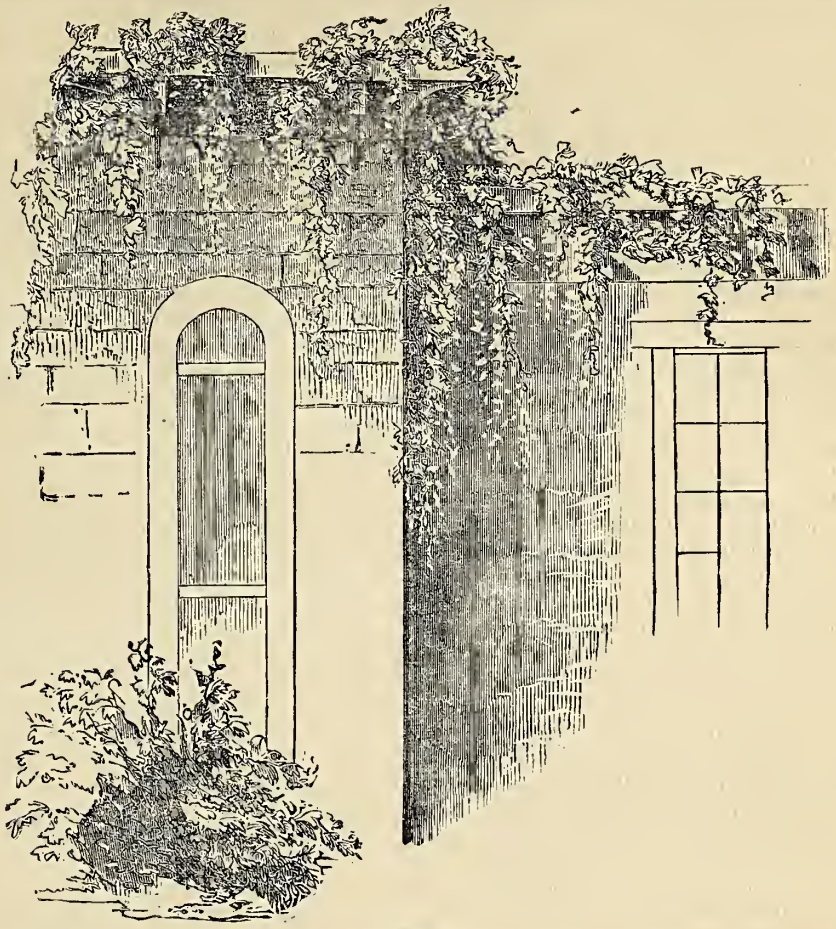


Fig. 3

some of our readers reproduce the like scenes within their own premises.

The Orchard—No. II.

APPLES—*Continued from Page* 19.

Thus, little regard can be paid to the books, or nursery catalogues in selections for the orchard about to be planted. The reputation of the fruits in the chief market where they are to be sold, and their aptitude to the soil and position where they are to grow, must better determine that point. In favor of this is another fact: the best fruit market at hand usually prefers the varieties which flourish in its own vicinity to those brought from a distance. Thus: Boston largely prefers the Baldwin, and Roxbury Russet; New York, the Newtown Pippin, and Esopus Spitzenburgh; Philadelphia, the Ramho, Vandervere, and some other choice varieties which flourish in its neighborhood; while the Rhode Island Greening grows almost everywhere in the Eastern States, and finds a market in all their cities. The Belmont is the best market apple of Northern Ohio, while the Cooper, the Yellow Bell-flower, and Rawles Janet, are popular in Cincinnati. So of other apple markets; each one has a different standard of excellence in its apples, and each favorite variety is usually grown in its own immediate neighborhood, or that section of country most accessible to it Therefore, we will say: *cultivate as your principal stock, that class of apples which are surely successful in your own soil, and popular in your nearest and best markets.*

The extensive orchardist will, unless the market is a large one, and near at hand, or easily accessible by steamboat or railroad, cultivate few except the late keeping varieties. Near large markets, the very early kinds, and a moderate supply of the Fall varieties may be grown. But, as their season quickly passes, they cannot be relied on for extensive sales, and the late keepers are those to which he should look for profit; and now, as to the

NUMBER OF VARIETIES.

Here is the great difficulty on which new beginners are apt to stumble. They have made up their minds upon a few of the best *market* fruits. They ascertain what are the most popular, and productive, and, consequently, profitable for their soil; and, being full of their subject, they talk with friends, and consult the books, and nursery catalogues. Every different man has a most "capital apple," of whose merits he can tell a long story, and our orchadist is forthwith convinced that he must, at least have a sample tree or two of this. Every fruit author he reads, names a "choice collection" which is "perfectly reliable." Indeed, so convinced is the neophyte that they are "not to be dispensed with" in an orchard of the magnitude he intends to plant, that he resolves to introduce them all "in a moderate way," and, before he is aware of it, he has fifty, or more varieties scattered over his grounds where he should have had but ten, at the most, and his labors are frittered away on a wide list of apples, which, when they come to produce, scarcely one half are worth the gathering; while, with not over half a dozen well chosen kinds, he could pick a crop from the start, establish a character for his orchard, and go on in perpetual and increasing success. No; the best two early; the best three Autumn; and the three, four or at farthest, five best Winter apples, extending in all their season, from the very earliest ripening, to the latest keepers, are all that he should plant and

care for. No matter how choice the variety, nor how high its reputation, if the fruit were not congenial to our soil, we would discard it at once, and adopt the varieties, and *those only* which were *sure* in their good quality, and steady bearing.

We have had our own share of experience in the matter.

Some years ago a pomologist or two about Rochester, N. Y. had discovered the "Northern Spy," a paragon among apples—long keepers, delicious in flavor, "best" of all. It was praised in the papers and periodicals, discussed in the conventions, pronounced "good" by the savans, and adopted by the authors. The fruit was, in fact, all that was said of it in the specimens produced. The tree, according to its friends, was a "great bearer," a "vigorous grower"—in short, it was the excellence of the apple family all combined. In an orchard of several hundreds of newly planted trees, so thoroughly were we convinced of its value, that we put out a hundred, or more of them; and although they have stood a dozen years by the side of the others, for every individual, decent, marketable Northern Spy apple that we have gathered, we have picked a score of Greenings, Baldwins, Spitzenhurghs, and Russets. Up to this date, our trees, time, land, and labor, have been thrown away on the famous "Spys," while the others have repaid our pains in all that we could ask or require. If they do not soon reform their manners, the vaunted Northern Spys will be headed down and re-grafted, (as we have already done with some other varieties,) with Greenings, and Russets.—sure bearers, and always saleable in market; and this is but a sample of the experience of others.

Another vital element of success in the orchard, is the

SELECTION OF STOCK.

Any one at all conversant with the habits of the different varieties of apples, knows there is a great difference in the growth and hardihood of the stocks on which they grow. This subject is not half enough considered by the orchardist. Let him go into a nursery where all the different varieties are growing in a good soil, each shading and protecting the other thickly in the rows, under good, and frequently forced cultivation, and he will at once suppose they are all alike thrifty, hardy, and promising. But such is only the fact while in the nursery. Some varieties are tender, slow of growth, and scarcely hardy when exposed in the orchard to the fierce heats and cold blasts which alternately shine upon and sweep over them. Other varieties are hardy under all circumstances—vigorous and stalwart. Others still, there are, which bend and writhe about, scarcely knowing which way to grow while young, and newly planted out without stakes, and propping.

These different habits are original properties of the wood itself, natural, organic, and only to be corrected, or overcome, by care and attention in its subsequent training. These different habits and appearances in the young orchard, come from the modern practice of the nurserymen in grafting their trees at the root, a much easier one than that of growing the natural seedling stock to its full or *branch* height, and then, working it with the variety to be put upon it. In this root-grafting process, the natural habit of the seedling is merged in the graft, and let the root, in itself, be as vigorous as it may, it is entirely controled by the growth, feeble, or vigorous as it may be, of whatever kind is worked upon it.

The result of this process of raising trees is, that, after ten or twelve years standing in the orchard, with equal care and cultivation, some trees are twice or thrice the size of others. Some are feeble and decaying, from their own innate weakness, or exposure to outside influences, while others are strong and vigorous as oaks, or maples. We think it will be proved, *as a rule*, that fruits of high quality are usually more refined and delicate in their wood, than those of coarser and harsher taste; that the common seedling is usually hardier in its stock than the highly cultivated "graft;" and therefore, that the common seedling, reared up to a size fit for transplanting into the orchard, and then grafted branch high, or at the point where its limbs diverge into the branching top, is better as stock than those which are root-grafted, with the wood of the choicer kind for the stem, instead of the natural, or seedling one. Thus, why have we no modern orchard of "worked" varieties which compare in size, and vigor at their prime, to the grand, stalwart old orchard of a century, or a century and a half ago, when root-grafting was unknown, or, if known, unpractised? We can point to the remains of old orchards, and to individual trees of the best varieties of apple, which are two feet in diameter, and upwards, near the ground; but they are grafted, as their huge connecting circles will show, several feet above the ground, at, or beyond the branching point of their limbs. The *new* wood of the finer varieties stood above the adverse influences which were prone to injure the naked trunk, were it of the same kind, and its spreading limbs and shadowy leaves shaded its own wood above, and kept it sound and vigorous, while the hardier wood of the wildling fed it with abundance of sap and prolonged its life many years later than if only supported by its own less vigorous stock. We think there is sound physiological reason in this, to which the orchardist who cultivates any kind of fruit must give his assent. The nurserymen may ignore the fact, it is true, for it is against their practice in all, and their interest in propagating many varieties, while other varieties are as hardy as any seedlings, and may be root grafted as successfully as to grow the seedling stock itself. For instance, the Rhode Island Greening, and the Roxbury Russet, though crookedly inclined from the root, and many others which naturally grow erect, are both hardy and vigorous; while the Newtown Pippin, Esopus Spitzenhurgh, and various others, are comparatively puny and tender in the stock when worked from the root, and planted in the orchard. Such we beleive to be incontrovertible facts, and although the books say nothing of the subject, they should be well considered by the orchardist who is about to invest, not only his money in the first instance, but his land, and a large share of his future time as a permanent capital in the pursuit.

Taking, therefore, our own choice in the planting of an orchard, in every case where the varieties we sought to propagate were not of a decidedly robust and vigorous growth in the stock, we would resort to the natural stock grown in the nursery to full size for planting, then plant it in the orchard, and when well established in the soil, proceed to graft it with the desired variety. In this way, we believe an orchard will last double the time, than under the present practice of planting indiscriminately, from root grafted nursery trees. The extra cost of this proccdure will pay in the first two or three years of hearing, and in the long run, its advantages will prove incalculable

Nothing is more common than to see a young orchard, be it ever so well cared for, within a dozen years after planting, with more or less trees decaying, or dead, from the causes above named. These must be replaced, or the land is measurably lost, and then the orchard goes on halting, and imperfect. We have seen them side by side; the seedling transplanted out without grafting at all, the other of the finest varieties of root worked stocks. The seedling was vigorous and healthy, while with equal or perhaps better care, the root grafts were imperfect and unequal. There can be no doubt in our own mind of the *organic* difficulty in the latter.

THE SIZE AND CULTURE OF THE ORCHARD

This may be indefinite. It may depend upon the extent of available land which can be devoted to it, the ability in means of the proprietor, the demands of the market, and the facilities of reaching it. It may be as well to set down to begin with, that the orchard of itself, provided justice be done to the trees, can be devoted to very little profit for other crops. Field crops, particularly hoed ones, may be grown to advantage for a few years at first; but the trees must be mainly looked after, even while the cultivated crops are growing. The trees must be avoided by the plow, and the harrow, the wagon, and the cart. The crops must be *hoed* crops solely, and low crops at that; such as beans, potatoes, and other roots, and vines.

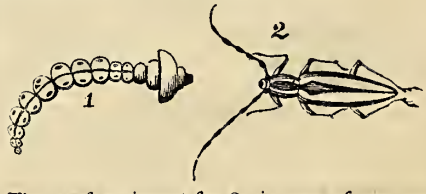
Indian corn, the cereal grains, and the grasses are to be excluded in its best cultivation. Buckwheat is the only grain that may be permitted. That crop may be beneficial, as it may be sown as late as July, with a fresh plowing of the ground, which will help the trees in their Summer growth, while the plant, being mostly fed by the atmosphere and rains, draws less nutriment from the earth than other grains. Or, the land may be plowed two or three times in the course of the season for the benefit of the trees alone, if suitable crops cannot be profitably grown among them. At all events, the orchard itself should be first, and last, the chief object of attention. [*To be continued.*]

The Apple Tree Borer. (*Saperda Bivittata*)

A PRACTICAL FRUIT-GROWER'S SUGGESTIONS.

To the Editor of the American Agriculturist:

This destructive insect is one of the greatest drawbacks on the fruit culture of Pennsylvania. Its stealthy habits are such, that it requires the greatest care to enable one to check its progress, which could nevertheless be accomplished, if a simultaneous effort were made by all the fruit growers in a large district. Such an undertaking, by diminishing its emigration from neighboring farms, would materially prevent its injurious effects; and if the proper attention was paid to the subject all over the country, its final destruction would be more than probable.



The perfect insect fig. 2, is one of our most beautiful beetles, with two white, and three light-brown longitudinal stripes on its upper side; in length it is about ¾ of an inch. The larvæ (or grub) of this insect fig 1, is what injures our fruit trees. The eggs are deposited by the perfect insect close to the ground, about the latter part of June or beginning of July, during the night, and the grass around the trees protects the eggs from being found by the birds. In a very few days, the sun hatches the young larvæ, which soon work their way into the trunk, where they can be discovered by the

plugs of woody fibers ejected through the hole.

In the second year, the insect assumes its perfect form, leaving the trunk during the night, about the latter part of May or beginning of June, when it goes forth to lay eggs for a new generation.

The nocturnal habits of this insect, make it the more difficult for the common farmer or orchadist to secure that full acquaintance with it, which is necessary to he ahle to stop its ravages. The only sure way to destroy these insects, is to attack them in the larvæ state. During Summer, they must be hunted up, and cut out with a gouge, so thoroughly that none remain.

To guard orchards from further depredations, procure thick hardware paper and cover the trunk to the hight of one foot above the ground, and one or two inches helow it. Young orchards protected in this way, can he kept clear of this troublesome and destructive pest. The paper covers must be renewed annually, and no later than the beginning of May. This can be hest accomplished by removing the earth from the trunk with a garden trowel, and winding the paper and tying it close to the trunk to prevent the beetle from getting behind it. If the paper be coated with tar, as far as it is in contact with the ground, so much the better. After the paper is thus applied, the ground ought to be leveled around the trunk. If the perfect insect deposites its eggs on this paper they will dry up when hatched, for want of nourishment, since the larvæ live on the soft bark of the tree first, while young, and on the soft wood when older. Should they be capahle of locomotion at this stage, they must go ahove the paper to enter the tree—which I have not found to be the case in three years' close ohservation—or starve ; and should any enter ahove the paper unprotected by the grass, the birds would soon devour them. In case any escaped from them, the eye of the careful fruit-grower, would detect them at a glance in passing the trees, when with a knife the mischief could soon be remedied, and the trifling wound would soon heal over again.

With these paper covers, I protected a young orchard for the last three years. With a single exception only, not a borer gained foothold, and he secreted himself under the straw band by which the tree was secured to a stake three or four feet from the ground, where the fruit-grower should frequently look during Summer.

If any one considers all this too much trouhle, he ought to make up his mind not to eat fruit of his own growing in a comparatively short time.

J. S. Keller.

Orwigsburg, Schuylkill. Co. Pa.
Dec. 15. 1857.

REMARKS.

We commend the ahove plan to the attention of fruit-growers, as Mr. Keller is not the only one who has tried the paper wrappers with success. We have often recommended another mode of destruction. Like most night flying insects, the parent beetles are either attracted or dazzled by a strong light, and if torches or bonfires are kindled in the evenings during the month of June, large numbers of these and other hurtful insects will dy into the flames, and he destroyed. An excellent plan is to suspend a lantern over a vessel of soapsuds. The insects, striking the glass in their flight are precipitated into the water below, the soapy nature of which prevents their climbing up the sides

The united action of a neighborhood would soon make inroads upon the swarms of insects, not excepting the curculio, which are a serious drawback to the success of the fruit-grower, and materially dampen the ardor of the amateur.

Pruning Peach Trees.

To the Editor of the American Agriculturist :

I found some stunted and neglected peach trees, in a lot I purchased, standing in old sod, which, after turning over the sod around them, I boldly topped in the Fall—cutting away nearly all the old limbs, as I had seen recommended in your paper. Some said I had spoiled or killed my trees. Last Summer I had a crop of good peaches on these trees, and now they all have fine thrifty branches, while my neighbor's trees just over the fence look scrawny and black, and they bore fruit about the size of a hickory nut.

I advised him to serve his trees as I did mine, but he, good soul, don't believe that the vigorous pruning, with a loosened soil and slight manuring alone worked the wonder, but thinks I did something more to them which I chose to keep a secret ! He is *afraid* to prune his trees—and so are many others; who, in consequence, have short lived trees and poor fruit. I am now satisfied that the peach tree must be boldly pruned, and suppose it may be done just *now* as well as at any time. One season's fruit may be lost by it, but you will then have renewed young trees in place of the old and unprofitable ones.

E. F. Zevely.

Cumberland, Md Dec. 30.

Investigations upon certain Fruit Tree Insects.

BY A. O. MOORE, NEW YORK.

To the Editor of the American Agriculturist :

My request in the December *Agriculturist* that any of your readers who had seen the Bark-louse, similar to the one there described, upon other trees than the Pear, should send me specimens, has called forth responses both numerous and interesting, from which I have derived more information on this subject of my investigations than I have been able to ohtain from all my entomological books and acquaintances.

Specimens of the Pear, Apple, Currant, American Mountain Ash and Elm, have heen sent to me, upon all of which the same variety of Bark-louse, was found. I think that upon the Pear there is generally a larger developement of the insect, though upon some young tender growths of other trees it reached the full size.

As many of the letters accompanying specimens, contain items of general interest, I cannot do better than to make some extracts.

Letter No. 1.—From James Meyers, Norwood, Columbia Co., Penn., Dec. 1st. 1857. "....About the first of June last, I discovered that some of my apple trees planted last Spring a year, were literally covered with this insect. I repeatedly washed them with soapsuds. This destroyed the insects upon all the trees but one, which for want of a sufficient supply of roots when planted, has been of slow growth. My attention being directed to the subject, I found that notwithstanding the repeated washings with soapsuds, this backward tree was again covered with the Bark-louse...."

Note.—Mr. Meyers finds an increased liahility to the attacks of this insect where the tree is of feeble growth This tendency has been often noticed with almost all insects. A thrifty growth is a great security against such depredators, first by rendering the juices of the tree less accessible or less palatahle to the insect, and secondly, by the power which the plant then possesses to repair any damage it may have sustained.

Letter No. 2.—Jacob Hewes, Leiperville, Delaware Co, Penn., 12 mo. 3, 1857. "....enclose an apple twig, with the hark-louse upon it, taken from one of my neighbor's trees. My remedy is soapsuds with a gill of spirits of turpentine to a hucketful, applied with a hand scrub which I find effectual...."

Letter No. 3.—Mr. Elim L. Johnson, Durham, Ct., Dec. 7th, 1857. "....I discovered some four weeks ago, four of my pear trees white specks almost completely covering them from the ground to the tips of the limbs. Rubbing the stem of the tree with the hack of my pruning knife produced a beautiful red color on the hlade. I concluded of course it was something that had life, and could not do the trees any good. (I take three agricultural papers hut have neve, seen anything written on the subject hefore.) I applied very strong soapsuds with a coarse woollen cloth, rubbing very smartly for several minutes on each tree. I am in the habit of washing my fruit trees in this manner each year about the first of October. Most of the trees are growing very finely, but those that have the louse upon them have grown very little during the past season. The affected trees were in good cultivated ground. Two were the Bartlett and two the Flemish Beauty. Other trees growing close to the affected ones have none of the bark-lice upon them. I have 110 apple trees, set out four years ago, which are all entirely free from this insect. Last Spring I procured four Baldwin apple trees from a Flushing nursery; they have been carefully cultivated through the Summer, yet these four are all badly effected by the bark-louse...."

Note. We may get a hint from Mr. Johnson's experience to watch carefully all importations into our grounds to see that no tree affected by this pest, is allowed to pass unnoticed ; indeed, except in very rare cases, every tree should be excluded which has a single louse upon it Nursery men, for their own credit, and the good of their customers, should examine their trees, and free them from these and like insects hefore they are sold. This is a point too often, in the hurry of the season, neglected. Mr. Johnson also states an important fact noticed by myself, that other trees growing near the affected ones are not attacked. In other cases, however, the introduction of a single leprous tree in an orchard, causes a contagion which reaches every tree. Entomologists state that the female of this insect is wingless, though the male is possessed of four wings. If this is the case it is an interesting inquiry, how do these insects spread from tree to tree. Their minute size would almost preclude the idea of their crawling upon the ground from one tree to another.

Letter No. 4.—Lewis C. Francis, Springfield. Illinois, Dec. 8th, 1857. "....Enclosed you will find specimens of the same insect on *apple* branches, and no mistake. Your description of them is the only full, and complete one I have ever seen. I was in the dark with regard to them for a number of years and examined every fruit book I could find to know what they were, but could find nothing said about them, and indeed, I have yet to see the first fruit book in which they are even mentioned. The hooks describe the woolly aphis, and I tried for a long while to make myself believe that these were they, hut I could not see any *wool* about them. The hooks also describe the scaly hark-louse, of the same species hut a different insect I finally procured Dr. Harris' work, and in it I found a short description of them We have on one farm, three orchards, two of which are very much affected with this insect, the third is perfectly free and we intend keeping it so...."

Note. Mr. Francis' experience in trying to find information on this insect is like that of many others. Our commonest insects are many of them yet undescribed. Success and speedy hands to those who, like Dr. Harris, and Dr. Fitch, are engaged in enlightening us on the subject of destructive insects. I could wish that Mr. Johnson had sought and communicated the reason why two of his orchards are affected and one not.

Letter No. 5. Jacob Stauffer, Mount Joy, Penn. Dec. 8. 1857. "....I find a species on my apple tree shoots of obovate form, of a pearly white color, and of a papery consistency, covering ten or more oval eggs. Aug. 15th. while examining the larvæ of the *Procris americana* on my Isabella grape, I noticed a beautiful species of the scale insect (another species of the coccus) and made a drawing of it which I will copy. It is of a regular oval form of a pearly white color, having an oblong, white, oval space centrally on the back, with radiating black square spots. I did not notice any anal bristles; it was of a smooth and polished exterior: *fig.* 1 and *fig.* 2 show upper and lower sides of the same insect...."

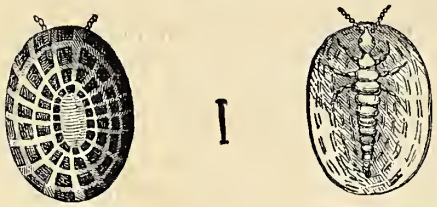


Fig. 1. Fig. 2.

Fig. 1—A species of Scale Louse found upon the grape vine. Upper side—magnified.

Fig. 2—Underside of same—the line between these figures shows the natural length of the insect. This species is not covered by a white scale. It is much larger than the bark-louse, shown in fig. 6.

Note. Mr. Stauffer has previously communicated to me very acceptable information upon other insects. His refreshing enthusiasm and skill in portraying with his pencil what his pen describes add much to the interest of his letters. I hope he will excuse the liberty I have taken with his drawings as I did not think of publishing them until too late to obtain his permission.

Letter No. 6 Wm. Hale, Peoria, Illinois, Dec. 12th, 1857. "....The enclosed apple twig is from a graft one year old—also strips of bark from two apple trees six or eight inches through, which have grown very thriftily until the last two years. I first discovered the bark-louse on a tree in front of my house, and it appeared to spread to most of the trees in my garden—about forty. If I had taken that tree in hand when first discovered I presume I might have stopped its ravages. I washed a part of the trees as far as I could reach with common whitewash. They have decidedly a more healthy appearance than those not washed. ....The longest strip of bark I send you, I take from *an Elm* on the side walk...."

Note. Mr. Hale could not, I am sure, have been aware of how much pleasure he was destined to give me when enclosing that bit of *Elm.* After a hasty examination when first received I consigned his letter and specimens to the breast pocket of my coat; so that it has accompanied me in my daily avocations for some three weeks. It was to-day taken out and added to my *pile* of twigs, branches, &c., for a final examination. (I believe the Editor still charges me with using the columns of the *Agriculturist* to obtain my winter's supply of fire-wood.) With a pocket lens I soon discovered among the mass of eggs a slight motion. I held my breath and steadied my hand for a better focus. True enough the warmth of my pocket had hatched some of the eggs. On its back, struggling among wilted eggs and fragments of various kinds lay something possessed of legs, at least. In a moment of ecstacy I uttered an exclamation. Alas! who would have thought the breath could have blown away that huge creature that, through the magnifying glass, looked as big as your *eye.* I had forgotten that a dozen might, in reality, have been put on the *dot* of your *i.* A long search followed. Scale after scale was carefully scraped off and examined with the lens. Heaps upon heaps of skins, scales, eggs; perfect Golgothas, were ransacked in vain, until the slip of Elm was nearly as clean as if it had received the washing of soapsuds advised. I acknowledge I was quite disconsolate. Perhaps my paternal feelings were somewhat touched, for did I not hatch them myself?

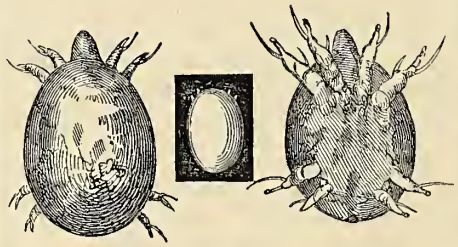


Fig. 3. Fig. 4. Fig. 5.

Fig. 3—An unknown parasite found alive among the eggs of the bark-louse. Jan. 3, 1858. Supposed to be the natural enemy of the bark-louse.

Fig. 4—An egg of the parasite.

Fig. 5—Underside of the same parasite.

These are very much magnified; they are barely discernable by the naked eye.

At last, however, I was again gladdened by the discovery of a slight movement as before. I kept my feelings virtuously under control until I had secured my prize and brought it under the more powerful lens of a "*Nachet*" microscope. My pencil soon made still more secure the possession of the main points of the investigation; and in *Fig.* 3 and *Fig.* 5 you have the portrait. I soon observed, however, the dissimilarity between the insect before me and the one described in the books as the *Coccus cryptogamus* (meaning the concealed Coccus.) The Cocci are of the true insects which have only *six* legs and here were plainly *eight* legs. Perhaps all your readers are not aware that Entomologists have denied us the right to call spiders and other *eight*-legged creatures, *insects.* But what am I to do with my discovery? Perhaps some of the learned ones will tell us. I found among the dark red eggs of the bark-louse a number of translucent *white* eggs, some of them seemed to be just acquiring rudiments of legs; (See *Fig.* 4.) others still larger with plainly discernable legs and reddish veins or spots upon the body, and the largest having assumed the red as the predominating color, while white spots were still to be seen I would therefore suggest that the creature here figured is not the enemy we are combating, but *a useful friend*—a species of the Acarus or Mite which lays its eggs among the Coccus' eggs that its young may feed upon them, and being more hardy, and hatching earlier these were brought to life by the warmth of my person, while the Coccus' eggs were dried up or remained unhatched. I shall be glad if Mr. Hale will forward to me at different times, between this and July next, portions of the affected Elm that I may continue the investigations. I could find no such eggs or Mites among the Cocci on other twigs sent. If the small twigs were removed now from the tree, they would wilt so as to prevent the proper development of the insects.

Mr. H. also mentions in his letter a worm which girdles his fruit trees, in a peculiar manner. I should like specimens of this insect and further descriptions of its manner of working under the bark.

Letter No. 9. Mr. L. J. Titus of Lambertville, N. J., sends a piece of a currant bush, attacked without and within by foes. Besides having this identical bark-louse upon its exterior, it has suffered from the Currant borer. The latter insect deserves a more extended notice than can be given. If Mr. Titus has branches with the insect still in them, will he not forward them to me for examination?

Hon. D. Russell, Portland, Ct., Jan. 14th, 1858. (after the above was partially in type) communicates interesting experience in regard to the same insect on his Apple trees. When the tree, through neglect, is past recovering but has a healthy *stump* Mr. Russell recommends cutting back to the healthy part and re-grafting.

A young Mountain Ash, among the last specimens received, presented a highly interesting instance of the complete covering of an apparently healthy tree, by the scales of this insect One can scarcely place the end of the finger upon any part of this tree which is unaffected.

To the numerous other contributors we return thanks and would exhort one and all to watch carefully the developement of this troublesome insect. *First*—Lest its increase be such as to place the remedy beyond their reach, for though it may be easily exterminated upon young and recently attacked trees, it is sometimes almost impossible to remove them from neglected ones. *Secondly*—That more information may be obtained concerning the history and habits of this insect as well as the success of the various means of destroying them. To show that the subject is by no means exhausted I would suggest the following additional points for inquiry.

Of what is the paper-like covering composed and how produced? Is it spun, like the Cocoon of the Caterpillar by spinarets at the oral or anal extremity, or, does it exude from other parts or pores of the body, like the down of the wooly aphis?

At what time in the insect's growth is its shell formed?

When are the young first hatched and what is their form, &c.?

How does the insect imbibe its nourishment?

What are its means of locomotion? In the stage in which I have observed it, it possesses neither legs nor wings.

What difference of form or habits between the male and female?

Does either possess wings at any period of growth?

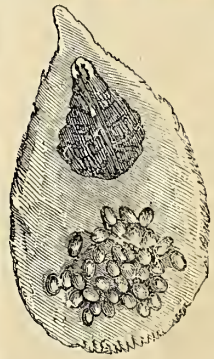
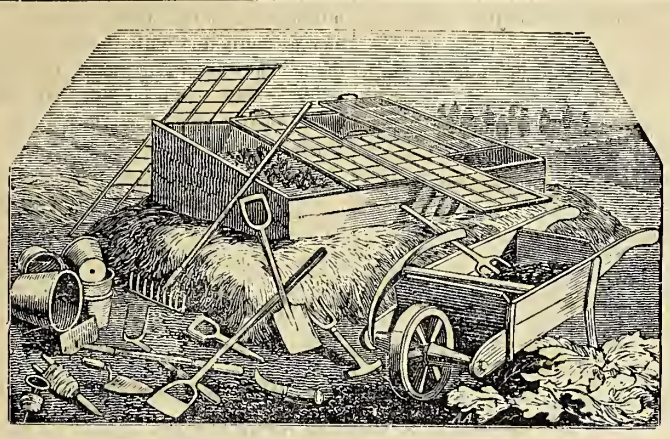


Fig. 6

Underside of one of the white *scales* usually found upon Fruit Trees.

Since making the drawing of the parent insect published in the December *Agriculturist*, I find that after the insect has deposited all its eggs, it contracts in length and is of the shape represented — very greatly magnified—in *Fig.* 6, which shows the under side of a "scale" with the body of the insect at the upper extremity, and the eggs heaped together at the lower.

I would further add that when this insect has been suffered to become very numerous, they may be scraped off with the least injury to young branches by a flat pine stick, cut thin and sharp at the edges. This scraping should be followed by the application of soapsuds.

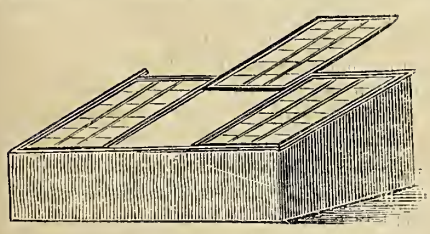


Hot Beds, and How to make them.

The present month is a suitable time to make early hot beds, especially at the South. For ordinary purposes, in this latitude and further North, the first or middle of March is early enough. Six or eight weeks from the time of sowing, ordinarily bring forward plants to a suitable size for transplanting, and it is well to make the bed about two months before the season will be likely to admit of putting plants into the open ground. Various plans are adopted, and various fermenting materials used in constructing these beds. Some prefer excavating the earth, and sinking the beds; others, build wholly on the surface. One uses spent tan, or dried leaves, to produce the requisite heat; another, selects coarse stable litter alone. If a gentle, long continued warmth, is desired, the leaves or tan are suitable materials; but, if an active heat is desired, stable litter, or litter mixed with leaves are necessary.

To meet the wants of the farmer or the young gardener constructing a hot-bed for the first time, we will be as explicit as brevity will admit. Every one has noticed the smoky steam rising from a heap of manure thrown from a horse stable. This is a *hot-bed*, but too violent in its action, and without the needed covering of earth for the roots of plants, or the frame to protect them from outside frosts.

In the upper part of the engraving above we have the manure taken to the garden as a more suitable place for the bed. There we have the heap of fermenting material upon which is placed a wooden frame, like the following cut. This is, say *twelve* feet long, more or less, *five* feet wide, *one* foot high in front, and *two* feet upon the back. This frame is best made of pine planks, one-and a half or two inches thick. Where two planks in height are used, they should be grooved together, to prevent any escape of heat between them. The



side pieces may either slip down between upright cleats upon the end pieces, or be hooked or bolted to them so that the whole may be taken apart and stored away when not in use.

The bed may be as long as desired, placing several frames together if one is not sufficient. The ends should be the thickness of the sash higher than the sides, with one half rabbeted out for the sash to fit closely in and slide upon.

Cross pieces should be fitted between each two sashes, and rabbetted out like the ends, to allow each sash to slide up and down independently of the others.

The sides of the frame should be bevelled off so that the sash will fit closely, and every precaution used to retain the heat given out by the fermenting heap beneath.

The sashes are usually made by sash makers, with a strong outer frame and middle rails running lengthwise only, that the water may run off freely.

Where glazed coverings cannot easily be obtained, oiled cotton cloth may be tacked to frames which slide up and down, like the sash. Or a cover for the whole bed may be hung by means of hinges upon the upper side. The cloth covering is only to be used where glass is procured with difficulty.

THE BED.

Choose a dry situation, sheltered upon the North by evergreens, or buildings, or by a tight fence. Make the bed *upon the surface*, running East and West, and about one foot larger each way than the frame which is to be set upon it.

The smoking heap of horse manure is our most convenient material, although, if dry forest leaves are at hand they may be mixed in, using one-third leaves to two-thirds manure. If the manure is *strawy* no matter, and if it has heated once before, it will ferment again. Make into a heap about four feet high, shaking it over with the fork and beating, but not treading it down as you proceed. Level it off and put on the frame and sash, fronting the South, and leave for a week to settle and generate heat

After six or eight days the mass will be in an active state of fermentation, shown in part by the rank steam arising, and by the coating of moisture on the glass. This is a proper time to cover with earth, leveling if necessary. Dry, rich loam, saved under cover for the purpose, is the best, but good garden soil will answer, only be sure it is dry. Five or six inches of soil is a medium thickness for this covering. Rake it over finely, leaving the surface smooth and level. Put on the box and sash, and examine the earth daily, and when a moderate, uniform temperature is shown, which is usually in two or three days, the seeds may be put in.

If the heat at any time appears too great, raise the upper part of the sashes for a few inches, that the external air may cool it. If the warmth is not sufficient, bank up the sides and ends with fermenting manure, which will tend to heat the whole mass. During very cold or snowy weather cover the whole with straw, or mats, or boards, and shovel away the snow as soon as the storm is over.

After the plants show themselves, a moderate airing should be given the bed each day, unless the weather is freezing. During very mild weather the sashes may be slid entirely off, closing at an early hour in the afternoon. Especially do plants need this airing after they have thrown out the second and third leaves, and are nearly ready to transplant. A neglect of a single hot day will often scald and seriously injure them. Previous to transplanting give the bed a good watering to to make the earth adhere to the roots. Water at other times as needed, or the sashes may be left off during a warm rain.

Some More Pumpkins.

To the Editor of the American Agriculturist.

* * * But I must tell you about a *Mammoth Pumpkin* raised by one of our neighbors up here. The seed was sent to him by one of his relatives in France. He planted some of them in what was formerly the bed of an old pig pen. From one seed he raised *four hundred pounds* of pumpkins; the smallest weighing 75 pounds, and the largest, 150 pounds. This may seem nothing to you, but I tell you it looks big up here, in this corner of the world.

W. F. J.

REDDING, Fairfield Co., Conn.

The Pea Nut—*Arachis hypogœa.*

To the Editor of the American Agriculturist:

This nut is a native of South America. It was formerly used, in the West Indies, as a food for negroes, and is now raised for exportation, as it is particularly useful to the frequenters of the theatre, opera, and such places.

The plant is an annual; its flowers are of the pea kind, and their color is yellow. The petals of the flower fall off and an oval pod appears, "which is pushed into the ground by a natural motion of the stalk, and there it is matured. Thus it seems that the idea that the nuts are the *roots* of the plant is erroneous; they are the *seed*. One bushel of them will make a gallon of oil, which is excellent for soap." J. H. T

Cambridgeport, Mass.

Note.—The pea nut is shown above as growing in a pot. We believe it is seldom or never cultivated in this way—certainly not, except as a matter of curiosity. The vines usually run close along the ground, from which the seed stems shoot down into the soil as here shown, but not so far below the surface as those represented in the engraving.—ED.]

Notes from the Green and Hot Houses.

A NEW DEPARTMENT.

We commence with this number, to give current notes of valuable old and new plants, as we find them growing from month to month in the best *American* Green and Hot Houses. Notices of this kind are quite too frequently taken direct from foreign works, and therefore not specially useful here. We hope to thus supply a want for a long time felt by American Horticulturists and amateurs.

By the way, we invite Horticulturists generally to assist in sustaining a vigorous horticultural department in the *Agriculturist*. With a circulation unequalled by any similar periodical in the country, and with ample room in our pages, we think this journal may well be adopted as a medium for the interchange of opinions, experiences, queries, &c., among persons interested in Horticulture generally.

GREEN HOUSE PLANTS.

ACACIA *pubescens*—

The Acacias are a beautiful and very extensive tribe of plants, natives of Australia, where they are scattered over the whole country in great variety. There are more than a hundred distinct species now known, some of them large trees from fifty to a hundred feet high, while most of them are shrubs growing from four and five, to ten or twenty feet in hight, and are all quite ornamental. The genus is represented in South America and other parts of the world by the "Mimosas" which all bear compound leaves. The peculiarity of the New-Holland Acacias, is that of being Aphyllous; the dilated, foliaceous footstalk performing the functions of the true compound leaf. The great number of species of Acacia having this remarkable economy in Australia, forms one of the most striking peculiarities of its vegetation. Many valuable additions have been made to our collections of this genus, within the past few years. Several of these, from their dwarf habit, can be grown to perfection in the smallest sized greenhouse.

"Acacia *pubescens*" has been long known, and is, perhaps, the finest of all those varieties capable of being grown to perfection in a moderate sized glass structure. This variety developes its true leaves. The habit of the plant is very graceful, with slender branches, inclined to weep. The foliage very fine and dense, of a pale green color; flowers of a pale lemon color, produced in immense masses on plants a few years old. With a few exceptions the Acacia grows well in a rather strong loam; *pubescens*, however, especially when young, requires a light soil, enriched with good leaf mould, and well drained; it needs very careful watering during the Winter season, as the least over watering destroys the young roots, and the foliage becomes yellow and speedily falls off. It is one of the most difficult plants to recover when once brought into a sickly state by this means.

GREVILLEA *Tillermanii*—(*Tillerman's Grevillea*).

A handsome evergreen shrub of very neat habit. It is a "Protead," a family of plants remarkable for their curiously formed flowers, many of them very showy and among the best of Winter flowering plants. They are mostly natives of New-Holland, some, however, are found at the Cape of Good Hope and a few species only in South America, where they are found growing on the barren hills and wastes in great abundance. The subject of our notice is from New-Holland; it bears large clusters of bright red flowers in great abundance, which remain for two or three months. It is readily cultivated, requiring the ordinary treatment of hard wooded Green House plants.

GREVILLEA *Sternbergii*.

Another very beautiful "Protead," with white flowers, which are produced in immense clusters. The leaves are wedge shaped, of a dull green color. Very bushy and compact in habit. It is especially desirable on account of the few Winter flowering plants we have which produce pure *white* flowers in any abundance.

PENTAS *rosea*.

Very similar to the old and well known "Pentas *carnea*"—but in most respects superior, especially in the form and color of the flowers. It is a fine Summer bedding plant—although tender and requiring the warmest part of the Green House in Winter. It is from South America. It does not grow so straggling as *carnea*, and the trusses are more compact in form. Color rosy lavender. It is a good dwarf growing plant and will be desirable for massing in the flower garden. It is quite new, being only introduced here the past Summer.

STOVE OR HOT HOUSE PLANTS.

APHELANDRA *roi Leopold*—

We have now in flower this lovely plant, which is one of the very best of this class. The leaves are of a light velvet green, broadly veined and edged with silver white, very distinctly marked. It bears corymbs of bright canary colored flowers, which, with its splendid foliage, make a most suberb object. It is a tropical plant, requiring shade in the hot season and rather a moist atmosphere to grow it successfully. Soil, rich sandy loam, well drained.

APHELANDRIA *squarrosa citrina*.

This is another Acanthad, with more brilliant flowers than the above, but has not so handsome a foliage. It is, however, more hardy, and can be grown in the warm part of the Green house with careful treatment. The flowers are of a rich lemon color.

ESCHYNANTHUS *splendidus*

This is a new variety of the genus, recently introduced. It is of erect habit, and very showy. Each shoot is terminated by a large cluster of tubular flowers of orange and crimson. It is something like the well known "Eschynanthus *speciosus*," but much superior to that variety. The flowers are higher colored, and larger, and it produces them in greater abundance. We have now a number of distinct species of this genus, and although of tropical origin, they adapt themselves to the temperature of the Green house very readily. Most of them are semi-parasitical in habit, and can, if desired, be grown upon a block of wood with a little moss and fibrous peat attached, and suspended from the roof or wall of the hot house. In this way, they flower more freely in stove heat, than when grown in a pot.

ESCHYNANTHUS *Lobbianus*.

Another new species, with very dark red flowers, and grown to the best advantage suspended either in a pot or on a block of wood, the habit being drooping, and shoots rather slender. All these plants are of a succulent character, and to insure a profusion of bloom, should be kept rather dry after they have completed the season's growth, until the flower buds are formed, when moisture may be gradually increased. They grow freely in any well drained soil.

ROJIERA *cordata*.

This fine plant is half shrubby in habit, with dark green leaves, and bears large clusters of bright pink colored flowers, It is a very profuse bloomer and flowers throughout the Winter months It is allied to the "Rondoletias," or is merely a section of that beautiful tribe of plants, and is cultivated with the same facility. From the delicate nature of their roots, they require a light sandy loam, with a little leaf mold, and plenty of drainage.

ROJIERA *amæna*.

This is distinct from *cordata*—growing larger, foliage rough, hirsute, and of a reddish color. The color of the flowers is rosy lilac, produced in the same profusion, but later in the season than *cordata*. It is a neat and pretty plant, well worthy of cultivation.

Thinning and Pruning Woodlands.

To the owner of "woods," as they are usually called in the United States, the terms at our heading may appear strange and superfluous. A great many of our readers, who have scarcely got beyond the "cut and slash" habits of new settlers in heavily timbered lands, may wonder why anybody need talk of either thinning, or far worse, pruning his wood lot. To such we have little to say, other than while his wood is yet plenty, be sure and take good care of it. The time *may* come when you will mourn over the waste your own thoughtlessness had caused.

All through the best populated portions of the old States the land has been denuded of nearly or quite all the wood that should have been spared generations ago, with some exceptions. In the newer parts of these States and in considerable portions of the recently settled ones, the cutting and destroying process is yet at work with energetic intensity; and since the railway system has been so widely extended, the havoc among the trees has grown still more fast and furious. And scarce now, except in the wide prairie regions of the West, has any like a careful looking to, and preservation of the remaining forest lands attracted the attention to which they are entitled.

In most of the older States there are considerable tracts of land so broken and unfit for tillage or even pasturage uses that wood will grow on them more profitably than anything else, and have thus a self-protecting power of their own—no thanks to their owners. Yet there are thousands of farmers where wood, if not absolutely necessary for fuel—coal superseding it, both in economy and convenience—woodlands for other purposes are no less a necessity and convenience than they were a century ago. Wood and water, are choice gifts of nature, little appreciated where they abound, and only properly valued where there is want of both, or either has been stinted in the supply. Of late years our "wood-lots" have rapidly decreased. The multiplication of manufactories, and the extension of railways have fast denuded them, and many otherwise thoughtful landholders, and farmers have awaked to the conviction that they must husband those which remain with all possible care and economy, or lose absolutely valuable parts of their estates which they can never regain.

We are not about to read a homily to our farmers on the subject of preserving their forest lands, or wood-lots, which our remarks just written might seem to imply, but in this season of comparative leisure on the farm, advise them somewhat in regard to taking care of some pleasant little patch, or grove of woodland on their premises, or perchance some "slashing," the remains of a denuded piece of wood recently taken off where the young brush-wood and saplings have taken vigorous hold to renew it once more in shade and beauty. For many years we have watched sundry spots of the kind, both of our own and those of

others, and knowing the pertinacity with which, under neglect and even continuous destruction they still grow and thrive, we wish simply to hint that under a lenient and careful hand they will rapidly restore of themselves, the waste and slaughter that has been made upon them. We can point out scores, possibly hundreds of incipient groves lately sprung up in spots where the original forest was but recently cut away and the land devoted, after a thorough clearing, to farming purposes, but in a neglected corner postponed for a more convenient season—like some things of a much graver character—which are now covered with a thrifty, close growth of maples, beeches, oaks, elms, hickories, lindens, pines and hemlocks, stretching far above the unsightly stumps below them, which only need the discriminating aid of the ax and hatchet, to make them, in a few years to come, the most ornamental, attractive, and valuable places on the whole farm, and still they are neglected, or occasionally, with a recklessness to us wholly unaccountable, are reslashed, piled and burned over with a savage satisfaction wholly incomprehensible to one of any taste, or regard, even for the future value of the estate which contains them. We would gladly arrest such waste, and give a little of our experience to their owners, as well as instruct others who would fondly train up their own little spots of brushwood into groves of future beauty and utility.

Young woods, protected from the depredations of cattle and sheep, grow, on natural soils, with a thrift surprising to those who have not watched them. For a few years, until they have reached eight or ten feet in hight, they should not be disturbed—no matter how thick they may grow. They thus get firmly rooted in the soil. The stronger and more thrifty among them take a character of their own, and acquire a hardihood which will send them on, when cared for, with wonderfully increased vigor—and such is the time for the owner to enter among them for thinning and pruning. If they be full of old decaying stumps, and tree-tops no matter. They are all the better for the young growth. We have tried it for many years past, and know how the young roots nestle and run under the decayed remains of the old wood. Winter is the best season for selecting the sturdiest and thriftiest, and plying the ax to the remainder. Even now we are at a "job" of the kind, and nothing gives us a heartier, more grateful pleasure than to look at our day's work after it is done, and see the beautiful young saplings as they stand apart out of each others way, soon to recommence their strife in shooting up into light and shadow, and covering the whole ground with a dense mass of shade as before. We have several of these little groves which, for near twenty years past, we have had in hand, and as often as once in four or five years gone through with our men, and thinned and pruned them. They were "brush" at first; now beautiful young groves and forests. We might imagine, on first looking at one of them, that nothing is easier than so thinning them out. It is not so. Let us see:

Deciduous woods, or those which are bare in Winter, are of numerous variety, and very miscellaneous in growth, and position. Evergreens are less so, particularly on upland; yet the deciduous varieties more or less intermix with them. Among them all, some varieties make better growth, or are more valuable as timber trees than others. When going into them for thinning purposes, it is important to know which you are to select to stand, and which to take out. In a wood for general purposes of utility, or for shade and ornament only, we would retain all the varieties which are useful and of rapid growth. At the first thinning, three, four, five or six feet apart is far enough, and generally close enough to have them, if not over six or eight feet high. Too much thinning lets in the sun, dries up the roots in Summer, and stunts them *The ground should always be kept shaded, after the leaves are out.* It will do no harm for a few years to let those which are cut away remain on the ground and decay, if you have no other use for them; or, they may be taken out altogether. The lower limbs of the remaining ones should be trimmed close to the bodies for three, four or five feet from the ground. At the second thinning, when twelve, or fifteen feet high, they may be thinned to six, eight or ten feet apart, depending on whether they are solely for woodland purposes or for ornament; at this thinning they should be trimmed up seven or eight feet. After this a third thinning may take place or not, according to the use intended to be made of the groves; but as their growth is now more rapid than ever, as the wood and shades become denser the lower limbs will die of themselves, being deprived of light and sun. Every top is struggling to throw itself upward into the sun above its fellow, and each may be left to its own mastery. Besides, every one is now of some value, when cut away, and the experienced eye of the proprietor should guard against the slightest waste, or destruction not absolutely necessary.

If you have "help" in thinning your young woods, be very cautious *who* you employ. A regular woodsman hates a tree as he does *civilization* of any kind. He regards wood, of whatever kind, as made only to be cut and burned. That is *his* idea of "improvement." Have no such man about you, in *such* a labor; but rather one who loves trees, and has a taste for them, and knows enough to destroy only the bad, and spare the good. You can soon tell by an hour or two's work which to choose for your labor. If you live where woods are not plenty, keep no wild cherries, slippery-elms, sassafras or hickories. The first thing you know, the two first will be peeled down the trunks for their bark; the next will be dug up for its roots; and the last, as soon as it gets to the size of your leg, some rascally prowler will saw or cut it down *in the night*, close to the roots, and take off three or four feet from the "butt" for an ax helve, and leave you to mourn over your beautiful little tree, while you might as well try to detect the identical hawk which has carried off your favorite chicken, as to detect the vagabond who did the mischief. The ax helves stolen from you have been trucked off, probably, at the first village grocery for a jug of whisky, and a plug or two of tobacco! We have grieved over so many of our darling and long cherished young hickories, elms and cherries, sacrificed to such vandal outrage that we have a thousand times wished in our hearts that not another one of either would grow on the farm! Even our white ashes, and white oaks are scarcely safe from depredation; but, as these are scarcely "ax helve" timber, they are safe; while spoke timber, and hoe handles are of less proportionate value, and usually made up by honest mechanics who get a living without pilfering.

Large Root Crops.—At the Royal Dublin Society's Winter Exhibition of Farm Produce held on the 26th of November last, some extraordinary specimens of Turnips, Mangold's and Sugar-Beets were exhibited, many of them being over 30 pounds each—and averaging from 60 to 80 tons per acre. The White Sugar Beet is becoming quite a general crop for Winter fodder.

A beautiful expression is that of the child, who defined ice—"Water gone to sleep."

Sea Sand as a Manure.

The value of this article as a dressing for land, has not been sufficiently tested in this country. In the West of England a calcareous sand from the shore is a good deal used by the farmers living near tide water, for mixing with their stable manure. It is dragged for in Plymouth harbor, in three to six fathoms of water, put into large scows or barges, and taken up the creeks and rivers where it is wanted for use. In Summer, the barges frequently run on the sand bank in White Sand Bay, at two hours before low water; when the tide leaves them, they load, waiting for the flood to bring them off. For arable land the sand is thought to be best mixed with old earth or manure collected in the roads, but for pasture, it is best mixed with stable muck. The proportion is two loads of muck to one of sand.

The sea teems with animal life, not only fishes, but animalculæ too small for observation. It is not improbable that the sand and mud taken from its waters are strongly charged with animal matter, and that this is one source of their fertilizing influence. Sand banks are not unfrequently thickly peopled with clams, quahogs, muscles, scollops, and other shell fish. Broken fragments of other shells, are intimately mingled with the sand, and form a considerable part of its bulk Both lime and animal matter must exist in these clam banks, to a considerable extent, and would form good material for the compost heap, or for top dressing clay, or muck lands.

A single instance of the use of sea sand, for dressing has come under our observation. A gentleman in one of our seaports had access to sand removed by a steam dredging machine from the harbor, for the purpose of deepening the channel. He carted several hundred loads upon a part of his garden, covering it two or three inches thick, and mixing it thoroughly with the soil. The result of the dressing was a great increase in its fertility. The yield of carrots, cabbage, squashes, and other vegetables, was enormous; and the pear trees, planted in this part of the garden, made wood very rapidly and produced the finest fruit.

Rice Culture in California.

The Stockton Republican announces that a number of Chinamen familiar with the culture of rice at home, have engaged to prepare lands for the culture of this cereal in that vicinity, and no doubt is expressed but it may be made a profitable branch of husbandry on the overflowed lands of that country.

Farmers of the Old School.—Adam was a farmer, while yet in Paradise, and after his fall was commanded to earn his bread by the sweat of his brow. Job, the honest, upright and patient, was a farmer, and his stern endurance has passed into a proverb. Socrates was a farmer, and yet wedded to his calling, the glory of his immortal philosophy. Cincinnatus, was a farmer, and one of the noblest of the Romans. Burns was a farmer, and the muse found him at the plow and filled his soul with poetry. Washington was a farmer, and retired from the highest earthly station to enjoy a quiet rural life, and present to the world a spectacle of human greatness. One of his sayings we keep as a standing motto at the head of this journal, where it has stood for the last *sixteen years.*

A Strange Animal.—A wealthy printer has been discovered in India. The British Zoological Society are making preparations to catch him

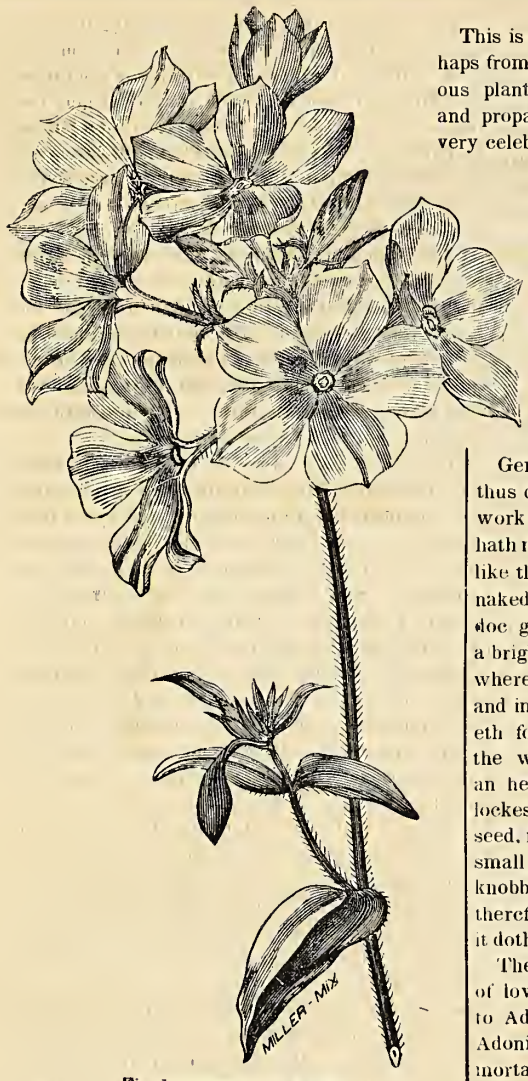


Fig. 1—DRUMMOND PHLOX.

Flower Garden.

DRUMMOND PHLOX.—*Phlox Drummondii.*

This beautiful flower is of American origin. We have put it in our seed distribution (No. 51.), and we are happy to be able to present our readers with the above engraving of it, as it appears in full bloom. (As the seed is scarce and somewhat expensive and many applications are made for it, those sending to us will not be disappointed on receiving but small parcels. A few seeds, however, will form a pretty plot, and yield an abundance of seed for another year).—The plants grow low, (about one foot high), and spreading, and when grown in masses few or none are more showy. From the same seed several varieties of color are produced,

Fig 2 —ANEMONE.

Sow in the open ground in this latitude at any time during May. Put in a good mellow soil, the seeds from six to twelve inches apart. If put six inches apart they will form a compact mass. Cover the seeds with about half an inch of soil. For a succession of bloom through the entire season, sow in Autumn in the Green or Hot House; start other seeds in the hot-bed in April, and sow in the open ground about the end of May. They are very fine for pot culture in the parlor or conservatory.

ANEMONE—See Fig. 2.

This is often called the "Wind-flower," perhaps from its slender waving stalk. It is a tuberous plant, or with roots like those of ginger, and propagated by division; perennial. It is very celebrated in many parts of Europe, but does not succeed so well here, though it has grown pretty well in some cool moist, but not very cold localities. The flowers are of various colors, and open early in Spring. Though very beautiful, we can not commend it highly for general cultivation, and we introduce the engraving mainly to give our readers an idea of the appearance of a flower, so often referred to by poets and other writers.

Gerarde, an ancient English cultivator thus describes the Anemone *pulsatilla*, in a work written more than 250 years ago. "It hath many small leaves, finely cut or jagged, like those of carrots, among which rise up naked stalkes, roughf, hairie, whereupon doe grow beautiful floures, bell-fashion, of a bright delaid purple color; in the bottom whereof groweth a tuft of yellow thrumbs, and in the middle of the thrumbs it thrusteth forth a small purple pointell. When the whole flower is passed, there succeedeth an head or knob, compact of many gray hairy lockes, and in the solid part of the knob lieth the seed, flat and heavy,—every seed having its own small haire hanging at it. The root is thicke and knobby, of a finger long, running right down, and therefore not unlike those of the Anemone, which it doth in all its other parts very notably resemble."

The poet Ovid relates that Venus, the goddess of love and beauty, formed a great attachment to Adonis, the son of Cinyras, King of Cypress. Adonis was fond of hunting, and received a mortal wound from the tusk of a wild boar. Venus lamented his death greatly, and changed the dying young man into the beautiful flower *Anemone*. The heathen poets had many fanciful notions as to the origin of beautiful plants.

NEMOPHILA—*maculata.*

This differs very little from the Nemophila *insignis* (No. 26 in our distribution list). They are both hardy annuals, originally wild flowers of California. The *maculata* is spotted instead of a uniform blue color. The flower stalks are single, and longer than the leaves. The *maculata* is a little larger than the *insignis*. It is a profuse bloomer, with deep violet dots near the tips of the corolla on a whitish ground color.

Fig 3—NEMOPHILA

Sow in May in one foot rows, seeds six inches apart; cover ¼ inch deep in good soil.

Fig. 4—GOLDEN BARTONIA—*Bartonia aurea*

This plant (No. 36 on our distributing list) is well represented above. As already stated, it is a very showy yellow flower from California, which has contributed so largely to our stock of flowers, shrubs and trees during the past few years. Dr. Lindley, speaks of it thus: "It is only beneath the bright sunshine that its splended flowers unfold. In the early morning the plant is a shabby bush, with pale greenish grey branches, and weedy leaves: and so metalic is the luster of the inside of its petals that one would really think they must be composed of something more solid and enduring than the delicate and perishing tissue of a flower."

Sow in May, in a sunny situation, but sheltered from winds, as the branches are easily broken. A moderately rich, moist soil, fine and mellow, is the best. Transplant, or thin out into two feet rows, with plants one foot apart in the row.

SNOW DROP—*Galanthus nivalis.*

The Snow Drop is one of the earliest flowers of Spring, and we hear that in some localities it has mistaken the present mild weather and with the crocus, is appearing above ground. It frequently opens its petals during March, as if to rival the lingering snow bank with its whiteness. It is propagated by dividing the bulbs, and planting in Autumn. Bulbs that have been kept in a cool situation may still be put in the ground where it can be worked although they will not give as fine a bloom as those planted in October or November.

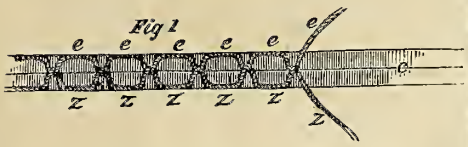
Fig. 5—SNOW DROP.

A GREAT QUESTION SOLVED.—"Where do all the pins go to?" This question, which has so long agitated the world, has at length been solved. It has been discovered that they fall to the earth, and become terra-pins!

IN DOOR WORK.

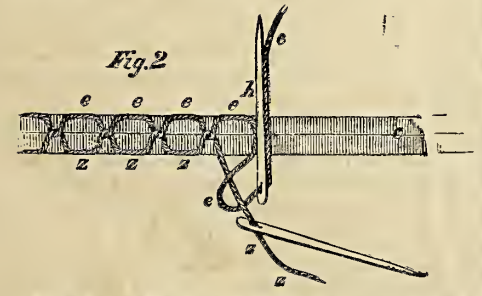
How Sewing is Done by Machinery.

We are happy to be able to present our readers with some illustrations which, with the accompanying descriptions, will answer the question "*How* can a Machine make Stitches?" We are aware that it is not a little difficult to describe the inside works of a Sewing Machine, without having the Machine itself and the reader directly before us, but we will do the best we can with the aid of some engravings for which we think our friends will give us a little credit, when we tell them that the drawings below are principally of *our own* designing. We preferred doing the work ourselves, to letting the manufacturers do it, for we feared the whole matter would be so familiar to them that they would not appreciate the minute details necessary to make the subject plain to the unskillful reader.



We commence with the stitch made by the Wheeler & Wilson Machine, as that appears to be the simplest, and most easily illustrated. Fig. 1, exhibits two pieces of cloth, *c*, placed together and partly sewed. A little examination will show that the upper thread *e*, *e*, *e*, is crossed in the center of the cloth by the lower thread *z*, *z*, *z*—in other words the two threads cross each other and are thus locked together. This was essentially the 'lock stitch' invented, and patented in 1846, by Mr. Howe (to whom we are indebted for the first practical application of machinery to common sewing; and are glad that, unlike most inventors, he is reaping a rich reward, for though he makes no machines himself, yet the principal manufacturers of the successful Sewing Machines all pay him a license fee on each machine sold. So those ladies who buy them will have the satisfaction of knowing that some of the purchase money at least goes to the inventor himself.)

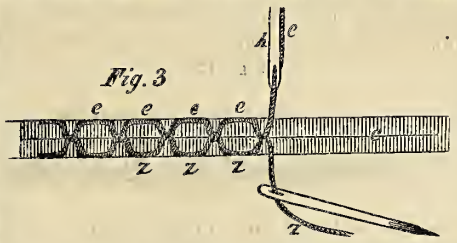
Fig. 2, is designed to illustrate how this stitch might be made by hand.



Here the needle, *h*, carrying the upper thread *e*, is thrust down through the cloth (the eye foremost) and partly drawn up again, thus forming a small loop of the upper thread. Through the loop thus made, a needle carrying the lower thread, *z*, is passed. (We are apparently sewing with the blunt end of the needle, but in practice we may suppose the *eye of the needle to be near the point*, which is the case in all Sewing Machine needles).

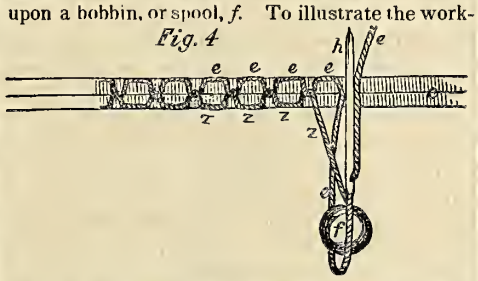
If we now withdraw the upper needle it will carry the lower thread into the center of the fabric, forming a complete lock stitch, as seen in Fig. 3

By continuing this process a series of stitches will be made; and since the upper thread enters and returns upward through the single needle hole, there will be upon the surface of the cloth a single line of thread exactly resembling ordinary "back stitching." We see also that the under-

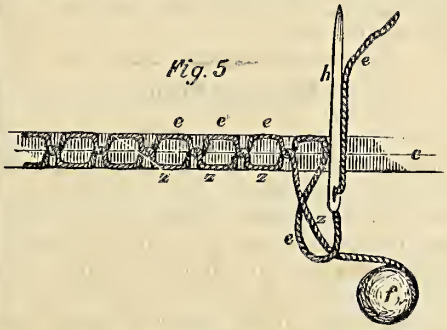


side of the cloth will present precisely the same appearance as the upper.

In the Machine invented by Mr. Howe, the upper needle was moved by machinery, and the lower thread was carried through the loop by means of a sbuttle having within it a bobbin (or spool) of thread. This arrangement is still used in heavy Machines for leather and other thick fabrics, and in some of the "family Machines" The Wheeler & Wilson Machine is an improvement upon the shuttle, in several respects. It makes precisely the same stitch, but with less complicated machinery and less waste of power. We will try to explain its working to the readers of the *American Agriculturist*. Referring to fig. 4, we see the needle and upper thread, *e*, thrust down, just as in fig. 2. But in fig. 4, the lower thread, *z*, is wound upon a bobbin, or spool, *f*. To illustrate the work-

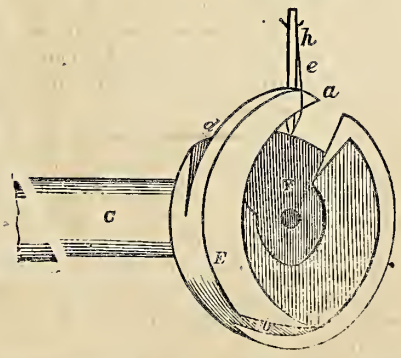


ing, we may suppose this bobbin passed into the loop between the needle *h*, and the upper thread *e*. In fig. 5, it is shown carried through. Here we



see that, on withdrawing the needle *h*, the upper thread will draw the lower one into the cloth, producing a lock-stitch in the centre of the fabric, precisely as in fig. 3.

By examining fig. 4 and fig. 5, it will be seen



that the same effect would have been produced, had the bobbin or spool, *f*, remained stationary, and the loop been carried around it—down the right side and up the left, around the lower thread. This end is, in effect, accomplished in the machine.

In fig. 6 we have a rotary hook, *E*, upon the end of the shaft *C*. Inside of this hook, in the concavity *Y*, is placed the bobbin, *F* (as seen in fig. 8.) The needle, *h*, coming down through the cloth, and being partly withdrawn, leaves a loop at *e*. The point of the revolving hook passes into the loop at *a*, opens it, and carries it around, spreading it as it moves forward, so as to throw it around the bobbin or spool within the hollow hook The bobbin *F* (fig. 8) has no axis passing through it, but is held in the concavity *Y*, by a ring (not represented) placed before it, so that it plays freely and allows a loop of thread to pass around on both sides, as around the small ball of thread in figs. 4 and 5.

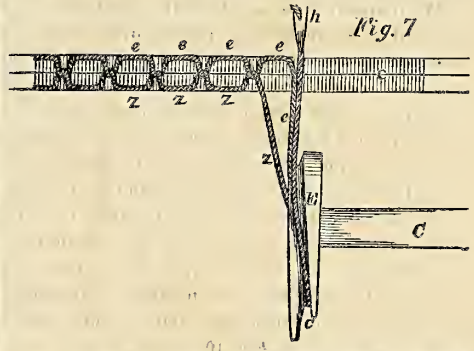
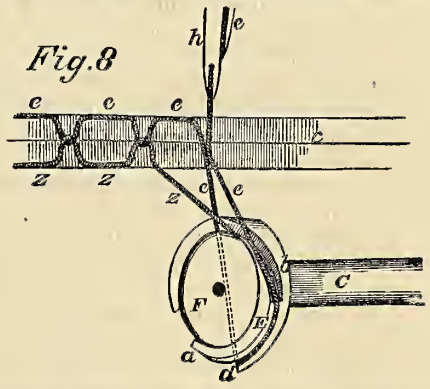


Fig. 7 gives a side view of the thread carried part way around. It will be noted that this wheel upon which the hook *a* (fig 6) is placed, is beveled at *E* in fig. 7, so as to throw the thread off from its edge after it has been partly wound around it The object of this, is to throw one part of the loop around the bobbin in order to embrace the lower thread.

The operation can be better understood in fig 8, by tracing the position of the upper thread *e*, *e*



and of the lower thread *z*, *z*. We observe that the loop having been first formed on the right side of the lower thread *z*, one part of it falls behind the bobbin *F*, (back of the dotted line,) while the other branch of it is caught by the hook, carried around, to be thrown off on the other side of the bobbin by means of the bevel or half screw at *b*.

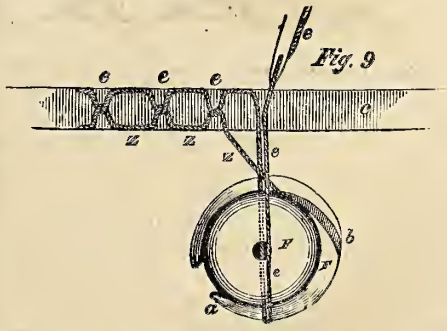


Fig. 9 gives a front view of the same. We here see the upper thread *e*, *e*, bent, or looped, com-

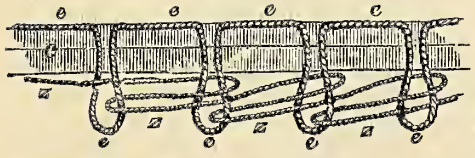
pletely around the lower thread *z*. A little further turning of the circular hook will throw the thread off from it, when, by the simultaneous tightening of the thread above, the lower thread embraced by it, will be drawn into the cloth and form a lock in the centre.

It is surprising to see with what rapidity these successive stitches can be made. A quick motion is communicated to the needle, circular hook, bobbin, &c., by turning a multyplying wheel, with a foot treadle. In ordinary work, eight hundred to a thousand stitches are easily made in one minute, and this, all day long; and there is scarcely a limit to the speed. (Think of that, ye who would see your wives, mothers, and daughters, continue bent over the hand needle, which can scarcely execute fifty stitches a minute, at best.)

We ommitted to say that the cloth is moved forward by a simple feed motion, making long or short stitches according to the will of the operator. An examination of the stitches will show that there is less thread used than is required in ordinary back-stitching, since in back-stitching, there is a double thread on part of each surface, while here, there is but one continuous thread.

We intended to further show, not only the kind of stitches, but also the mode of making them in the other varieties of machines, but we have not been able to complete the necessary drawings. We will, however, describe briefly the appearance

Fig. 10.



of the stitches in one or two of them.

In fig. 10, we have given, as nearly as we could, the form of the stitch made by the Grover and Baker machine, where the threads are purposely left loose, so that the course of each one can be traced. (It would be interesting, could we present at this time, drawings of the parts of the machine, by which the beautiful windings and interwindings of the threads is brought about.) A glance at the figure shows the course of the upper thread, *e*, *e*, *e*, and the lower one, *z*, *z*, *z*, the latter being smaller than the former.

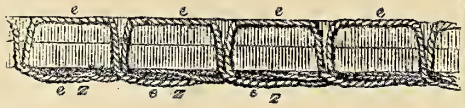
Suppose we begin at the left hand, and bend down the upper thread through the cloth, to make a loop *e*. Next bend a loop of *z* through the upright loop, and carry this last horizontal loop forward, so that the second loop through the cloth can be brought down through it. Then hold the second loop of the upper thread open until the second loop of the lower thread is thrust through it, and carried forward, to be entered by the third loop of the upper thread. Continuing this operation gives the arrangement in fig. 10.

Fig. 11.

Fig. 11 shows these stitches left *loosely*, as they appear when looking upon the *under* surface of the cloth. The loop, or horseshoe, terminates abruptly upon the left of each. At this point the two ends pierce the cloth, as seen in figure 10 above.

In the next illustration (fig 12) we have the appearance of the cloth after being sewed, with the stitches drawn up by the machine in actual work. The cuts of course show the stitches magnified. When they are made short and the threads are properly tightened, we can only see a small continuous cord running along the under side of the cloth. It will be observed then, that of the two machines described, one makes the stitches on both sides of the cloth alike, the other gives a continuous stitch on the upper

Fig. 12.



side like ordinary back-stitching, with a small cord upon the under side. The Grover and Baker stitch can be unraveled, with a little care in getting hold of the two threads used. We do not see how the Wheeler and Wilson stitch can be unraveled at all. But in practice, it is next to impossible to rip a seam of half an inch sewed by either machine, even if the cloth be cut up into sections of that length.

Fig. 13.

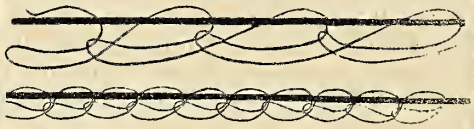


Fig. 13 illustrates the Tambour or chain stitch, made with a single thread. This is the kind used in the cheaper, or rather the lower priced machines. It will at once be seen that the stitch can be readily unraveled by taking hold of the thread at the left. There may be cases where sewing in this manner may be useful, but a glance at the stitch itself will show that it is not adapted to general sewing in a family.

Believing our readers to be deeply interested in this matter of sewing machines, we intend hereafter to present further illustrations, showing *how* the Grover and Baker stitches, represented in fig. 10, are made, and perhaps the same thing in regard to other machines. We shall be careful, however, not to let this matter trench so much upon our space hereafter, as to crowd out other departments of household labor which we have promised to discuss.

Selecting Flour.

The following directions for the selection of flour have been given by those long accustomed to dealing in this article. They are useful hints, though it requires some experience to select the best flour by the eye alone. We very seldom order home a barrel of flour until we have taken a baking from it and *tried* it, unless it be warranted by a reliable dealer of known good judgement.

The directions are: It must pack into a ball and not fall in powder, when a portion is pressed together in the hands. When a portion is thrown against a smooth *perpendicular* surface it must stick in a lump or at least not scatter in a fine powder. When a little of it is wet and kneaded, it should work dry and elastic, not soft and sticky. It should be of pure white, without a bluish tint. No minute black specks should be found on a close examination. A slight yellow or straw color is not a bad "sign."

Fond parent (to his son,)—"Yes, New-York is the place to get on in. Look at Jones; he started without a penny, and has lately failed for $150,000. Of course, that's an extreme case. I don't expect you to do so well as that. Still, with honesty and industry, I see no reason why you should not, in the course of a few years, fail for $50,000."

"Don't rub yourself," as the farmer said to the lawyer who called him hard names.

"I am so lame from the railroad crash of last week, I can hardly stand," said a limping, hobbling chap.—"Well, then, I hope you intend to sue for damages," said his friend.—"Damages! no, no; I have had damages enough by them, *if I sue for anything, it will be for repairs.*"

It was the saying of Sir Robert Peel, "I never knew a man to escape failure, in either body or mind, who worked seven days in the week."

Why are sheep the most dissipated and unfortunate of animals? Ans.—Because they gambol in their youth, frequent the turf, are very often blacklegs, and are universally fleeced.

Indemnity for the past—pay up. Security for the future—pay down.

A Little Girl in a Court of Justice.

Of the many excellent things written by our friend Samuel Hammond, formerly in the Albany Register and latterly in the Albany Express, we have read few narratives which have touched our own feelings more than the following, which recently appeared in the latter paper:

I witnessed a short time ago, in one of our higher courts, a beautiful illustration of the simplicity and power of truth. A little girl nine years of age, was offered as a witness against a prisoner who was on trial for a felony committed in her father's house. "Now, Emily," said the counsel for the prisoner, upon her being offered as a witness, "I desire to know if you understand the nature of an oath?" "I don't know what you mean," was the simple answer. "There, your Honor," said the counsel, addressing the court, "is anything further necessary to demonstrate the validity of an objection? This witness should be rejected. She does not comprehend the nature of an oath."

"Let us see," said the Judge. "Come here, my daughter." Assured by the kind tone and manner of the Judge, the child stepped toward him, and looked confidingly up in his face, with a calm, clear eye, and in a manner so artless and frank, that went strait to the heart. "Did you ever take an oath?" inquired the Judge. The little girl stepped back with a look of horror, and the red blood mantled in a blush all over her face and neck, as she answered, "no sir." She thought he intended to inquire if she had ever blasphemed.

"I do not mean that," said the Judge, who saw her mistake, "I mean were you ever a witness before." "No sir," I never was in court before," was the answer. He handed her the Bible open. "Do you know that book, my daughter? She looked at it and answered, "Yes sir, it is the Bible." "Do you ever read it?" he asked. "Yes sir, every evening." "Can you tell me what the Bible is," inquired the judge. "It is the word of the great God," she answered. "Well place your hand upon this Bible, and listen to what I say," and he repeated slowly and solemnly the oath usually administered to witnesses. "Now," said the Judge, "you have sworn as a witness, will you tell me what will befall you if you do not tell the truth?" "I shall be shut up in the State Prison," answered the child. "Anything else?" asked the Judge. "I shall never go to heaven," she replied.

"How do you know this?" asked the Judge again. The child took the Bible, and turning rapidly to the chapter containing the Commandments, pointed to the injuction, "Thou shalt not bear false witness against thy neighbor." "I learned that, before I could read." Has any one talked with you about your being a witness in court here against this man?" inquired the Judge. "Yes, sir," she replied. "My mother heard they wanted me to be a witness and last night she called me to her room and asked me to tell her the Ten Commandments, and then we kneeled down together, and she prayed that I might understand how wicked it was to bear false witness against my neighbor, and that God would help me a little child to tell the truth as it was before him. And when I came up here with father, she kissed me, and told me to remember the ninth commandment and that God would hear every word that I said.

"Do you believe this?" asked the Judge, while a tear glistered in his eye and his lip quivered with emotion. "Yes, sir," said the child, with a voice and manner that showed her conviction of its truth was perfect. "God bless you, my child," said the Judge, "you have a good mother. This witness is competent," he continued. "Were I on trial for my life, and innocent of the charge against me, I would pray God for such witnesses as this. Let her be examined."

She told her story with the simplicity of a child, as she was, but there was a directness about it which carried

conviction of its truth to every heart. She was rigidly cross-examined. The counsel plied her with infinite and ingenious questioning, but she varied from her first statement in nothing. The truth as spoken by that little child was sublime. Falsehood and perjury had preceded her testimony. The prisoner had entrenched himself in lies, until he deemed himself impregnable. Witnesses had falsified facts in his favor, and villany had manufactured, for a supposed clear acquittal. But before her testimony, falsehood scattered like chaff. The little child, for whom a mother had prayed for strength to be given her to speak the truth as it was before God, broke the cunning devices of matured villany to pieces like a potter's vessel. The strength that her mother prayed for was given her, and the sublime and terrible simplicity (terrible I mean to the prisoner and his associates) with which she spoke, was like a revelation from God himself.

Boys' and Girls' Own Columns.

Work for Winter Evenings—Use of Letters.

By *letters*, we do not mean communications sent through the Post Office, but only the little things of which words are made. There are only twenty-six of them, but they can be made to accomplish a great deal, and to afford no little pleasure. They are of no service, however, to one who does not know how to use them. Learning to spell is rather dull business; and yet, to spell correctly is a most desirable, though rare accomplishment. But something can be done to make it pleasant, and we are going to propose a plan that will be found very useful, even to those who feel above resorting to the spelling-book.

To begin with, all that is needed is a large number of cards, about half an inch square, each containing a letter of the alphabet. Those who live near a printing-office can get a few alphabets printed at a cheap rate, and those who do not can make the letters with a pencil, on cards, or even on pieces of paper

And what then? Let two persons—or a dozen if they like to—sit down at the table, with the pile of cards before them, and each one choose some word with which to puzzle his neighbor. Then he must carefully select all the letters of which the word is composed, from the pile before him, and pass them along to the other, who is to arrange them in proper order, *if he can.*

We have said enough to make the plan understood. It seems a very simple thing; but we will assure our young readers that if they will try it, they will take a great deal of pleasure in it. And if there are grown up persons in the room, they will be very apt to try their skill too.

We add a few hints that are in place. 1. Great care must be taken that the letters are properly selected; the right ones; not too many, nor too few.

2. The person to whom they are given should arrange them correctly, so as to spell the word intended; not making such an error, *e. g.*, to put *e* before *i* in the word *piece.*

3. It will usually be found, that words of from four to nine letters are sufficiently puzzling, without resorting to the longest contained in the dictionary.

4. It may be agreed at any time, to limit the words to some particular class; as to *nouns*, or *verbs*, or *animals*, or the names of *objects in the room*, &c.

5. Sometimes it will be found, that the letters composing one word will also spell a very different one—as *acts*, *cats*, *cast.*

6. Usually, those words will be found most difficult, which have a dipthong, or some silent letter, as reign, or knight; or several consonants with a single vowel, as *strength*, or *shrubs*, or *trench*; or the same letter many times repeated, as *scissors*, *cocoon.*

7. Some persons have a natural tact for solving such questions; others find it more difficult. Something depends on a knowledge of words, and of their terminations. So many words end in *tion*, that the occurrence of those four letters would lead one to pronounce that, the last syllable of the word; yet those letters are also to be found in the word *notice*, *tonic*, and others. No complete rule can be furnished. The brightest, quickest minds will succeed best.

"The Best Miss it Sometimes."

A New-Hampshire boy writes:

"At the time of renewing my subscription for the 'Agriculturist,' I sent to you an answer to Problem No. 12. But on receiving the January No. I was greatly surprised to find the answer there given not agreeing with the one which I sent, as I knew I had wrought it on correct principles However, to be certain of the matter, I carefully revised the process, and found that I had made a mistake each time I had previously worked it. Thus you see the best miss it sometimes."

How Pictures are Made.

A "little girl," writes, that she was much interested in our description of stereotyping, in last volume, and she wishes we would tell her, and others, something about how pictures are made. We cheerfully comply, though we are very busy now, and our room is much crowded by an unusual number of very good, but far too long articles, in the preceding pages.

PAINTINGS.

There are several kinds of pictures. First, we will name paintings. Some of these are made with paints mixed in oil. These are called "oil paintings," and are usually upon canvas—that is cloth stretched upon a frame. Paintings in water colors are those, generally made on paper, with the paints mixed in water instead of oil. These would be spoiled by wetting, which is not the case with oil paintings, as they can usually be washed, if it be done carefully.

There are lithograph pictures, daguerreotypes, photographs, crayons, &c., &c., but we cannot stop to tell you all about them now. It would take several pages to do it. We will at this time speak only of the pictures in this paper, which are called

ENGRAVINGS.

We shall ask Mr. Orr to talk to you hereafter on this topic and give some illustrations. But while waiting for him we will say a word or two. Examine carefully the following picture, which is called

A SHADOW.

You will see that it is made only of little black marks put upon the paper. In the darker portions there are more of these marks than upon the lighter parts. It was made thus:

First, the person conceiving the idea of such a picture, with a pencil puts upon paper just such marks as you here see, and you will notice that there are hundreds of them. Two or three different marks—a little longer or shorter, heavier or lighter, in any part of it, would have spoiled the appearance of the whole. When the picture was complete, an artist took a block of wood, sawn from the end of a hard boxwood tree, just one inch through. One end of this was made very smooth, and whitened with a little paint; and on this smooth end, he made with a pencil an exact copy of the first picture on paper, but turned the figures all round, from left to right, so that when the block was turned over upon this page, the marks would come right again, as here seen.

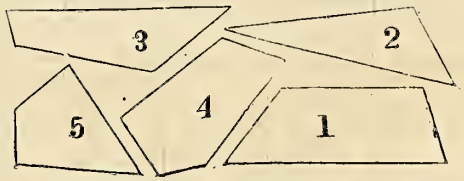
This done, our *Engraver* took the block, and with small sharp chisels and gouges, cut away all the wood where there were no marks. He had to work long, patiently, and carefully, for had his graver or tool slipped once, it would have chipped off some point that should have been left. As the marks are very small, the engraver usually places a magnifying glass on a frame between his eye and the block he is cutting. This makes the lines look larger, and he can work around them better, though he must keep his hand very steady. We forget, it was not *his* hand, but *her* hand, for this picture chanced to be engraved by a *lady.* You can readily imagine that it took long and patient work to make even this one small picture, for there are, as we have before said, many hundreds of points and lines where the wood was left uncut. How much work do you think it takes to cut all the pictures that are printed from month to month in the *Agriculturist*, for they are all made just as we have described for this one. Will you not look at them all with more interest hereafter, now that you know how much work it is to make even a single one? Just look at the many engravings, flowers, and trees, and see the fine lines, and think how carefully the engraver must work to leave so many points and lines "sticking up" on the surface of the block, and make them all "back-handed" too, so that they will print right when turned over upon paper.

When the block is finished, the printer, or as we call him, the *pressman*, sets it on the printing press and runs an inked roller on it. The roller leaves a little ink on each point of wood left by the engraver. A sheet of paper is then laid on and a heavy pressure put upon it, which makes the paper pick up the ink, and thus is formed the picture, made entirely of diminutive ink marks. If we find the picture or impression, or *proof* as we call it, all right, we then hand the block over to our type setters, ("compositors" we call them,) and they set it in the page with the types or letters arranged, above and below and around it. This done, the page is ready to be printed from, though, as we have before described, we first get a plaster mold from the page—types, pictures, and all, and by casting into this mold some melted type metal we get a solid thin stereotype plate, having upon one side of it, just the projecting surfaces necessary to leave the ink on every spot you see on the page. Those plates we keep using them for extra editions whenever needed. The type is taken to pieces again for a new page, and the wooden blocks, or wood engravings are stored away, or perhaps loaned to a brother editor who does not wish to or can not be at the trouble and expense of getting up pictures. Sometimes these blocks or stereotype copies of them, are sent away over the ocean, to be used there, while we keep the stereotype *fac similes* in our plates.

There now, after all our trying, we have used a word that you may not understand. "*Fac simile*"—what does that mean? Get down that big Dictionary—all that have *earned* one. For others who have not got it yet, we'll say: *Fac*, means made, and *simile* means just like. So *fac simile* means, made just like, or an exact copy.

New Problems.

PROB. 24—To arrange the following five pieces into a perfect *hexagon*—that is, a figure having six equal sides.



PROB. 25—Contributed by George H. Gilbert, Cheshire Co., N. H.—A gentleman gave to each of his sons a garden. John's garden was circular; James' was a rectangle or square. The ground was worth 3 cents per square foot and the price of each garden in 3-cent coins just inclosed it—the coins being taken at 1-2 inch in diameter each What was the size and value of each garden?

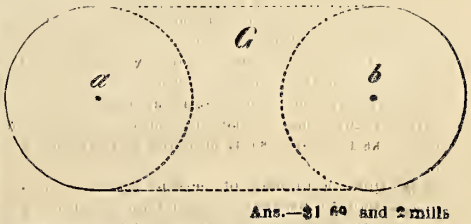
PROB. 26—A farmer in plowing a square field containing ten acres, went round the whole field, cutting a furrow ten inches wide, and continued thus until he finished at the center. Question 1st—How many miles did he travel. Question 2d—How many "bouts" did he make? ....This problem has been discussed for some time by a "crowd of boys" at Henry, Marshall Co., Ill. One of them has sent us their answer, which we will keep until we hear from some of the rest of our large family of boys and girls.

Answers to Problems.

PROB. 12—We add to the small list of correct answerers of the difficult problem 12, the name of O. W. D., of Great Falls, New-Hampshire, who, though he modestly suppresses his own full name, justly thinks the "Granite State" should have credit for mathematical skill and ingenuity alongside of New-Jersey and Pennsylvania. We are happy to accord due credit, not only to the Granite State in general, but to Great Falls in particular, for to that single Post Office we send some *forty* copies of the *Agriculturist.* Are not they a reading people?

PROB 13—Additional answers received from J. Morgan, and from E. C. Selleck, Marion Co., Ill.

PROB. 22—Q.—What will it cost to pave the space *G* between the two circular flower beds below, with gravel, at 12 cents per square yard? The distance from *a* to *b* is 20 feet, and the circles 12 feet in diameter.

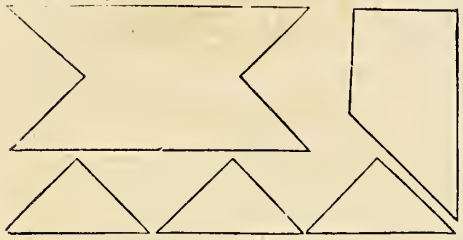


Ans.—$1 60 and 2 mills

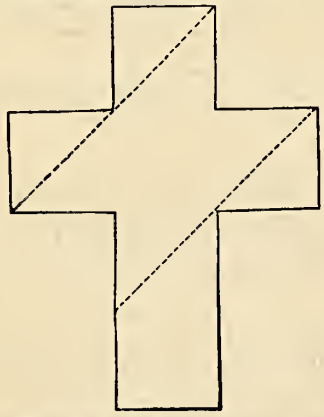
Up to this date, (Jan. 18), answers like the above have been received from Nathan Blakeslee, Oakland Co.

Mich; Charles C. Watson, Gibson Co., Ind.; Simon Emrich, Butler Co., O.; John F. Miles, Erie Co., Pa.; R. C. Fulton, Westmoreland Co., Pa.; P. E. Miller, Frederic Co., Md.; F. A Bliss, Bristol Co., Mass.; Jefferson Booth, Sciota Co., O.; E. Maurhoff, Butler Co., Pa., (very pretty): G. H. La Fetra, Clinton Co., O.; Jonathan Bonsall, Columbiana Co., O.; Abraham Myers, Ogle Co., Ill.; Daniel M. White, Blair Co., Pa.; David Brown, Ohio Co., Va; Jacob Datesman, jr., Northampton Co., Pa.; Samuel Strong, Dutchess Co., N. Y.; S. E. Brown, Monroe Co., N. Y.; E C. Selleck, Warren Co., Ill; G. P. Dorr, Washtenaw Co., Mich.; Frederick Clapp, Kings Co., N Y.; Moul. B. Cowperthwait, Brooklyn, N. Y.; W M. Clark, Guernsey Co., O.; O. W. D., Great Falls, N H.; L. A. Ford, Marshall Co, Ill.; Cyrus K. McKee, Armstrong Co., Pa.

PROB. 23.—To put the following pieces together, so as to form a perfect cross.



The following is the arrangement:



Answers substantially in this form have been received from: Purington Maryott, Tioga Co., Pa.; Wm, Chard, Waukesha Co., Wis.; Charles C. Waters, Gibson Co., Ind., Wm. F. Law, Cumberland Co., Pa.; R. G. Adams, L., Mass.; A. B. Huffman, Hunterdon Co., N. J.; H. D. of N J.; John Bridgeman, Geauga Co., O.; J. U. S., Crawford Co., Wis.; G. H. La Fetra, Clinton Co., O.; C. H. D., Chemung Co., N. Y.; Julia Butler, Worcester Co., Mass.; Cyrus K. McKee, Armstrong Co., Pa.; David Brown, Ohio Co., Va.; Jasper N. Lantz; L. A. Ford, Marshall Co., Ill. ("representing a crowd of boys"), Jacob Datesman, Jr., Northampton Co., Pa.; G. H. Ireland, Middlesex Co., Mass.; J. C. B., Oneida Co., N. Y.; Samuel Strong, Dutchess Co., N. Y.; G. P. Dorr, Washtenaw Co., Mich.; Frederick Clapp, Kings Co., N. Y.; B. H. Brown, New Haven Co., Conn.; Susannie, Kings Co, N. Y.; Peter S. Baylor, Hunterdon Co., N. J.; O. W. D, Great Falls, N. H.

The next six will see they united their pieces so as to form a cross, but differing from the model we now present: Abraham Myers, Ogle Co., Ill.; E. C. Selleck, Warren Co., Ill.; J. F. Williams, Fairfield Co, Conn.; C. H. Franklin, Kings Co., N. Y.; Samuel Gillard, Erie Co., Ohio; Jefferson Booth, Sciota Co., Ohio

Note on the Seed Distribution.

We republish the list of seeds offered, with slight corrections. No. 22, Mammoth Squash, is changed to Boston Marrow Squash—a very valuable variety—having been disappointed in getting the Mammoth Squasr seed.

Very few seeds have yet been mailed Several varieties from Europe are just in port, and it will take some days to get them through the Custom House and put up in packages. We shall scarcely overtake the demand before the middle of March. Sometimes persons will receive one kind at one time, and another at a subsequent date.

☞ We must again request all applicants to read the entire "regulations" of the Distribution and *follow* them. Our clerks have been sadly bothered already for want of this.

☞ Quite a number of persons have added single *penny* stamps for packages marked "one third of a 3-cent stamp." It should be understood that these penny stamps are valueless unless there be three of them together, letter postage being always rated by 3 cent stamps. We name ⅓ stamps to indicate that three such packages can go in one letter under one 3-cent stamp.

☞ An ordinary envelope will contain as many seeds of any kind as will go under two 3-cent stamps.

African Imphee.

Notwithstanding the unfavorable reports of this variety of sugar cane, several persons indulge in strong hopes that it may prove superior to the Chinese variety (Sorghum). To gratify any desiring to experiment with it we have procured a small quantity, and placed it in our seed distribution, No 52. Only small parcels of 100 to 200 seeds each will be furnished.

King Philip Corn Wanted.

Many are inquiring where they can get this hy the quantity for seed. Those who have it to sell should advertise the fact, stating amount, price, and guarantee of its purity.

Wyandott Corn.

Frequent applications are made to us. We have none to distribute. We have no faith in it for northern latitudes. South of say 39° it may be all that is claimed for it, for aught we know.

Thanks to Contributors and Correspondents.

Never before in our Editorial experience have we been favored with such an avalanche of communications, queries, suggestions, &c. We have a mountain pile of letters which we shall work over during the year, for we intend to let nothing go ungleaned—save the "sugar cane reports," which it would be utterly impossible to use in detail without publishing an extra sheet of 100 pages monthly for a year.

We feel decidedly "rich" with such a store of material in all departments of soil culture as has been kindly contributed, but we will be able to use it all in due time, with as much more as our friends will supply. One hint, however. Don't forget the In-Door Department, which has been too much neglected in all time past Our "better halves" are entitled to at least some consideration in the efforts now making to lighten and facilitate human toil.

Permit us to earnestly beg of our correspondents and contributors to write briefly and to the point. Dip right into the subject at once. Give the pith of the matter and stop. Long introductions and perorations are best omitted. If a whole page of description can be thrown into an illustration, make a rough penciling and we will have it completed and engraved. Large as is our paper, we have no room for a sentence that does not convey a thought useful to somebody.

"Our Basket" is full, pressed down, and running over. We shall "empty" a few columns into our next number. There is not an inch of room left in this one.

Subscription Still in Order.

We can supply all subscribers that may come, with the first two numbers of this volume, and new subscribers with the baker's dozen when especially desired and *so stated* We hope our friends will continue to aid us by sending forward new names. We shall this year, at least, spend every dollar received for this paper in improving its character, enriching it with beautiful engravings, valuable contributions, &c. Cannot every one sending in for seeds forward at the same time one or more new subscribers? The "times," though improving, are still hard, but will not the small price of a single or club subscription for the present volume be well expended?

The Banks Good.

There is such a decided improvement in the Exchanges, and in the consequent value of even the most distant bank bills, that we shall henceforth freely receive in payment for subscriptions the issues of any bank in good credit at home. Gold, or 3-cent stamps, or Eastern bills, are of course preferable, but not indispensable.

The Past—The Present.

The beautiful engraving on page 61, while designed to show what the Sewing Machine will do for the In-door has two or three other points of interest that may be overlooked In the upper outside corners will be noticed the Courier on horseback racing with the snail at his feet, contrasted with the Rail-cars, the telegraph wire, and with the flash of lightning from the cloud. Below, the Canoe and the Steamboat are presented. On the inner corners are the Mowing Machine vs the Scythe, and the Printing Press vs. the Pen The whole picture is a beautiful one, worthy of study. The object that most struck our attention is the clock marking five minutes to twelve, the candle indicating it to be night—and yet the wearied mother is still at the everlasting "Stitch, stitch stich," while the little one is kept up to an unseasonable hour to "rock the cradle."

The Prize Dictionaries.

Are being constantly called for, but the publishers tell us they can supply "any number," and *we* shall be ready to meet all drafts from subscribers entitled to them. **Remember**, that by running your list of names up to only *forty*, at the club rates, you secure the large unabridged Webster's Dictionary, containing 1,400 pages, of three columns each, giving a full meaning to every word in the English language. This Book should be second only to the Bible in *every* family. It will cost you $6 or $7 to buy it; but we present one to every subscriber obtaining forty names, at 80 cents each—whether at one or at different Post Offices. The offer will hold good until further notice.

The following gem by a poet of the finest genius, is a worthy tribute to the most humane invention of the age:

THE SEAMSTRESS'S VISION.

'Twas midnight!—Haggard and wan,
A widowed seamstress drooped in her chair:
Her candle was dying, her fire was gone,
And her hands were clasped in despair.
"Oh God! I am weary," she cried,
"Of a labor that never is done;
'Twere better for me had I died
Ere the pauperish task was begun."

She sat and thought of the days
Of her childhood, all sunny and fair,
Ere the dimness came over her eyes,
And the silver was streaked in her hair:
She thought of her children—the dear,
Of husband and parents—the dead;
"Why struggle with beggary here;
Why live we thus orphaned?" she said.

Exhausted, and sickened, and sore,
She sat at her slavish toil:
Oh life! is there nought in thy store,
But anguish, and hunger, and moil?
Nothing but stitch at an endless seam,
With palsied hand and dimming eye,—
Is this the measure of life's young dream?
'Twere better to starve and die.

She sat, and her aching head drooped low,
With its burthen of grief and pain;
A burthen none but the toiling know,
Whose rest is dreaming of toil again.
Her fingers relaxed and her eyes grew dim,
And her task faded out of her sight,—
No fire on the hearth, no candle to trim,
Nothing left but a Vision of night.

A Vision—for lo! she dreamed,
Aye, dreamed she was happy and free:
No longer her fingers wearily seamed
Till her swollen eyes scarcely could see.
A needle she held, and she thought it grew
To a fair and flowering tree;
Each flower a garment finished and new,
And fair as a garment could be.

O wondrous Vision!—the needle seemed,
As if thousands of fairy hands
From out its flowering branches gleamed,
Stitching hems, and gussets, and bands;
So noiselessly stitched that never a sound
By the sleeper's ear was heard;
And the garments dropped like ripened fruit,
Which never a wind had stirred.

O wondrous Vision!—her heart was glad,
And throbbed with rapture, to see
The myriad human multitude clad,
By the flowering needle-tree:
All bravely clad, in robes unstained
With woman's sweat and tears;
For woman, heneeforth, no longer sat
A slave to needle and shears.

O wondrous Vision!—woman restored
To a share of her own birth-right,
To be the co-mate of her husband-lord,
And in labor to find delight:
In a labor that slaves not heart and hand,
Nor robs the eye of its light;
But loving toil for the dear home-band,
That bringeth sweet sleep at night.

O wondrous Vision!—an hour repaid
For years of struggle and toil,
For stinted wages, and dearth of bread,
And pain, and hunger, and moil.
"For oh! nevermore," the sleeper said,
"Shall woman a slave be bound;
Her blessed freedom from stitch, stitch, stitch,
In the SEWING MACHINE is found."

The Sewing Machine!—O that was the tree,
The seamstress saw in her dream:
Her needle a-flowered, by fairy hands,
Wrought gusset, and band, and seam.
No "Woman sat in unwomanly rags,"
Plying the glistening steel;
But the labor of many by one was wrought
With pleasure, for human weal.

Enraptured, with joy she awoke
As her cheek caught the sun's first gleam,
And O!—double rapture—to find
Her vision was not all a dream:
For some angel of mercy had come,
In the hours of her slumber unseen,
And placed by her desolate hearth,
Her FREEDOM! a SEWING MACHINE.

"O blessings," she cried, "on the brain,
For woman's dear sake, that thought it;
O blessings," she cried, "on the hands,
For woman's dear sake, that wrought it:
And blessed, thrice blessed *their names*,
God's blessing, they surely have won it,"
As "WHEELER AND WILSON" she read,
In letters of gold written on it.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW-YORK, Jan. 25, 1858.

The Wholesale Produce Markets have exhibited very few changes of any importance since the date of our last Review. The weather has been remarkably mild, and has not hindered operations. The accounts from Europe have, on the whole, been more encouraging for our trade The Money Market has recovered from much of the depression caused by the panic, and embarrassments of the Autumn and Fall seasons The City Banks have been steadily increasing their supplies of specie, until they now hold in reserve some $30,000,000—an amount wholly unprecedented in the history of New York banking. Yet, with all these circumstances in favor of some revival in business, Trade has been quite backward—buyers purchasing only such supplies of the various articles as they really required, avoiding every movement of a speculative character. The Breadstuff Trade has not been a vigorous one. The receipts have not quite equalled the sales; but, as the annexed Tables show, we began the month

with unusually large stocks, especially of Flour and Wheat, no great difficulty has been experienced by buyers in having their orders filled. The demand has been mostly for the home trade, but towards the close, exporters have manifested more willingness to purchase. Prices have fluctuated slightly—closing, however, without indicating any very serious difference, compared with the current rates at the date of our last review. The supplies of Flour and Wheat, are large—but Corn is not abundant. The bulk of the sales of Corn have been made up of the new crop of Jersey and Southern. The receipts have been in better condition, and to this circumstance much of the improvement in prices of new Corn is to be ascribed. Rye, Barley and Oats, have been in moderate supply, and limited request, chiefly for home use.... Cotton has been in better demand at advanced prices. This improvement is mainly due to a singularly rapid revival of confidence on the part of Southern holders, who have still control of the great bulk of the crop.... Provisions have fluctuated.... Pork closes heavily.... Groceries have been in excess, and tend downward.... Sugars and Molasses, have declined considerably.... African Hemp has been more sought, but at reduced rates.... Hops have been moderately inquired for.... Grass Seeds have been more freely dealt in, at quoted rates. Tobacco in pretty brisk request, but at easier prices.... Wool remains dull and heavy.... Other articles of produce have been moderately dealt in.

CURRENT WHOLESALE PRICES.

	Dec. 23.	Jan. 25.
FLOUR—Com'n to Extra State	$4 15 @ 4 65	$4 25 @ 4 60
Common to Fancy Western..	4 15 @ 4 65	4 25 @ 4 50
Extra Western	4 40 @ 7 50	4 45 @ 8 00
Fancy to Extra Genesee.....	4 75 @ 7 50	4 35 @ 7 00
Mixed to Extra Southern....	4 70 @ 7 25	4 50 @ 8 00
RYE FLOUR—Fine and Super.	3 00 @ 4 25	3 00 @ 4 00
CORN MEAL	3 25 @ 3 70	3 00 @ 3 50
WHEAT—Canada White.....	1 10 @ 1 30	1 10 @ 1 25
Western White	1 10 @ 1 42½	1 10 @ 1 35
Southern White.....	1 15 @ 1 40	1 15 @ 1 38
All kinds of Red	90 @ 1 20	1 00 @ 1 20
CORN—Mixed, old	68 @	72 @ 73
Yellow, new,	55 @ 65	65 @ 67
White new	55 @ 65	67 @ 70
OATS—Western	45 @ 47	45 @ 46
State	42 @ 45	42 @ 45
Southern &c.	30 @ 38	28 @ 38
RYE	70 @	69 @ 72
BARLEY	65 @ 80	68 @ 75
White Beans	1 50 @	1 37½@ 1 40
Black eyed Peas, per 2 bush..	2 75 @ 3 00	3 12½@
HAY, in bales, per 100 lbs.....	50 @ 75	55 @ 75
COTTON—Middlings, per lb....	10¼@ 10½	10¾@ 10¾
RICE, per 100 lbs	2 75 @ 3 62½	2 75 @ 3 37½
HOPS, per lb	5 @ 9	5 @ 10
PORK—Mess, per bbl.....	15 50 @16 00	14 65 @
Prime, per bbl	13 50 @13 60	11 50 @11 75
BEEF—Repacked Mess.....	10 00 @12 00	10 00 @12 50
Country mess	9 00 @ 9 75	9 00 @10 00
" prime	5 75 @ 6 50	6 00 @ 7 00
HOGS, Dressed, per lb....	6¼@ 6¾	6½@ 6¾
Lard, in bbls per lb	9¼@ 9⅝	8½@ 9⅛
BUTTER—Western, per lb	10 @ 16	11 @ 15
State, per lb	13 @ 24	12 @ 23
CHEESE, per lb	6 @ 8	6 @ 8
FEATHERS, Live Geese per lb.	38 @ 43	38 @ 42
SEED—Clover, per lb	9½@ 10	8¾@ 9
Timothy, timothy, per bushel..	2 @	1 75 @ 2 00
Timothy, reaped, per bushel..	2 50 @	2 00 @ 2 25
Flax, Am dnogn per bush	1 20 @ 1 25	@ 1 20
SUGAR, Brown per lb	5¼@ 8½	4 @ 7½
MOLASSES, New Orleans, prgl	33 @ 35	25 @ 27
COFFEE, Rio, per lb.	8½@ 10¾	8 @ 10¾
TOBACCO—Kentucky, &c. pr lb	7 @ 18	6½@ 18
Seed Leaf per lb	10 @ 35	9 @ 35
WOOL Domestic fleece, per lb.	27 @ 45	27 @ 45
Domestic, pulled, per lb	20 @ 28	20 @ 30
HEMP—Unkl'd Amer'n pr ton.	1 20 @ 1 30 100	@110
Dressed American, per ton....	1 45 @ 1 65 140	@165
TALLOW, per lb	10 @ 10¼
OIL CAKE, per ton	34 00 @36 00
POTATOES—Junes, per bbl....	2 25 @ 2 37	2 25 @ 2 37
Peach Blow, per bbl	2 75 @ 3 00	2 75 @ 3 00
Carters, per bbl	2 50 @ 2 75	2 50 @ 3 50
Nova Scotias, per bushel.....	90 @ 95	85 @ 90
Sweet, Del, per bbl	2 75 @ 3 00	@ 5 50
Mercers, per bbl	3 50 @	3 25 @ 3 75
ONIONS—Red, per bbl	@ 1 62	1 25 @ 1 37
White and yellow, per bbl.....	1 75 @ 2 50	1 75 @ 3 00
CRANBERRIES—Per bbl.....	5 50 @ 9 00	7 00 @ 9 00
Hickory Nuts, per bu	2 00 @
APPLES—Common, per bbl....	2 50 @ 3 00	2 50 @ 3 00
Spitzenburgs, per bbl.....	3 50 @ 4 50	3 50 @ 4 50
Greenings, per bbl	3 00 @ 3 50	3 00 @ 3 50
TURNIPS—Ruta bagas, per bbl	62 @ 75	50 @
SQUASHES—Marrow, per bbl..	2 00 @ 2 50	2 25 @ 2 50
CABBAGES—Per 100	2 50 @ 4 00	2 00 @ 4 00
CELERY—Per dozen	75 @ 1 00	50 @ 75
POULTRY—Fowls, per lb.....	9 @ 11	7 @ 12
Chickens, per lb	8 @ 12	8 @ 12
Ducks, per lb.		12 @ 16
Partridge, per pair	63 @ 75	63 @ 75
Guinea Fowls, per pair		44 @ 50
Turkeys, per lb	10 @ 14	10 @ 14
Geese, per lb.	8 @ 11	8 @ 10
PIGS—Roasters	1 25 @ 2 25	1 25 @ 2 50
VENISON—Carcass, per lb	8 @ 10	8 @ 10

Total receipts of the leading Breadstuffs, by railroad, river and coastwise and sales for 27 business days, ending to-day:

	Receipts.	Sales.
Wheat-flour, bbls	325 125	233,190
Wheat, bush	117.562	207,506
Corn	372,385	483.187
Rye	4.050	30,213
Barley	22 500	38,418
Oats	30,150	

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
23 bus. days last mon.,	571,541	710,726	131,311	17,266	44 000	109,704
27 bus. days this mon.,	325,125	117,562	372,385	4,050	22,500	30,150

SALES.	Flour.	Wheat.	Corn.	Rye.	Barley
23 business days last month,	265,534	56',900	287,660	57,760	30,100
27 business days this month.	233,190	207,506	483,189	30,213	38,418

LIVE STOCK MARKETS.—Receipts of Beeves, small, but enough; for 5 weeks, 14,679, viz., week ending Dec. 22, (2,467) ¼c. higher; Dec. 29, (1,672) 1c. higher; Jan. 5, (3,796) 1c. decline; Jan 12 (3,774) ¼c. decline; Jan. 19 (2,940) ¼c. higher. Present price ℔ lb, for estimated dressed weight: Premium Cattle 11½c.@11c.; First quality 10c.@10¼c.; Medium, 8¼c.@9c.; Poor to poorest 7¼c. @6c. Average of all qualities, 8¼c.@8¼c.

SHEEP AND LAMBS in small supply; receipts in 5 weeks, 39,348, or 10,000 less than previous 5 weeks Prices of fair animals 4c.@5c. ℔ lb, live weight.

HOGS—In abundant supply. Prices, which have ruled low, are now 5c.@5¼c. ℔ lb., live weight, for Corn-fed; 4¼c.@4¼c. for distillery fed.

THE WEATHER, has been remarkably Spring-like, thus far. (See page 40.) No snow worth mentioning, to this date. Fruit and leaf buds are starting so much as to be in danger of freezing out. Our DAILY NOTES, condensed, read: Dec. 24, very mild; 25, cool, rough; 26, light fall of snow; 27, coldest day thus far (10°), 2 inches of snow; 28, cloudy, mild; 29, 30, rain with flurries of snow; 31, cool, squally; Jan. 1 to 4, clear, mild, pleasant; 5, cloudy, rain P. M.; 6, squally, rain and snow; 7, 8, clear, warm; 9, mixed, snow and rain; 10, clear, warm; 11, heavy S. E rain; 12, 13, 14, warm, ground open; 15, 16, heavy rain; 17, clear, cooler, 18 to 22, clear, mild, a little freezing at night; 23, cooler (16°); 24, 25, mild, foggy and slight rain.

☞ *With a single exception, the actual regular circulation of the Agriculturist to subscribers is about* **Fifteen Thousand greater** *than that of any other Journal in the World devoted to Agriculture and Horticulture only.*

Advertisements.

TERMS—(invariably cash before insertion):

Twenty-five cents per line of *space* for each insertion.
By the column or half column, $30 per column.
☞ Business Notices *Fifty* cents a line.
Advertisements to be sure of insertion must be received at latest by the 18th of the preceding month.

SEEDS! SEEDS! SEEDS!

THORBURN'S NEW DESCRIPTIVE CATALOGUE OF VEGETABLE, FIELD AND FRUIT SEEDS, FOR 1858,

With directions for cultivating Vegetables is now ready, and will be sent to applicants enclosing a three cent stamp.

The subscribers offer of the growth of 1857 and of the very finest qualities their usual extensive assortment of SEEDS, comprising many *novelties* and every tested desirable variety known in the several departments of VEGETABLE, FIELD, FLOWER, TREE AND FRUIT SEEDS.

They would particularly call the attention of cultivators and amateurs to the following

CHOICE PEAS,

EXTRA EARLY DANIEL O'RUURKE, the earliest known.
" " SANGSTERS NO. 1., a great favorite.
" " TOM THUMB, very fine, growing but 8 inhes high.
EARLY SEBASTOPDL, new and good.
CHAMPION OF ENGLAND, one of the very best.
DWARF AND TALL SUGAR, edible pods.
HAIRS' DWARF MAMMOTH, superb.
HARRISON'S GLORY AND PERFECTION, new and very productive.
NAPOLEON AND EUDENIE, both new and early wrinkled.
EPPS' MONARCH, EPPS' LORD RADLAN } both new and superb.
CARTER'S VICTORIA, fine wrinkled.
BRITISH QUEEN, one of the best, late.
With 30 other standard sorts, for which see Catalogue.

ALSO

EARLY PARIS NONPARIEL AND LENORMANDS CAULIFLOWER.
EARLY WAKEFIELD OXHEART AND WINNINGSTADT CABBADE.
EARLY AND GIANT WHITE AND RED SOLID CELERY.
PRIZE CUCUMBERS for frames.
EARLY TOMATOES.
SWEET SPANISH AND BULL NOSE PEPPER
EARLY CURLED LETTUCE.
EXTRA CURLED PARSLEY.
EXTRA EARLY TURNIP BEET
EARLY WHITE VIENNA KOHLRABI.
WINTER CHERRY OR STRAWBERRY TOMATO
APPLE AND PEAR SEEDS.
HAVANA TOBACCO SEED.
DIDSCOREA BATATAS or Chinese Potato.

With thousands of other SEEDS of the same superior qualities as have heretofore afforded such universal satisfaction, and which can be recommended with the fullest confidence as unsurpassed for genuineness.

AFRICAN IMPHEE, genuine as raised by Mr L. WRAY. One Dollar per pound

SORGHUM OR CHINESE SUGAR CANE, 25 cents per lb.

FLOWER SEEDS.

The collection this season is unusually large and choice, embracing many novelties.

Orders by mail have immediate attention.

J. M. THORBURN & CO.
15 John Street,
New-York.

NOTICE TO ORCHARDISTS.

25,000 PEACH TREES, ONE YEAR FROM THE BUD, OF STRONG DROWTH.

Being always engaged in the culture of the fruit for market, purchasers may rely upon obtaining the varieties best adapted to their interest

20,000 Osage Orange plants, 2 years growth, twice cut back and root pruned.

ASHER HANCE & SON,
Rumsom Nurseries, near Red Bank,
Monmouth Co., N. J.

New-Canaan Nurseries.

The subscribers would invite attention to their Nursery stock, consisting of

100,000 Apple trees from 2 to 5 years from the bud or graft:
40,000 Peach trees, 1 year from the bud:
20,000 " 2 years "

Pear trees, Standard and Dwarf, Cherry, Apricot and Quince trees. Also 20,000 American Arbor Vitæ from three to five feet high (twice transplanted), Norway Spruce and other Ornamental trees. Address

STEPHEN HOYT & CO.,
New-Canaan, Jan. 20, 1858. New-Canaan, Ct.

Pear Seeds and Seedlings.

Good healthy pear seedlings, 1 year $8 per 1,000, $75 per 10,000.
Do. do do. 2 years $15 per 1,000, $140 per 10,000.
New-England Pear Seeds of prime quality for Spring sowing $5 per quart

Norway Spruce, Scotch Larch and Fir, Pines, &c., Apple, Mazzard, Plum, Angers, Quince, Mahaleb, Paradise and Doucin, stocks of the best quality. Catalogues to any address. Carriage paid to New-York or Boston.

B. M. WATSON, Old Colony Nurseries,
Plymouth, Mass.

Choice Farming Lands for Sale.

200 acres of superior quality of Farming Land, within the corporate limits of Buffalo, N. Y., will be sold at a great bargain. This is one of the most eligible and healthful sites West of the Hudson River, and fronts on the Niagara river, the Erie Canal and leading carriage road, with the Buffalo and Niagara Falls, and New-York City Railroad in its rear. The land is mostly unimproved and without valuable buildings, but is readily susceptible of high cultivation for one or several productive and ornamental farms or residences.

A large portion of the purchase money can remain on hond and mortgage, or it will be exchanged for City property.

Address R. L. ALLEN.
189 & 191 Water-st.
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PIANOS! ELEGANT 6¼ OCT. ROSEwood Pianos, new and perfect for $150. Address

JAMES M. EDNEY 56 John-st., N Y.

Garden, Field and Flower Seeds.

A full assortment of Domestic Field, Garden and Flower Seeds, of the growth of 1857, always on haud, and for sale wholesale and retail, among which are:

ARTICHOKE, Beans, Beet, Broccoli, Cabbage Cardoon, Cauliflower, Carrot, Celery, Chervil, Corn, Cress. Cucumber, Egg Plant, Endive, Kale or Borecole, Leek, Lettuce, Melons, Mushroom, Mustard, Nasturtium, Okra, Onion, Parsley, Purslain, Parsnip—Peas, among which are several new varieties, such as Daniel O'Rouke, Epps Monarch and Lord Raglan, Harrison's Glory, do Perfection, Hairs' New Dwarf Mammoth, do. Defiance—Peppers, Pumpkin, Radish, Rhubarb, Salsify, Spinach, Squash, Tomato—Turnips, among which will be found Aschcroft's Swede—Watermelon and Herbs.

CHINESE SUGAR CANE—Both American and imported.
SPRING WHEAT—Golden Drop, Tea, Canada Clubb, &c.
Spring Barley. Spring Rye.
OATS—Poland, Potato, and other choice varieties.
POTATOES—*Prince Albert*, which we highly recommend, (Ash Leaf, Kidney, imported;) Dikeman, Early June, and all other varieties.
SPRING AND WINTER VETCHES—Broom Corn, Spurry, Buckwheat &c.
COTION SEED—Sea Island and Louisiana.
FRUIT SEEDS—Apple, Pear, Quince, Currant, Gooseberry, Strawberry and Raspberry Seeds, Peach, Plum, Cherry and Apricot Pitts.
BIRD SEEDS—Canary, Hemp, Rape, Rough Rice and Millet.
OSAGE ORANGE—Buckhorn, Yellow and Honey Locust.
TOBACCO and Flax Seeds.
ONION SETTS—Red, Yellow and White Onion Setts, Top or Button and Potato Onions.
GRASS SEEDS—Timothy, Red Top, Kentucky Blue, Orchard, Ray, Italian and Perennial, Foul Meadow, Sweet Vernal, American and Hungarian Millet, Fine Mixed Lawn, &c.
CLOVERS—Large and Medium Red, White Dutch, Lucern, Sainfoin, Aliske, Crimson, Yellow Trefoil, &c.
GRAFTING WAX and WHALE OIL SOAP.
ASPARAGUS and Rhubarb Roots, Cabbage, Cauliflower, Egg and Tomato Plants furnished in season.
FRUIT TREES AND SHRUBS of all kinds furnished to order.
BOOKS—A choice variety of Standard Works on Agriculture, Horticulture, &c.

A Catalogue containing full list of Seeds and prices furnished on application.

R. L. ALLEN,
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ESTABLISHED, 1828. REBUILT AND ENLARGED, 1856

ERID-GEMAN'S HORTICULTURAL ESTABLISHMENT,

Nos. 876 and 878 Broadway, NEW-YORK.

FIELD, HERB, VEGETABLE AND FLOWER SEEDS

Fruit and Ornamental Trees,

GREENHOUSE PLANTS, &c., &c.

Every article appertaining to the business furnished at reasonable rates, and warranted as represented. The seeds are grown to order by experienced cultivators, and fully tested before being offered

For sale by the quantity or in packages for retail trade.

Goods packed securely to go any distance. Orders by mail will be attended to with exactness and promptitude.

Catalogues furnished on application.

SUGAR IS MADE!!!

OLCOTT'S BOOK "SORGHO & IMPHEE," or the Chinese and African Sugar Canes: Containing full instructions for making SUDAR, MOLASSES, ALCOHOL, etc., etc. Sent by mail post-paid. Price $1

IMPHEE SEED. TEN VARIETIES. BETTER THAN SORGHO.

IMPHEE SEED. One variety, enough to plant 2 square rods sent by mail pre paid, with the book for six cents more in postage stamps. Each additional variety of Imphee *six cents. Only sent to those who order the book.*

Gov. J. H. Hammond, of South Carolina, who raised the above seed testifies under date of Nov. 26, 1857, that he does not recollect any variety of the Imphee which is inferior to the Sorgho, while many varieties *have a larger stalk, yielded more juice and marked a higher degree on the sacherometer*, and in a letter to the undersigned of Jan. 13th, 1858, Gov. Hammond says: "I think these seed well worth distributing. They produce a Sugar Cane at least equal to the Sorgho in all respects and some of them are twice the size. I am inclined to think we shall ultimately find several of the varieties (ripening at different periods) *superceding the Sorgho altogether*. I plant this year 60 acres of the Cane—of these four will be planted in Sorgho and the remainder in Imphee."

A supplement to "The Sorgho and Imphee" containing the American experiments of 1857, with J. S. Loverings statement of his successful manufacture of Brown and White Sugar from the Sorgho, will accompany the Book.

Address
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Agricultural Book Publisher,
140 Fulton Street, New-York.

Rhubarb Roots.

JUST RECEIVED from Europe
MYATTS VICTORIA RHUBARB ROOTS.
LINNÆUS RHUBARB ROOTS.
ASH LEAF KIDNEY POTATOES.
For sale by

R. L. ALLEN.
189 & 191 Water-st.,
New-York.

Bees and Bee Books.

The subscriber will sell a few stocks of Bees the coming Spring, (about the first of April) Price in common hives, from five to eight dollars, according to age and condition. Also some in Langstroth's hives—new swarms—price, aside from patent right, ten dollars They will be packed on springs and delivered at the Railroad Depot for fifty cents per hive, or three for $1.

Stocks were taken by express last Spring near 1000 miles, and delivered in good condition. When three or more are ordered, the "Mysteries of Bee-Keeping Explained" will be added without charge; or, for one dollar in gold, or postage stamps, the book will be mailed to any one, free of postage. Address

M. QUINBY, St Johnsville,
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PASCHALL MORRIS & CO.,

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AGRICULTURAL IMPLEMENTS AND SEEDS

COLEMAN'S FARM MILL for grinding all kinds of grain will grind from 3 to 15 bushels of corn per hour, according to the power and speed used, and the fineness of the meal.
DANIEL'S HAY, STRAW AND FODDER CUTTER for hand or horse power—two sizes—these are unsurpassed for efficiency, simplicity and durability.
NEWSHAM'S PATENT STEAMER for cooking food for stock—no danger from fire or bursting—it is portable, and will be found an economical method of heating water for all domestic purposes.
DEDERICK'S HAY PRESSES of six sizes, from $100 to $200, these are spoken of by those using them in the highest terms of praise and satisfaction.
CORN SHELLERS of superior quality and finish: PLOWS in great variety, and most approved patterns. Also, Root Cutters, Sugar Mills, Lime and Guano Spreaders, &c.—in fact every implement needed by the farmer or gardener.

FIELD, FLOWER and GARDEN SEEDS of our own selection and importation—warranted fresh and genuine, and true to name.

Wholesale and Retail orders respectfully solicited. Strangers from a distance favoring us with their orders, may rely on their being filled with as much care as though they were present. They may also rely on our representations of all goods sold by us.

PASCHALL MORRIS & CO.,
Philadelphia.

Improved Farm Mill.

For grinding Corn in the ear—or Rye, Wheat and Corn, or Oats into fine or coarse meal—The Mill is simple, durable, and efficient, will grind from 4 to 15 bushels per hour—depending upon speed and power applied and fineness of meal ground—We have a large number of Premiums and Testimonials, in its favor. Price with sieve for sifting Corn Meal, for family use $50 to 60.

Price with bolt for making family flour, $75 to 85.

For sale by

R. L. ALLEN,
189 & 191 Water-st.,
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FARM IMPLEMENTS OF MOST APproved patterns, made in best and most durable manner, and at low prices. Our large assortment embraces a most every implement, tool or seed wanted by the Farmer, Planter or Gardener. For sale by

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MANUFACTURER OF THE
CHEROKEE CORN PLANTER.
Patented by Ells & Charlton, September 8th 1857.
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Cane Mills and Distilleries.

GENERAL COPPER-SMITH WORK.

Distilleries of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills, syrup pans, skimmers, dippers, syrup guages and pumps, steam brewing apparatus.

JOHN W. REID, 11 Old-slip.

ICE TOOLS.—Ice Plows, Saws, Splitting Bars, Hooks, &c., for sale by

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189 Water-street, New-York.

THERMOMETERS, BAROMETERS, &c. of reliable quality and various descriptions, among which are those particularly suited for Horticulturnl purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by

D. EGGERT & SON, 239 Pearl-st.

RUSSIA OR BASS MATS selected expressly for budding and tying, GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by

D W. MANWARING, Importer,
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THE BEST GARDEN ENGINE—COMplete and ready for use for $24. Address

JAMES M EDNEY, 56 John-st., N. Y.

Bone Manure.

SAWINGS, TURNINGS AND CRUSHED BONES FOR Sale by the Manufacturers in large or small quantities.

A LISTER & CO.,
Tarrytown,
Westchester Co., N. Y

To Farmers and Gardeners.

THE LODI MANUFACTURING CO offer 70,000 barrels of their new Improved Poudrette for sale the coming season It is now well known as the best fertilizer in market for Indian Corn and kitchen gardens—is perfectly harmless when applied next to the plant, and yet quick and powerful in its effect. A pamphlet with instructions for its use, certificates, &c., will be forwarded, free of cost, to any person sending their address. The L. M. Co. have a capital of $100 000 invested in this business, and a reputation of 17 years to keep up—this is *some* guarantee for a good article Price as usual, $1 50 per barrel for any quantity over 6 bbls.; 1 bbl, $2 00; 3 bbls $5 00; 6 bbls $9 50; free of cartage or other expense Address

THE LODI MANUFACTURING CO.,
60 Cortlandt-st., New-York.

WYANDOT PROLIFIC CORN,

THE GREATEST AGRICULTURAL WONDER OF THE AGE.—Its discovery worth millions to the country. Yield 150 bushels to the acre. Recommended anywhere south of New-York City. Plant only one kernel in a hill, each kernel will produce from three to 12 stalks, 10 to 12 feet high 4 to 20 ears, 8 to 14 inches long, 10 to 16 rows, of beautiful pearl white corn Seed selected with care warranted genuine, put in a parcel sufficient to plant an acre. Price $1 50, delivered in New-York City. Money or Post Office Stamps must accompany the order, with directions how to send.

Those who order sent by mail, and remit $4, will receive (post paid), a parcel to plant an acre; $2, half an acre; $1, quarter of an acre. Orders for less, double the above rates Circulars showing the result from different parts of the Union, will be sent to all who send for them. Address to J. C. THOMPSON,
Tompkinsville Staten Island N Y

Catalogue of Seeds for Free Distribution in 1858.

Every person whose subscription to the *American Agriculturist* is paid beyond February, 1858 will be entitled to select three parcels of seeds from the list given below.

☞ SEE REGULATIONS OF DISTRIBUTION BELOW. ☜

FIELD SEEDS.

(These are described in Jan. No. on page 8.)

No 1—White Sugar Beet.—Our packages of these will contain about 500 seeds, requiring one 3-cent postage stamp.

2—King Philip Corn.—One 3-cent stamp covers about 30 kernels. We shall have packages for one, two or three stamps, whichever any one may choose to pay postage upon. Where seeds go by express. (see note C below), the larger packages will of course be chosen.

3—Stowell's Sweet Corn.—About 40 or more kernels go under one 3-cent stamp. Subscribers may choose a single (one 3-cent stamp), or double (two 3-cent stamps) package.

4—White Poland Oats.—About 300 seeds go under one stamp. Single or double packages are offered.

5—Chinese Sugar Cane.—We shall have plenty of of this. One 3-cent stamp covers about 450 to 500 seeds including envelop; two stamps about 1,000 seeds (1 oz.). Subscribers may choose any amount from one-half to two ounces. ☞If any subscriber selects no other seed, we will furnish him a quarter pound package put up in a muslin bag (postage 27 cents). These packages are of the same size and like those sold at $1 last year.

6—Asheroft's Swedish Turnips.—Our packages contain 800 to 1,000 seeds each, and will require not over half of a 3-cent stamp. Some other small package may go under thegsame stamp.

7—River's Swedish Stubble Turnip. Same os No. 6.

GARDEN SEEDS.

(Described on page 8.)

8—Dan'l. O'Rourke Pea.—About 65 to 70 peas in a package. One 3-cent stamp required.

9—Champion of England Pea.—55 to 60 in a package, one 3-cent stamp required.

10—British Queen Pea.—Same as No. 9.

11—Hairs's Dwarf Blue Mammoth Pea.—About 45 in one package. One 3-cent stamp.

12—Green Kohl Rabi.—500 seeds. One-third of a 3-cent stamp.

13—Enfield Market Cabbage.—500 or more seeds. ½ stamp.

14—Alma Cauliflower.—100 or more seeds. ½ stamp

15—Mammoth Cabbage Lettuce.—400 or more seeds. ½ stamp.

16—Long Orange Carrot.—800 seeds. ½ stamp.

17—Red Strap Leaf Turnip.—800 seeds. ½ stamp.

18—Patience Dock.—100 or more seeds. ½ stamp.

19—Round Spinach.—490 or more seeds. ½ stamp

20—Salsafy (vegetable oyster).—200 or more seeds. ½ stamp.

21—Winter Cherry—½ stamp—number of seeds will depend upon the supply yet to be received.

22—Marrow Squash.—Number yet unknown ½ stamp.

FLOWER SEEDS.

(Described in Jan No on pages 20 and 21.)

These are put up in small packages of various sizes and amounts, depending upon the rarity of the seeds, the number required for a common flower , &c. One 3-cent stamp will pay the postage on *three* parcels of the flower seeds.

23—Large Flowering Mignonette.
24—Mixed Virginian Stock.
25—Mixed Nesturtiums.
26—Nemophila Insignis.
27—Cockscomb.
28—Dwarf Rocket Larkspur.
29—Mixed Double Balsam.
30—Chinese Pink.
31—Tassel Flower.
32 Portulaca.
33—Cypress Vine.
34—China Asters Mixed.
35 Mixed German Asters.
36—Golden Bartonia.
37—Zinnia Elegans
38—Sweet William.
39—Marvel of Peru.
40—Eschoitzia Californica
41—Elegant Clarkia.
42—Fox Glove.
43 Red Lavatera.
44—White Lavatera.
45—Mixed Sweet Peas.
46—Mixed Lupins.
47—Morning Glory.
48—Flos Adonis.
49—Candytuft
50—Schizanthus.
51—Phlox Drummondii.
52—African Imphee—150 to 200 seeds—½ of stamp.

☞ PLEASE NOTE ESPECIALLY,

A. That the above list contains *fifty-one* distinct varieties of seeds to be distributed, according to individual preferences, among 30,000 to 50,000 persons scattered all over the country, now it will bo absolutely impossible to do this without immense labor, and many errors, unless each subscriber take especial pains to facilitate the work, by following the directions below.

B. It is of course understood that, as heretofore, the recipient of the seeds will furnish *envelopes ready stamped and directed*, for mailing them

C. We found it impracticable to make any arrangement here for sending seeds by Express. By enquiring at the nearest Express Office, the representative of any club of subscribers can ascertain whether it will be cheaper to have their packages come by mail to each individual, or in a package together by Express.

D. If to go by Express, no envelopes will be needed. In that case, simply send us a written list of the names, marking against each name the kinds of seed desired, *using the numbers in the above catalogue.*

Keep a duplicate of the list sent, and give particular directions at the bottom of the list, how the packages are to be forwarded, and to whom directed.

E. If to be sent by *mail*, please prepare the envelop carefully, after the following form:

5	3-cent stamp
16	
20	3-cent stamp.
John Johnson Smith,	
Hamilton,	
Steuben Co.,	
Ind	

Put the figures corresponding to the Catalogue above, plainly on the left hand of the Envelop, and put all the postage stamps upon the right side of the Envelope, one above the other when two or more are needed, as shown in the diagram. This will prevent the seeds being crushed in the stamping process in the Post Office.

F. Let letters referring to seeds be as brief as possible, and yet plain. All such communications are referred directly to the clerk superintending that department. It is especially desirable that whatever relates to seeds should be on a *separate* slip of paper. (We shall probably distribute over *one hundred thousand packages*. A minute's time saved on each of these would amount to 166 working days, 10 hours each—more than half a year!)

G. Canada, California and Oregon subscribers will need to substitute 10-cent stamps in all cases where 3-cent stamps are named in the catalogue. When two or three send together from Canada, it will usually be cheaper to receive the seeds by Express.

H. Always put the stamps upon the envelops, and not drop them loosely into the enclosing letter.

I It is always better to send envelops of the ordinary size and made after what is called the "Government pattern"—that is, those in which the back comes under the piece lapping over; these seal up more firmly. This point is not essential, however.

J. Usually, the lighter the envelop the better, that more seeds may go under the same stamps.

K. Send only the number of stamps required for postage on the seed. We have no seeds of any kind to *sell*.

L. Those forwarding *unpaid* envelops will of course not be disappointed if they do not return. We offer seeds *free*, but cannot, in addition, afford to pay postage also.

M. All seeds sent by mail are put up at our country residence, and each package is there mailed *direct*, to avoid its being overhauled at the Distributing Offices.

N ☞ We shall take time to mail all the seeds carefully and regularly. This will occupy the entire months of January, February, and a part of March. Those going to subscribers on the Pacific Coast, and in Southern States where the seasons are earlier, will be mailed first and with dispatch. To others they will go as fast as the puting up and mailing can be accomplished.

Special Premium to Ladies.

To any lady procuring and forwarding six subscribers and $5, we will send any fifteen varieties of our flower seeds she may *select*.

To any lady forwarding TEN subscribers, and $8. we will send a package of every kind of flower seeds—Nos 23 to 51.) The postage on 15 kinds put up together is about 2 e and ·l on ·etics

Contents for February 1858.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

ORANGE JUDD, A. M., EDITOR AND PROPRIETOR. | ESTABLISHED IN 1842. | $1.00 PER ANNUM, IN ADVANCE. SINGLE NUMBERS 10 CENTS.

VOL. XVII.—No. 3.] NEW-YORK, MARCH, 1858. [NEW SERIES—No. 134.

☞Business Office at No. 189 Water-st.
☞For Contents, Terms, &c. see page 96.
☞For Business Notices, see page 96.
☞For Advertisements, see pages 92-5.

March.

"The stormy March is come at last,
With wind and cloud and changing skies;
I hear the rushing of the blast,
That through the snowy valley flies.

Ah passing few are they, who speak,
Wild stormy month! in praise of thee;
Yet though thy winds are loud and bleak,
Thou art a welcome month to me.

For thou to Northern lands again
The glad and glorious sun dost bring,
And thou hast joined the gentle train,
And wear'st the gentle name of Spring."

BRYANT.

To the husbandman, this month is usually the beginning of the year. He is too busy with present duties, too full of hope for the future, to be much affected with the aspect of cloud and storm which Nature generally assumes. The Winter is over and gone, and he comes forth from its long rest, invigorated and refreshed for the duties of another season. He welcomes March as the uncovered earth welcomes the glad smiles of the returning sun. If relapses of Winter come, they are of brief duration, and every period of melting snow and ice grows longer until all are dissolved, and the young blades of grass show their delicate green above the brown stubble of the former year.

The Winter now closed has been as remarkable for its mildness, as the three immediately preceding were, for their severity. The weather has been, for the most part of the time, enjoyable and inviting to out door labors. Farmers have extensively improved it, in repairing walls and fences, in digging ditches, and in laying tile, in carting manure and muck, and in plowing sward lands. The Spring work with all enterprising cultivators, is in a state of great forwardness, and if Nature follows her usual analogies, we may look for an early starting of vegetation. The past three Springs have been unusually late, and all crops have been put in behind time. This Spring we may *hope* for an earlier call to the pleasant duties of planting and sowing.

Thus we complete another cycle of those variations, for which our American climate is so very remarkable, and which has so important an influence in forming the characters of our people. March is a sort of epitome of our climate for the whole year. The changes of temperature are sudden, and not unfrequently extreme, giving us within a few days, a taste of Summer, Autumn, Winter and Spring. Now we have a zero night, and again a mid-day gush of Summer heat, that would do credit to July. But these extremes are very brief, and very trying to people of delicate constitutions. They are, no doubt, the occasion of much of the pulmonary disease, which takes the lead in the tables of mortality in all parts of the country. But we have always suspected, that the imprudence of people had quite as much to do with this class of diseases as the climate. It is quite certain that the keenest of March winds has an invigorating influence upon the lungs of some of us, while others grow pale and shrivel under them. Physicians tell us, and the fact is apparent without their testimony, that the disease which preys upon these delicate organs, never enters them directly, but always makes its approach through other avenues of the body. We may breathe the coldest or wettest atmosphere without any unpleasant sensation at the lungs, if we are so clad as to keep the whole surface of the body at a comfortable and uniform temperature. It has been demonstrated by travellers within the tropics, and upon the Arctic seas, that the lungs can endure, with perfect safety, much greater extremes of heat and cold, than we ever experienced here. We can but suspect then, that March winds are somewhat slandered, and that imprudence in dress has slain its thousands, where the climate has slain its hundreds. With the feet kept warm and dry, and the other parts of the body protected from sudden changes, the lungs are as inpregnable in their safety as the brain or the stomach. With thin shoes and wet feet, bare arms and bare neck, with the late hours and fast living which fashion requires, it were a miraculous thing if "coughs, colds and consumptions," in the familiar language of the quack advertisements, were not the order of the day.

Climate, no doubt, has an influence upon health and physical character, but it ought not to be held responsible for the willful ignorance and moral infirmities of the people. It is a common impression, and perhaps a correct one, that the Anglo-Americans are less robust than the Europeans to whom they are allied. They have less fullness of the muscular system, less breadth of chest, and fewer of the common marks of strength and hardihood than their relations across the ocean.

But notwithstanding this apparent difference in physical development, there is no such difference in physical achievement. Every one who has had opportunity for observation, knows that the laborer bred to our farm work is greatly superior to the freshly imported recruit. He excels him, not only in his general intelligence, and economy of applying strength to work, but in the quickness of his motions, and in his power of endurance. We have often looked with wonder upon the feats performed upon our farms by American laborers. They seem to be all muscle, and their muscles made of steel, so unflagging are their steps, so tireless their arms, as they swing the scythe or ax. This superior activity, and the energy which usually accompanies it, are undoubtedly attributable in part to some peculiar quality in our climate.

A man may get an inkling of what that quality is, on almost any of these bright March mornings, with the wind north-west, and the air a little frosty. The very idea of quiet is a burden. He is as full of life and electricity as a bird is of song. His very step is a pleasure, every blow is a relief to the pent up energy of his being. He imparts his own life to the mettlesome steed that he drives, and to the ox that shares his labors in the field. A dull team becomes a full blooded Devonshire for the morning, and the plow sweeps through the tough sod, as if it were at the tail of a steam-engine. He has not only the faith that removes mountains, but the conscious ability to remove them. The stones grow light as he rolls them into walls, and all the difficulties of farming disappear like frost-work before the morning sun.

There is something in this elastic energy of our people, that can not be accounted for by their peculiar training. Voltaire thought that "climate has some influence upon a people, government a hundred times more, religion and government more still." But the great French infidel looked at this matter through the medium of his own prejudices, and made Christianity responsible for all the lazaroni and vagabonds of Europe. The fact is, we have among us the representatives of all the governments and religions of the old world, and they very soon become assimilated to our physical peculiarities. An important change goes on, even in the first generation. The European laborer put down upon the Yankee farm, catches something of the enterprise of his employer. His step and all his motions become quicker, as if our genial skies had infused new blood into his veins.

This changeable climate has had much to do with the inventive genius of our people. It has suggested all those admirable contrivances for keeping us warm in Winter, and cool in Summer. How much of human skill and energy have been lavished upon heating apparatus, and to what a degree of perfection has it at length been brought, giving us in our cheerful parlors in mid-Winter, the pure air, sifted of its cold, and genial as the breath of Summer! How endless have been the generations of Franklin's and Nott's and humbler names applied to fire frames and stoves, furnaces and dumb heaters, mute in words, but discoursing eloquently, in very intelligible language, for the whole Winter season! Our fervid Summers have called forth those ingenious contrivances for ventilating houses, refrigerators for preserving food, and started into existence the ice trade, which

now, at home and abroad, amounts to millions of dollars annually.

The sewing machine could hardly have been invented, in any other country. Whether man or woman first suggested the idea, it was the utter impossibility of sitting still and sewing in our climate, that fostered the invention, and brought it to its present perfection. How amply have our inventors avenged the past wrongs of woman, in this respect. Already two hundred different patents are in the field, and the end is not yet. The sewing machine is a good type of the young American woman. She is very fast, and goes with a buzz.

It will be seen that we are a little out of patience, owing to the weather perhaps, with the stereotyped complaint of our Spring climate. What other wind is so invigorating and nourishing of heroic deeds as this north-west wind, which prevails so extensively this month? It comes to dry up the superabundant moisture from the fields to prepare the soil for the plow, and to nerve man for his Summer toils. It is sometimes keen and frosty, but always healthful. It is a safe tonic for young and old, and unlike other tonics, large doses do not harm the patient. Under Allopathic treatment from our youth up, we have always thriven upon these bleak winds, and counted them among the blessings of life.

Calendar of Operations for March 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making a little allowance for each degree of latitude, that is, later for the North, earlier for the South.]

EXPLANATIONS.—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus; *ff* or *mm* or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, indicates that the work may be done in either or in both periods indicated; thus, work marked *fm* indicates that it is to be attended to from the first to the middle of the month.

FARM.

Up to this time (Feb. 13,) the Winter has been so entirely different from anything in our experience that we are at a loss to know how to fill out this Calendar. Of snow we have scarcely seen enough to keep one in mind of how it looks, or what are its effects. We are, however, even yet looking for a parting glimpse of Old Winter's peculiar features. Supposing that this will be the case, there is work enough on hand that needs attention. There is timber to be got out of the woods for farm purposes; wood, bark and timber to take to market; and the year's supply of fuel to be looked after, &c, &c. The farm animals need as much care in the sleety chilly weather as in the coldest season. At the South actual field and garden operations are at hand, and our last year's Calendar for April and May will furnish appropriate hints. Here we may look after the following:

Bees—Return those which have been inverted to an upright position, and arrange them in their Summer quarters. Trim off any decayed or moldy comb, and feed stocks which are short of food, guarding against robberies. See "Apiary," on the following page.

Cattle—Give plenty of feed at stated times. Look well to cows "coming in." Young stock should not fall away in flesh at this season. Have working oxen in good condition for the heavy labors approaching. Continue to give roots with cut hay, or straw, and ground feed.

Cellars—Cleanse from any accumulations of dirt or decaying vegetables, and sort over fruits, potatoes, &c.

Clover—Sow, m l, on fields which received timothy seed last Fall. If sown upon a light snow a more even seeding can be had, and the melting of the snow will carry the seed in the ground. From six to twelve quarts per acre, according as the ground is a loam or clay soil, is a suitable quantity for sowing.

Corn—Procure and test seed by sprouting a little. Plowing for, manuring and planting will be in order, m l, at the South.

Cotton—Prepare grounds and plant, f m. Two or three different plantings will extend the period of ripening.

Draining—Commence as soon as the frost will permit, and thus make the swales and bog lands the most productive portions of the farm.

Fences—Procure materials and build where the frost is out. Employ the stormy days in making gates to supply the place of bars. Set Osage Orange, evergreen Thorn and Cherokee rose hedges at the South.

Fodder—Use as last month, remembering that cattle require feeding at the North until May.

Forests—Look to their future prowth, in getting out the yearly supply of wood. Cut down the old and decaying rather than the thrifty young growth. With judicious thinning and an occasional cutting off a few acres of thrifty woodland will keep up a constant supply for family fuel.

Fowls—Have coops in readiness and set hens, m l, for early chickens. Read the chapters on poultry raising in this and the February *Agriculturist*.

Grain—Procure a supply of good seed for Spring sowing. Keep live stock of all kinds from the growing fields. The crops will need putting in, m l, at the South.

Harrow out the corn roots of last year's growth, as soon as the frost will permit.

Hedge Rows—Clear briers, bushes, &c., from the fences that the plow or scythe may make clean work close to them. A worm fence with every angle filled with bushes has an unsightly and slovenly look.

Hogs—Keep them employed in composting muck, loam, and other manurial agents. If properly managed heretofore an increase of stock will now be looked for. Give breeding sows charcoal, salt and a little animal food. See that sufficient bedding is provided.

Horses and Mules—Prepare and harden them with suitable feed for Spring plowing and other heavy work. Try a peck of carrots a day to each animal, giving a less quantity of oats. If they refuse them at first, cut and mix them with Indian meal.

Ice Houses are now (Feb. 19,) being filled in this locality. Fill them with the first freezings if not done.

Laborers—Now is the time to procure help for the season. With a large farm it is poor economy to employ the smallest possible number of hands. The proprietor can direct the labors of several as well as a single person. At the same time no idlers should be permitted upon the farm. The lowest price men are by no means always the cheapest. The *cheapest* general farm hand we ever employed, we paid $30 per month, he boarding himself.

Manures—Cart to the lots where they are to be applied; dump in large heaps and cover with muck or plaster. Keep the manufactories at work, from the horse and cow stables to the hog pens, privies and hen roosts. A little time spent among these daily, adding muck, house slops, &c., and throwing into heaps under cover will pay a good interest in the next corn crop.

Maps of the Farm may profitably be made by the children during the evenings. Let them mark off the different lots, locate the buildings, represent the orchard and woodland, on a large sheet of paper, and on this mature your plans for the coming season. Records may be kept within the different inclosures and the maps filed away at the end of each year as instructive references. It will also create a taste for drawing on the part of the children.

Meadows—Keep stock of all kinds from treading up and gnawing off at this season.

Plow when the frost is out and the ground is dry. Avoid turning over clayey soils in a wet state unless you want to make bricks.

Potatoes—Have seed in readiness. If raised for many years on the same farm, try an exchange with those of a different locality. Both the common and sweet varieties should be planted South during this month.

Sheep will perhaps be dropping their lambs during the latter part of the month. Provide warm quarters for them. Feed roots or grain to those with lamb, and keep separate from other stock.

Sugar Maples—Tap when freezing nights are followed by thawing days. Have everything in readiness and boil down as fast as it can be collected from the trees. Read minute directions on pages 37 and 38 of last number.

Tobacco—Prepare and sow beds at the South, ff m. Transplant former sowings, ll.

Tools of all kinds, working gear for horses and oxen, wagons, carts, &c., should be procured or made at once.

Turnips, Carrots, &c., are, we trust, still in sufficient quantity to furnish a daily supply to milch cows, sheep and horses. They will not come amiss for young stock or working oxen.

Wood—The favorable Winter has been a good season to collect the "down stuff" in the forest. Finish obtaining the year's supply early and have it cut up at the door and housed or sheltered from rain, for seasoning and use.

ORCHARD AND NURSERY.

As comparatively a light business was done last Fall both by the Orchardist in planting new grounds, and by the Nurseryman in his sales, each should arrange early for more extensive operations this Spring. Let those about planting an orchard read attentively the series of articles on this topic commenced in the January number. Note particularly what is said about "varieties" on page 50 of the February *Agriculturist*, and instead of selecting 25 or 30 kinds, confine themselves to 10 or 12. A few of the best early, Fall and Winter varieties known to succeed in your locality is far better than a large number of *reputed* choice kinds.

Planting can usually be done in this latitude during the latter part of March. Where the ground is in suitable condition this early planting is to be recommended.

The Nurseryman should arrange to fill all orders with dispatch by having labels, and packing materials at hand, and as soon as the frost will permit take up a quantity of each variety of fruit and ornamental trees, and set them thickly and loosely in a trench dug for the purpose, filling in earth sufficient to cover the roots. Use every precaution to keep the varieties distinct, and plainly labelled. The space allotted to these trees may be called the *market* from which selections can be made and lists made up with expedition.

Apples, pears, plums and other fruit trees may be set, ll, where the ground is prepared and free of frost.

Evergreens—These *may* be transplanted, ll, but April and May at the north are preferable months.

Grafting—Cherries may be grafted ll. Next month will be the proper season for grafting most fruits. Full directions will then be given.

Insects—See that no scale or other insects are left upon newly planted trees. Let both orchard and nursery be examined and all the affected trees washed with soap suds, or potash and water.

Manures—Grounds should be made rich both for orchard and nursery purposes. Procure according to your necessities and cart to a convenient spot near the planting grounds. Manure can be applied to nursery grounds far better before than after planting.

Mice—Girdled Trees—If any are found cover. ff, with grafting wax or clay, and bank up with earth. Sun and air should be kept from the wounds.

Ornamental Trees of deciduous, or leaf shedding kinds—Plant early, or as soon as the ground is in working order

Packing Trees for Transportation—Use great care, arranging the limbs so as to cross each other as little as possible Pack the roots with moss or short litter and straw up the bodies and branches. A mat or bag should be sewed around the roots to retain the packing and keep them moist.

Plums—Cut away any warty excrescences, or remove the branches containing them

Pruning—Omit mostly this month, save removing decayed branches and small shoots.

Seeds or Pits—Plant apple, pear, quince, cherry, peach, plum, walnut and chestnut seeds, or pits which were put in boxes last Fall.

Scions—Secure a full supply for grafting before the buds swell.

Shrubs—Transplant as directed for ornamental or fruit trees.

Stakes and Labels will soon be wanted. Provide them, ff, that there be no delay when needed for use.

Stocks budded last season—Cut off the head two or three inches above the bud where the latter has taken.

Transplanting and Planting out—Commence as early as may be, only do not work the ground when too wet and heavy.

Trench or subsoil new grounds, ll, both for orchard and nursery. If inclined to moisture put in drain tile three feet below the surface.

KITCHEN AND FRUIT GARDEN.

March is a busy month with Southern gardeners. In the Southern tier of States they are already thinning, hoeing and weeding, and a little farther North, plowing, planting and sowing, are going on. At the North manures may be carted out, and plowed or trenched in the soil. Hot beds and cold frames will require daily care. Except for early use or marketing, it is not desirable to be in haste to get seeds in the ground. Better let the temperature of the soil reach the vegetating point before sowing.

Artichokes—Plant and dress, ll.

Asparagus—Uncover, manure and fork over beds, ll.

Blackberries—Plant New-Rochelle or Dorchester, ll, or as soon as the ground can be worked.

Borecole and Kale—Sow, ll, where the ground will permit.

Cabbages and Cauliflowers—Sow in Hot-beds, ff, m, and in the open ground, ll. Set out stumps and heads for seed, ll.

Cold Frames require similar treatment to last month, except to give more air as the plants commence to grow. Sow cabbages, lettuce, radishes, &c., to take the places of plants which will soon be removed.

Compost—Prepare for Hot-beds, ff. Provide a good quantity for general use.

Currants—Plant roots and cuttings, ll, if the ground is not frozen.

Cuttings—Make, ff, and plant out those of currants, gooseberries, quinces, grapes, &c., ll.

Drain soils which incline to moisture.

Egg Plants—Sow in hot-beds, f, m.

Fences—Make and repair, m, l.

Figs—Uncover, ll, any buried during the Winter.

Fruit trees—Plant along borders, ll. Selected varieties of dwarf pears, a few peaches, plums, and cherries may be planted by themselves and those vegetables or small fruits grown beneath them which succeed in the shade, such as raspberries, blackberries, &c.

Gooseberries—Plant the same as currants.

Grapes—Uncover buried vines, ll. All vines should have been pruned and cuttings made before this. They will bleed if cut now. Plant cuttings and rooted vines, ll.

Hot-beds—Make and sow, ff, m, or l, according as early or later forcing is desired. (Read the description in the February number.) As the plants in the early beds acquire size before outside grounds are ready to receive them, it is well to have a second bed with a moderate bottom heat to transplant to.

Leeks—Sow ll.

Lettuce—Sow, ff, m, in hot-beds, and, ll, in open ground. Scatter some seed in the cold frames.

Manures—Heavy manuring and deep plowing or trenching are the secrets of success with market gardeners.

Mustard—Sow, ll.

Onions—Sow and put out for rareripes, ll.

Parsley—Sow, ll.

Peas may be sown on warm lands, ll, if the frost is out. They bear several degrees of frost after they are up. Provide brush while you have time. Plow, subsoil and trench garden soils in a dry state.

Potatoes—Plant early varieties, ll, or sprout them as described on page 86.

Radishes—Sow at intervals, in hot-beds, ff, m, l; and, ll, in the open ground.

Raspberries—Uncover buried canes, ll, if the weather is settled. Stake up at once and head back to four or five feet in hight.

Rhubarb—Force a few roots, ff, as described last month. Remove covering from those which were protected during the Winter. Set out new crowns, ll, the earlier the better, after the ground can be worked.

Sage—Transplant roots and sow seed, ll.

Seeds—Procure and test at once. In milder latitudes set out roots &c., for seed, ll.

Spinach—Uncover Fall plants and sow seed, ll. Thin out for use.

Strawberries—Rake off the Winter covering, ll, and give a top dressing of fine, well rotted manure.

Tools—Delay procuring new or repairing the old ones no longer.

Tomatoes—Sow in hot-beds ff, m.

Trellises and Arbors—Repair old and construct new while there is time for it. One style of Arbor is given on page 88.

Trench grounds as soon as they are free from frost and sufficiently dry.

Turnips—Sow a few at intervals in the hot-bed, and in warm borders, ll, for early use.

FLOWER GARDEN AND LAWN.

Unless Winter makes up for his absence in December and January, the mild days of the latter part of March, the swelling buds of the flowering shrubs and the appearance of the early bulbs will invite to the pleasure or flower garden, where preparations for Spring planting may be made. The influence, and oftentimes the labors of the "gentler sex" serve as a stimulus to put the grounds in order as well as may be, and after digging over and a little of the heavy work is performed, the after labors may very properly devolve upon the female portion of the household, to whose service these grounds are appropriately dedicated.

The rubbish should now be cleared away, gravel walks dug over and renewed, borders reset with turf or box, and where the season promises continued mild weather the tender shrubs may be released from their protection of straw, and the bulbs and other roots uncovered. The borders may also be prepared and some of the hardy Annuals sown, ll, such as mignonette, portulaccas, coreopsis, petunias, &c. Other varieties may be sown, f, m, in a hot-bed.

Box and Grass Edgings—Plant and trim, ll, renewing any defective places.

Bulbs—If any have been kept out of ground, plant them, ff, if the ground admits of working.

Carnations, Pinks, and Daisies—Admit air to those in pits or frames.

Chrysanthemums—Transplant, ll.

Deciduous Trees—Set out, ll, in the lawn and along the highways and avenues.

Drain grounds which incline to moisture. It will make them warmer, and they can be worked earlier in the Spring.

Gravel—Procure a supply and replenish old, and make new walks.

Hedges—Set out deciduous, ll, if the ground is in working order. Buckthorn or privet will serve as a good protection, while altheas make a fine screen.

Honeysuckles and other Vines—Prune; arrange, m, l.

Hot-beds—See Kitchen Garden.

Labels and Stakes—During the leisure of this month, provide enough for Spring use.

Lawn—Rake over, ll, to remove the accumulation of leaves and decayed grass. Spread over a dressing of bone manure, plaster, ashes, guano, or fine barnyard manure. Replace bare spots with turf or scatter on seed, pressing down with a heavy roller.

Manures will be wanted to dress both old and new grounds—Provide a sufficient supply, adding as much decayed vegetable matter as possible.

New Grounds—Lay out, ll, according to the plans already matured. Avoid right angles and straight lines. Circles, curves, and waves, can usually be employed for walks or bordered boundaries. A square flower bed is too *set* to give the highest pleasure.

Perennials—Divide and reset, ll, or as early as the season will permit.

Plow deep and subsoil or spade and trench both old and new grounds, as soon as they are in working order.

Prune Roses, Honeysuckles, and other climbers, with the shrubbery which absolutely requires it, f, m.

Roses—Plant cuttings and roots, ll. Prune and regulate pillar and climbing varieties.

Shrubs—Uncover, ll, those which were strawed up or otherwise protected, if the weather appears settled; if not, leave till next month.

Transplanting of trees, shrubs, flowers, &c may be done, ll, or earlier where Spring has fairly set in.

GREEN HOUSE.

Fire heat will be needed while cold weather lasts. Towards the end of the month it may be nearly dispensed with, if the houses be closed early in the afternoon.

Air plants well at all times, and especially so when a more vigorous growth begins. Plenty of air is also required for hardening those plants soon to be put into the open ground.

Azalias—Many are in full bloom and should be watered sparingly. Prune to a good head as soon as they complete flowering.

Bedding Plants—Have a good stock of verbenas, petunias, pansias, daisies, &c., in process of hardening off for frames. Cuttings may still be made, ff, m.

Bulbs—Tie up the flower stalks of those in bloom, and water lightly. Take the more backward to the parlor or hot-house for successive blooming.

Camellias are opening their buds or in full bloom according to the atmosphere of the room. Water and syringe freely until the flowers begin to expand. See page 85.

Carnations—Treat as last month.

Cinerarias—Shift those well rooted to larger pots.

Cleanse the house often, and keep pots and plants free from weeds, mold, and decayed leaves.

Cuttings of myrtles, oleanders, geraniums, verbenas, fuchsias, hydrangeas, jasmines, &c may now be made and put in pots.

Geraniums—Keep from damp atmosphere in an airy part of the house. Shift and water liberally, giving plenty of room. Fumigate to destroy green fly.

Grapes are in every stage, from just starting into growth to bloom according to the forcing they have had Disbud, pinch in, and tie up as necessary. Water and syringe freely until they bloom. Guard against insects, and keep flower of sulpher on the flues.

Heaths—Maintain even, but not too moist atmosphere.

Insects—Destroy with tobacco fumes, soapsuds &c. It is important that they do not increase at this season.

Layer Woody Plants, f, m.

Mildew—Keep off by dusting plants and vines with sulpher.

Oranges, Lemons, &c—Sow seed for a stock to bud on. Repot and dress those needing it.

Pot off some of the forward annuals and cuttings put in last month.

Prune away any decaying or moldy branches. Pinch in straggling shoots to make a compact head.

Roses—Pot off or shift those which have become established. Insert more cuttings, ff, m.

Seeds—Sow a good supply of various kinds, f, m, for planting out in May.

Shifting or Repotting—This is a favorable month to shift to larger pots most of those plants which will need more room during the season; also to pot off cuttings which were thickly planted in January and February. Put them into pots of such size that they will need no more shifting.

Temperature—This must be governed by the collections. Among none should the mercury fall below 35° and some will require fully 40° to keep them in a growing state, while 50° is low enough for others. Let the heat be as even as possible.

Water—Avoid an excess, although the more vigorous the growth the more water will be required, until the plants commence flowering.

HOT HOUSE & CONSERVATORY.

The sudden changes of temperature and frequent high winds at this season require care in regulating the heat, which should be as uniform as possible. Fresh air should be admitted each day, and the foul atmosphere allowed to escape. Keep every department *clean* and free from dust.

Abutilons succeed in almost any situation. Give moderate waterings, plenty of room, and pinch to a fine shaped head. See description and illustration page 85.

Bark Beds—Repair those needing it by adding one-third fresh tan and stirring the mass thoroughly.

Bulbs—Bring to the warmest part of the house for early flowering. Change the water of those in glasses frequently. Many of them will now show a fine bloom.

Calceolarias—Shift those pot-bound, watering freely.

Camellias are still the pride of the hot-house containing a good collection of them. In watering or syringing avoid wetting the flowers. As they pass out of bloom head back to a bushy habit.

Cuttings—A large number of both succulent and woody plants may now be increased by cuttings. Insert in pots and plunge into the bark beds for a gentle bottom heat.

Fruit—Some of the plants, such as Oranges, Lemons, Figs, Bananas, Pines &c., are now setting fruit and require a uniform bottom heat with plenty of fresh air and moderate waterings.

Fuchsias, Hydrangeas, Pinks, Daisies &c., may be brought from the green-house to hasten flowering.

Gloxinias—Shift to larger pots as they increase in size.

Grapes are in bloom or setting fruit even, and require less syringing. Keep the outside borders well covered, and rub off superfluous shoots.

Insects—Wage war, f, m, l. See Green-house.

Layer woody shrubs or plants, f, m, for an increase.

Musas—Water freely when in a growing state. Change those needing it to tubs of fruiting size. Some of them will now be setting fruit. See illustration, page 80.

Seeds—Sow an abundance of annual both exotics and natives. Plunge the containing pots in the bark beds.

Syringe the walls and plants, and sprinkle the floors each morning to maintain a moist atmosphere.

Water—Give moderately, especially to woody plants.

THE APIARY.

BY M. QUINBY.

Out Door Stocks.—As soon as all the frost in the hive is gone, it should be gently raised, and all filth, such as dead bees, chips or nibbings of comb where honey has been unsealed, be swept out. It will require a great many journeys for the bees to do it—you can relieve them in a minute, besides the bees may not be able to do it before it decays, wholly or in part, rendering it unhealthy for them Turn back the hive far enough to get a view of the cluster of bees among the comb, and see if they are all alive. Sometimes those on the outside of the cluster, between the last two combs perish by the cold, and remain closely packed together till moldy, if not putrid, spoiling the combs as far as they reach, and making them unfit for anything afterward. These dead bees when present, should be removed early; if the combs, where they are, are already moldy, cut them out. The bees can be kept quiet during the operation by tobacco smoke.

Any that need feeding should be at once attended to. Should the Spring be wet and backward, they will often consume as much honey from the first of March till June, as through the Fall and Winter. The safest place to feed is on the top of the hive; open the holes through the top and put the feed under a cover sufficiently close fitting to keep other bees away.

In Door Stock.—Bees in the house will manifest some uneasiness by a few leaving the hive, whenever moderate weather occurs. They may be kept tolerably quiet by sprinkling snow on the floor of the room, till you get a good day for setting them, which should be clear and warm. Have the stands all ready, so that moving stocks may be avoided afterward, unless they are to be taken over a mile. Put out a dozen or less on stands as far apart as possible In two hours—after the bees of these have about all been out and returned—as many more may be put on the stands between the first, this in some measure will prevent their mixing. Should the air be mild and the sun bright, old snow will do no harm. Examine them about noon own to see if any have lost a queen. Should such an occurrence happen, the bees of such stock will be in great commotion while the rest are quiet. To prevent their being robbed, or destroyed by worms, they must be broken up and the bees united to some other; or if the family be a large one, some weak family containing a queen, may be united with that.

Severe weather occurring after they are out, may make it necessary to return them to the house. Make the entrance very small, as a protection against robbers, and to preserve as much as possible the animal heat, which is important in rearing the young brood.

Early Lambs.

Those who breed lambs for an early market have them dropped mostly during this month. As there is no grass for the ewes, extra care and feeding is neecssary to preserve the lambs, and provide a due supply of milk for their support. A moderate quantity of roots, if on hand, or if not, a full supply of rowen hay is the best food for that object. If neither of them be on hand, soaked oats may be substituted. If roots are used, and the weather be cold, they should not he given in large quantity, as they are eold and watery, and incline the ewes to scour. A quart of cut roots is sufficient for a day, and of all kinds carrots are the best, if you have them, if not, provide them for next year. With all the claims of the superiority of roots as *green* food, by some people, our experience is against it, in *cold* weather, having practiced it long enough to *know*. And our opinion is corroborated by some of the best English and Scotch farmers, in their own practice since coming to the United States.

Dry and warm shelter is also necessary, with plenty of straw bedding. When the lambing season arrives, the ewes should be carefully looked over, and those nearest their time, taken out and separated from the others, and put under warm shelter, so as not to be erowded and overrun by the others. After the lambs are a few days old and well used to the teat, they, with the ewes, may be turned out into the open yard, with an adjoining shelter to go under at choice. No young thing is hardier than a lamb, with enough to eat; and plenty of fresh air and exercise should be allowed to them. Give them a good start, and when the grass comes, nothing will thrive or fat faster; and the little extra pains devoted to their early production will be amply compensated in their rapid growth and early development; while nothing on the farm, in the stock line, pays better in a ready market, and a quick return.

Spring Chickens

Are always in active demand from May to September, in the vicinity of all our cities, and the larger towns. Of course they are profitable to the farmers, and small landholders and cottagers, who breed them. This is a good month to set the hens, and hatch them out. For this purpose, a warm hen-house, and coops in sunny places are required. Let the eggs be kept in a proper temperature, till the hen is ready to sit on them. Thirteen is the proper number for a clutch of chickens. When hatched, if milk curds can be had, this is their best food. If not, soaked bread for the first few days, and after that, Indian meal *well cooked*, like mush for your own table. Raw meal, wet up in the usual way, is harsh and scouring for their delicate stomachs. When a few weeks old, chopped cabbage, "sives," and other tender vegetables, are to be added, and sour milk is the very best drink they can have.

We would, by all means, entrust the early chickens to *woman's* care. She seems to possess the necessary instincts—worth all the boys and men in the country. We have known a Scotch, Dutch, or Irish washerwoman's cottage, surrounded by a close wall, alive with early chickens, when the gentleman's and farmer's premises would scaree supply a fowl for the table before September.

Don't keep the "big" breeds for "Spring chickens" either. A close, compact, early matured fowl is the thing for this purpose. In most large towns a plump, fat chick, the size of a quail, will sell for as much in May or June, as a full-grown one will in October; and if they only know you have them, the tavern keepers and pedlars will be after them every day in the week. To the habit these latter people have of confining them in close, filthy coops for days together, we enter our protest. It is cruel to the chickens. It poisons and defiles the taste of the flesh. It makes them poor. Exercise, good air, and plenty of good food they should have, till wanted for the table; and every one who keeps them on hand for immediate use, should be well provided with yards, and roosting accommodation. To make chickens edibly perfect they should come upon the table plump, juicy, and full of their own natural gravy. "Plump as a partridge," is the term which should always be truthfully applied to the early chicken; and if if they be not so, half their excellence is lost, while, if in perfection of flesh, they are a positive luxury.

A New Fish Fertilizer.

Our readers are well aware that we have condemned a large proportion of the *manufactured* fertilizers, which have been brought before the public with so much flourish of trumpets, backed up and endorsed by the specious but deceptive analyses of "distinguished chemists," and offered to farmers with a very patronizing air. The stand we have taken has incurred not a little loss, as our advertising columns have not been erowded with the "super-phosphate advertisements," which have been so valuable a source of profit to other journals. But though our duty to our readers has impelled us to condemn a majority of these manufactured stuffs, we are none the less ready to bring to notice anything which really promises to be useful to the public. We, therefore, refer with pleasure to a new enterprise recently started at Southhold, L. I., having for its object, the preparation of a cheap fertilizer, from the immense number of fish that abound upon our sea-coast. Repeated efforts have been made to manufacture these fish into a condensed dry manure, capable of transportation, and at a price which would warrant farmers in purchasing it as a fertilizer, but for varions reasons, all previous efforts have failed.

Last season, a gentleman erected works at Southhold, to manufacture "fish oil," and "fish guano," under the patent of Messrs. Thurneyssen & Demolin, of Paris. It was so late in the season before the apparatus was completed, that only preliminary experiments were made. The process is essentially as follows:

The fish are taken in quantites of three tuns or so, put into a space between two cylinders heated by steam under high pressure, and there cooked while kept in motion by the revolving of the cylinders. They are next transferred to strong bags, and subjected to powerful hydraulic pressure, while still hot, which extracts most of the water not previously evaporated, together with a large amount of oil. The mass thus dried is ground finely, and put up in bags. Only about one-fourth of the original weight of the fish remains, but this contains the chief valuable fertilizing elements. The profit derived from the oil will enable the manufacturers to sell the fish at a low price.

As above stated, only a small quantity was made last season. Deeming the matter of sufficient interest to our readers, we ourselves selected an average specimen from the mass thus manufactured, taking care that there should be no chance for collusion in the fitting up of "prepared samples," as is too often done. The specimen thus procured, we forwarded to Professor Johnson, of Yale College, for careful analysis. The results we have not space to give in detail, but both Professor Johnson and ourselves agree in the opinion that with a little more perfection in the machinery it is probable that the process will prove successful; and we shall soon have in operation, not only at Southhold but elsewhere, a feasible plan of rendering available as manure, a large amount of the stores of fish abounding in our waters. As soon as the factory is in operation, we intend to procure samples from the materials as actually offered in market, and submit them to the most rigid analytical tests, and give the results, whether favorable or otherwise.

The process is not a "secret" one, but is secured by "Letters Patent," in Europe and America, and there seems to be little chance for deception. As rights to manufacture at different points are offered to the public, if the article should prove as valuable as it now promises, there will be competition enough to keep the price in due bounds. A pamphlet, giving the details of the mode of manufacture under the patent, can be obtained by addressing Mr. Brundred, as per advertisement.

Advertising Dodges—Free Seeds.

Scarcely a day passes without our being beset by some benevolent individual, who appears exceedingly anxious to benefit the entire world and "the rest of mankind." One thinks we ought to get up at our own expense engravings of his new-fangled patent machine. Another is quite affronted because we refuse to tell people that he has cattle, or sheep, or fowls, or trees, or seeds, &c. to sell. Just now we were terribly scored for publishing a man's communication respecting a particular fruit, and leaving out a paragraph which stated that he had 10,000 trees to sell.

The most frequent dodge, of late, is that of sending us a description of certain plants, puffing them to the skies, and wishing us to tell our readers that on sending *two* stamps they can get a few grains of seed. Here is an example. A. L., living in a Western town, sends us 10 peas, which he calls "the very best in the world," with sundry reasons wherefore. Now, he says, "tell your readers, that I shall be happy to supply them with 10 of these peas if they will send two 3-cent postage stamps." Very kind hearted Mr. A. L., we can do no such thing. One stamp will pay the postage on 20 peas, and we think you would make a fine speculation if we should persuade 30,000 or 40,000 of our readers to pay you three cents each (in an extra stamp) for ten little peas, which look to us like very poor affairs.

But A. L. is only one of a multitude who are from time to time trying this game. We give notice that any communication designed to promote a private end, must go into the advertising columns, and be paid for, in advance, at regular rates.

Any subscriber who has anything valuable which he or she would take pleasure in distributing among the members of the *Agriculturist* Family without taxing them for an extra stamp besides the postage, will be doing a good work, and we shall he happy to make the fact known. There are, however, so many schemes of this kind to get the names of persons for the purpose of sending them an advertising handbill, in connection with the offered seeds, that we shall almost need some credentials, or guarantee of good faith, when such a proposition comes from a distant stranger, even though a subscriber.

A French horse-dealer was asked if an animal which he offered for sale was timid.

"Not at all," said he; "he often passes many nights together by himself in the stable."

How Much Manure to each Animal.

There is a limit, doubtless, to the quantity of muck and litter that may profitably be mixed with the droppings of animals. The quantity of fœces voided also, is affected very much by the feed of the animals, and by other circumstances. In the open air, in Winter, much of the food passes off through the lungs and skin, to keep up the heat of the system, that would pass through the bowels in a warm stable. The fœces, as they are thrown into a heap in the ordinary method of cleaning the stables, pass into fermentation rapidly and a portion passes off in the form of gas, and is lost. Without absorbents, very often one half, or more, of the value of stable manure is lost to the farmer without attracting his attention. Many cannot be made to believe it, because they do not see the thief loading the manure into the cart with a dung fork. But they can easily satisfy themselves of the theft, if they will compare the effects of stable manure, that is exposed for a Winter, with a like quantity that is treated with absorbents, and kept under cover.

The general error is to undervalue the need of absorbents, and to furnish the yards and stables with but a small part of the muck that might be profitably used. If there be an instance of error in the other direction, we have not yet found it, in a very large observance of the practice of our best farmers. We have visited numerous farms the past season, for the purpose of looking into this matter, where the quantity of manure manufactured upon the premises varied from two hundred loads to two thousand, and have not found a single case where muck was used in excess. Indeed, this is hardly possible, while the muck itself consists of the elements of the crops the farmer wishes to raise. The manures hasten the decomposition of the muck, and the whole mass becomes available for the food of plants.

The success of a farmer, in all the older States, can be measured by the extent to which he uses muck, or other absorbents, in his yards and stables. We found some poor farmers making not more than three cords of manure. or six loads for each cow, ox, or horse, and not more than one cord for each pig. Others, who thought themselves pretty good farmers, made five cords to each cow, and one or two for each pig. In a single instance, we found as high as ten or twelve cords for a cow, and four or five for each pig. In this case, the pigs, were, of course, kept in the styes continually, and nothing was wasted in the highways and pastures, as is quite too common. The horses and oxen were also stabled the most of the time, and the cows put in the stable during the Summer nights, and fed with green corn fodder, as soon as it was large enough.

Our own rule in making manure is, fifteen cords for each cow, ox, or horse, and five for each pig. The routine of management for the stables is this: A large shed is attached to them, which is kept well supplied with dry muck. A stock is kept on hand for several months ahead, as the drier it is the better. A coating of this muck is kept constantly in the stables, six or eight inches in thickness. This is lain upon by the cattle, and receives all their droppings. The solid fœces are removed every morning into the barn cellar, beneath the stables. The coating of muck remains about two weeks, when it is a good deal rotted by the heat of the animals, and thoroughly saturated with liquid manure. It is then all thrown into the cellar, and another coating is put under the animals, to go through the same process. The muck is covered with a bedding of straw, or refuse hay, every night. In this way the animals are kept dry and comfortable, and the heat of their bodies is available, whenever they lie down, for decomposing the muck.

Notwithstanding the large quantities of muck used in this way, it is still found that the manure heats in the cellar beneath, though there is little smell of ammonia. In the Fall the manure in the cellar is removed to the field, and heaped up with about twice its bulk of muck. These heaps are forked over once or twice during the Winter, and at planting time they are spread upon the ground, and plowed in. The manure made during the Winter is either put immediately into the soil in the Spring, for early crops, or put in heaps and treated, like the Fall manure, to be spread and turned in, the last of May, for corn.

Of course, this routine of stable management involves a good deal of labor, but we are satisfied that it pays better than labor laid out in any other form upon the farm. The results of forty cords of this compost upon an acre of corn ground, is as good a certificate of its value as it needs. Of all methods that we have tried, this suits us best, and we expect to abandon it, only when we give up tilling the soil. A farmer, who has muck accessible, may better make fifteen cords of manure for each of his large animals, than any less quantity. He is perfectly safe in hiring all the labor he needs to draw the muck, and to handle it in the stable, the cellar, and the field. We are confident, that no farmer, who once sees the results of this method in his crops, will ever be satisfied with a less quantity of manure from his stock.

Reapers and Mowers, &c.....II.

FIELD TRIAL OF IMPLEMENTS BY THE UNITED STATES AGRICULTURAL SOCIETY, JULY, 1857.

To the Editor of the American Agriculturist:

In my first article I commented on the injustice of permitting Ball, Aultman & Co., and Miller & Aultman's Mowing machines to "go on," which did not work, or broke down in the clover field, the first and *most important* day's trial of any at Syracuse. By all that was fair and just I contended that they should then have been "ruled out," they having thrown away or lost their chance for further exhibition. I also commented on the absurdity of any "Points" that should give a machine a "first prize," which, owing to its greater heaviness of draft, compelled its team to draw two millions three hundred and four thousand pounds (2,304,000 lbs.) more per day of ten hours work, than another machine competing with it, viz. Hussey's.

As a second illustration of the above subject, and the unfairness of giving the *first prize*, to Ball, Aultman & Co's machine, let me again quote from the Report under review.

"Another question, connected with the amount of draft, seems to call for remark in this connection. We allude to the weights of machines. This difference on level ground is trifling, but when *ascending hills* it becomes of *great importance*; and as most farms are more or less hilly, it becomes a matter of serious consequence to the farmer to select the *lightest* machine—other things being equal. The ascent in the Haydon meadow was estimated at 80 feet from the plank road to the eastern end of the lot. Its length was 60 rods, and the horses averaged four minutes in walking the distance. It follows, therefore, that the power expended in overcoming simply the gravity of each machine, is expressed by the weight of the machine raised, perpendicularly, 80 feet high in four minutes."

"Table *E* shows the weight of Ball, Aultman & Co's machine to be 995 lbs., and Walter Wood's to be 719 lbs, making the difference of power from this single source, equal to that required to raise 276 lbs., 80 feet high in four minutes, which is rather more than one-sixth of one horse power. The difference is still more striking in Allen's Machine, where the difference is 313 lbs. 80 feet high in four minutes, or about one-fifth of one horse power."

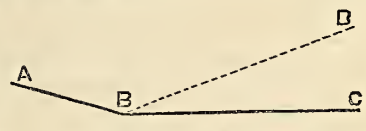
See pages 35 and 36.

Before commenting on this extract, I would respectfully ask, why take Wood's and Allen's machines for a comparison, instead of Hallenback's and Osborn's, as these stand lowest in weight in table *E*? There, the latter is set down as weighing 658 lbs., making a difference between it and its competitor, Ball, Aultman & Co., of 337 lbs. Thus Osborn's machine has an advantage in weight or draft, over Ball & Co's., of 5.355 lbs. per hour. Admitting that the machine travel half the day up hill, and half the day down hill, there would be five hours out of the day in which the latter machine must carry this extra weight, which would be twenty-six thousand seven hundred and seventy-five pounds (26,775 lbs.) more in the one case than in the other; and yet Mr. Osborn, like Mr. Hussey, gets no credit for this great saving of labor to the poor team on a hot summer's day; for when we turn to the final Table of Merit, page 87, behold against "Effective Power," we find this line in the column for Osborn blank of all figures! What justice, what fairness is there in adopting a "Scale of Points" which leads to such a decision against this very light machine! Does this not look, to use a familiar and homely comparison, like being all *turkey* on one side, and all *owl* on the other; or in tossing a penny for a chance, it is "head up," Ball, Aultman & Co. *win*, "tail up" Hussey & Osborn *lose*.

The Report then goes on to describe the Ball, Aultman & Co's machine at full length, and with considerable unction. The Committee probably thought that the more *complex* it could be made to a plain, simple minded farmer, the more valuable the machine would be to him. He is informed that when the cutter-bar is removed, "the machine will answer very well for a *buggy!* Would it not also answer equally well for a *baby jumper?* Perhaps if it did it would be all the more useful and desirable, especially to the female portion of the farmer's household.

The Report continues. "It cuts well at a very slow motion, though the stubble is about *an inch longer* than when cutting faster." Then if any farmer desires to make the most of his grass and cut it as usual with them, he must dispense with any team that savors of *slowness*, and launch out among the "fast boys" of "Young America."

The Report seems to think highly of its cutter, and says, "it adapts itself with very great perfection to all the inequalities of the ground by means of a double hinge joint." Here I join issue with the Judges, and inform them that upwards of three years ago, before Ball's "double joint" was made known to the public, a friend of mine after carefully experimenting with this same thing condemned it. In tolerably smooth ground—*where it is never needed*—the cutter works well enough; but where there are stones of any size, ant hills, hassocks, or rough places, this machine *can not work*, as has been abundantly proved by many farmers in Ohio, where it is best known. Let me illustrate this by the cut below.



The line *A*. represents the pitman or connecting rod *B*. the double or universal joint of the cutter bar—the line from *B* to *C*, the cutter bar as it

lies on the ground for cutting grass. Now put the machine to work on uneven ground, and it will be constantly throwing up the end of the cutter bar at *C*, to as high an angle as it can possibly work at *D*, which is about 13 degrees. As the end of the cutter bar at *C*, rises towards *D*, the knives begin to hind in the fingers—the grass is skipped and mostly left uncut—the cutter bar moves back and forth so hard that it adds greatly to the draft of the machine—often entirely stopping it—the knives choke—breakages of various parts of the machine follow—and there is an end of its cutting till the machine can be repaired. I am told by a friend familiar with the facts, that almost every connecting rod or cutter bar, or some other parts, broke in 16 machines which were used in or near Warren, Trumbull Co., Ohio, in the season of 1856; and he was informed that these breakages were nearly as numerous in other places where they were used. The manufacturers professed to have obviated all these defects in the season of 1857; but I understand the complaints of breakages and bad working of the cutter bar, &c., were almost as numerous this season as ever. In my humble opinion, the "double joint" and accommodating finger board, which found so great favor with the Committee reporting on them, will be given up as worthless after a year or two more of abortive trials.

Cunning enough were the owners of this machine in declining to operate it on the *first and most important day's* Trial at Syracuse, where there were a few small stones and the surface of the field a little rough Its more than half brother, No. 19. Miller & Aultman's—Ball, Aultman & Co., very soon broke down, and was no more heard of that day. Was it surprising that the public then present drew their conclusions that the same fate would have attended No. 18, E. Ball's invention—Ball, Aultman & Co.? Yet to the wonder and indignation of every one knowing the facts of the case, it seems that a majority of the Judges did not coincide with the public in its "conclusions;" but with an impudence which knows few parallels, they took it for granted that this machine would have worked perfectly well on that eventful day, and gave it the First Prize; thereby endeavoring so far as they could, to add *hundreds of thousands* of dollars to the value of the Patent!

Was not one of the most influential Judges in this decision an agent for this machine at Columbus, Ohio! I pause for a reply. H. L.

Syracuse, N. Y., Feb. 9th, 1858.

[From another Correspondent.]

To the Editor of the American Agriculturist:

I have read with interest "H. L.'s" Review of the Report of the Committee on Trial of Agricultural Implements at Syracuse.

The errors, inaccuracies, mis-statements, and wrong calculations therein, are unworthy of the U. S. Agricultural Society, and the Report ought to be suppressed. My attention has been called to a letter of the chairman of the committee, in which he admits some of the errors, and particularly in reference to the Ketchum Machine. I own, frankly, I am a "Ketchum man," and witnessed the trial, and know great injustice has been done that machine. The Hon. Chairman admits, that the weight is stated at about 100 pounds too much, and that the draft is 102 pounds too much, with this correction, it being the lightest draft of any machine in the field. I regard these as errors wholly inexcusable. He also admits that "he cannot say certainly whether" the cut of Wood's Machine is stated at 54 or 64 inches. Everybody knows it was not 64, and the chairman ought to have known its precise length. The Report also states, that Ketchum's Machine advances *six inches* to one vibration of the knife. Well, this machine must do wonders, if it can cut six inches with one stroke. There are many such covert hits at the Ketchum Machine, mistakes and errors being always against it and some other machines, that stood in the way of the favorite, Query—Will the society withhold the premiums?

Genesee.

Are the Prices of "Blooded" Stock Going to Fall.

To the Editor of the American Agriculturist:

I am a breeder of blooded cattle, and have thus far succeeded satisfactorily, both in rearing stock, and sales. The stock trade, generally, has been active for several years past, and prices remunerating to the farmer and breeder, at large. What is to be the effect of the present reaction in commercial affairs, and the scarcity of money, upon the prices of meats in the United States, and upon our better classes of stock—particularly blooded, or fancy cattle, sheep, &c?

Yours, ———

REMARKS.

We embrace this opportunity to give an opinion on so direct and important a question as the above. In the first place: because we know it to be *mentally* the query of many a choice stock breeder throughout the country, who fears, almost, to ask the question *openly;* and, in the second place, to state a fact, or two, concerning such stock, itself.

We, Americans, are a nervous, spasmodic, and excitable people, in our feelings and actions, and in nothing more so than in matters of trade, and occupation. Twenty years ago we were importing Short-Horn, Hereford, and Devon cattle—Short-Horn, chiefly; Longwooled and South Down sheep, and swine—chiefly Berkshire. Prices were high, and sales frequent. In four years from that time, meats of all kind had fallen to ruinously low prices, hardly worth the raising; and improved stock fell down to zero, in prices, yet not in intrinsic value. But sales were few, and prices nominal. With better times, and the increase of our exports of meats, prices of all farm stock rose rapidly, until they became *too* high, in reality, and so they held until within a few months past, during which they have rapidly receded, although not to what may be termed a *really* low figure. Experience, however, had taught us, during the years of low prices, the comparative value of our domestic, or native breeds of stock, by the side of those crossed with, or having an infusion of the "improved" blood in their veins. The latter could be bred, reared, and marketed at a profit, while on the other, there was either no profit at all, or a positive loss. Consequently, when meats rose in price, the material to make those meats the most profitable to the farmer rose in value, also; and for the last five or six years, numerous catalogues of foreign cattle, sheep, and swine, have been imported from England, to cross upon our old importations, and to breed anew—at prices, too, higher than ever were known before in this country, and also of quality in the animals themselves, far superior. Their sales have been rapid, and they have been widely disseminated throughout the stock-breeding States.

The consequence of all this is: the *material* of our meats has been greatly improved; our stock-breeders are enabled, in cattle, to get their beeves to market, one to two, and even three years younger, with greater weights than before—and comparatively so, with our mutton and pork; and all at less cost for the same time in keeping, than with our old, unimproved stock. With this experience, therefore, we cannot afford to fall back, nor to stand still. The stock-breeder, the grazier, and the feeder for market must go on, and still *further* improve, if he means to make his business profitable. Prices, although they have fallen considerably, have not fallen ruinously, nor will they. We have had an alarming money panic throughout the land. It has been dreadfully violent; but from that very violence it will be all the more temporary. The country is full of enterprize, industry, and hopefulness. We cannot afford to lie still, and must, of necessity, go on. The world still revolves, and California and Australia still yield gold, and so, good, blooded stock will retain its value. Sales may be slower for a time, and prices may be somewhat lower than they have been for two or three years past, but their permanent value will not be lessened. Our farmers now *know* the worth of that kind of stock; they must have it continually to build, and *level up* their old stock with, or suffer in the sales of their beef, pork, mutton, and wool. Now, indeed, are the times to buy, for all who want to infuse *new* blood into their herds and flocks. No man who has the ability to hold his valuable breeding animals, of any kind, should be alarmed at the talk among panic-stricken men—of "ruin," and "low prices." We have just as much confidence in the prospects of the breeders of fine stock as ever, and that confidence has neither been slight nor wavering.

Antidote to the Rot in Potatoes.

To the Editor of the American Agriculturist:

There are certain substances—some of which are also fertilizers—that are almost certain to prevent the rot in potatoes. Peat is an antiseptic—that is, counteracts putrefaction or rot. Tan bark and charcoal also possess the same anti-rot qualities, in nearly as great a degree. But neither of these substances are fertilizers till decomposed; to do which requires a great length of time, or the mixture of some other substances with them, such as fish or other animal matter, with the peat, for example.

Lime as well as wood ashes is a fertilizer, more especially the latter when unleached. In fact, unleached ashes will have a greater effect upon the grass crop than any other substance which can be applied to it, excepting, perhaps, Peruvian guano or bone-dust, where the soil has been greatly exhausted. The application of lime or ashes would not act as a partial preventive to rot in the potato, but they would be excellent fertilizers to apply to the crop—above all, the ashes

To ensure a large crop of potatoes and of a *superior quality*, there is no preparation equal to turning a rich pasture sod flat over, a day or two only in advance of planting. As you furrow out for planting, don't disturb the sod; it then decomposes about as rapidly as food is required for the growing crop. Another great advantage of a sod turned flat over, is, few or no weeds spring up during the Summer. Rich barn-yard or other putrescent manures applied plentifully to the potato crop, is almost certain to bring the rot; and the quality of the potatoes is not so good, as when grown on a sod without manure. L. S.

Wisconsin, February, 1858.

Smoking Chimneys.

Jas. H. Stout, of Wheeling, Va., writes that "a simple plan to prevent smoke passing down a chimney is to make openings through each side two inches square, and about eighteen inches from the

top. This will effectually stop this annoyance, even in the most gusty weather. When the wind enters the top of the chimney, it passes through the openings and can never overcome the upward draft.' REMARK.

We do not see the "philosophy" of this remedy, since the pressure of the air produced by a gust of wind would operate quite as forcibly upon the side openings, as upon the top.

Introduction of Merino Sheep into the United States.

We have little taste for discussions of historic dates, &c.; the *present* value of this or that animal or plant, is with us the important question. Still, as many sheep-raisers have indicated an interest in the topic named above, we give place to the following communication:

To the Editor of the American Agriculturist.

S. G. Goodrich, (Peter Parley,) in "*his Recollections of a life time*," quotes from the Cyclopedia of American Literature, a statement with regard to the introduction of Merino sheep into this country, which he should have known was not in accordance with facts. Thus: Vol. I. p. 401, he says: "The first Merino sheep brought into the United States, were imported by Chancellor Robert R. Livingston—a pair of each sex in 1802. Mr. Delessert sent a few others soon after. Little attention however, was paid to the subject, and it seems that about 1805, half breeds were sold at a price below that of common sheep. Afterwards, a larger importation was made by Col. Humphreys, who had been our Minister to Spain, and our Consul Jarvis. These were three hundred in number, and arrived in 1810."

Why if Goodrich's "Recollections" had given out, and he must needs make a book, did he not give us some reliable statement from Livingston, showing the year, month, and day, when his "*pair of each sex*," where introduced? Why did he not refer to Humphrey's works, 4th edition, published in New-York in 1804, and which are in all our Libraries, and give us the true state of the case? There he would have seen in a dissertation on the Merino sheep, dated Boston, August 25th, 1802, the following, which I extract from page 349. "Convinced that this race of sheep, of which, *I believe not one*, (surely Gen. Humphreys had an opportunity of knowing,) had been brought to the United States until the importation by myself, might be introduced with great benefit to our country. I contracted with a person of the most reputable character, to deliver to me, at Lisbon, one hundred, composed of twenty-five rams, and seventy-five ewes, from one to two years old. They were conducted, with proper passports, across the country of Portugal, by three Spanish Shepherds, and escorted by a small guard of Portuguese soldiers. On the 10th of April last, they were embarked on the Tagus, on board the ship Perseverance, of 250 tons, Capt. Caleb Coggeshall, master. In about fifty days, twenty-one rams and seventy-five ewes were landed at Derby, in Connecticut; they having been shifted at New-York on board a sloop destined to that river." And on the 365th page is an engraved copy of a gold medal inscribed: "Presented by the Masachusetts Society for promoting Agriculture, to the Hon. David Humphreys, Esq., late Minister to the Court of Madrid, as a testimony of respect for his patriotic exertions in importing into New-England 100 of the Merino breed of sheep from Spain, to improve the breed of that useful animal in his own country, 1802."

Here, then, we have reliable proof that Humphreys landed ninety-one sheep in Derby, his native place, on the first of June, 1802.

And now, as to the three hundred which Col. Humphreys and our Consul Jarvis are said to have introduced. Mr. Jarvis writes me under date of January 11th, 1858, that he "shipped to this country in 1809 and 10, about 3650 of the purest blooded Merinoes of Spain, and that the same years there were shipped, principally from Lisbon, about 3000, now making 6650" (instead of 300.) "These numbers may be relied on, he says, as he was Consul at the time in Lisbon, and all the American vessels from Lisbon to the U. S. took a clearance from the Consular office specifying the quantity and quality of their cargoes...." G.

PRICE OF PERUVIAN GUANO REDUCED.—An important Official Announcement of the Peruvian Government, to this effect, will be found in our advertising columns, page 95. This reduction will most probably be lasting. The retail prices will probably be about 3 cents per pound for less than a tun, and not far from 2½ cents per pound for a tun or more.

Keeping House in the Country.

"HELP."

My series had very nearly come to a premature end, on account of what we call here a "scarcity of help" by which we do not mean *literary help*. Impelled by my feelings, I had written two pages on the subject, but threw them in the fire, because they cast rather a dark shade on what I would fain make a pleasant picture of life in the country. One ought not, however, to conceal the truth, and as this is unquestionably the one great difficulty, it ought to be looked fairly in the face.

"How," asks the conscientious young housekeeper, "must I train and treat my servants? Some people have a happy faculty of inspiring affection and respect, but I have not succeeded. How can it be acquired?" Alas! all receipts must begin like the famous one for fish-boiling: "First catch your fish." I have never heard that trout, though proverbially hard to catch, ever took any airs in consequence, when fairly on the gridiron. The domestic long-angled-after, certainly does, and thereby complicates an operation all ready difficult enough. I don't think any writer in the numerous books of advice to young ladies, young wives and young housekeepers, treats of the relation of domestic service as it exists in many parts of this country. We are charged to be considerate and firm, gentle, and decided, &c, &c, all of which supposes that we possess some degree of power, influence, and authority; whereas, we have often not even the shadow thereof.

What does it matter to Jemima that Mrs. B—— *insists* on her making good bread, when Mrs. C——, who lives across the street will let her make it as sour as she chooses, if she will only come and do the washing for her eight boys? But Mrs. B—— has also a large washing, and so she will do well to give up the bread point, and appease the insulted Jemima if she can.

In Europe, the custom of giving characters to domestics, while often useful as a protection, is still a means of control. In this country, we have not even that. "I cannot give you a good character," I heard a lady say to a girl who had been detected in dishonesty. "Bless ye mum! I don't want it. *I never needed a character yet!*" She was right—in less than a week she had a good place.

What then is the remedy? It is true, as we are constantly assured in the papers, that, while this system of domestic help exists in so many places, our cities are overflowing with women needing employment. "*Needing*," I say, not *wanting*—for it is an undeniable fact that thousands prefer beggary and privation in the city, to comfortable homes elsewhere. Benevolent societies are in operation to supply the destitution of some places by the superfluity of others, and thousands are yearly sent to the West, over the great lines of travel. How they prosper there, and whether they satisfy their employers, I have no extended means of knowing. In our neighborhood, the experiment has been tried, and proved a failure. About twenty women and nearly seventy children were sent to this county two years ago, and were welcomed into respectable families—many of them sanguine and anxious for the success of a scheme which promised to lighten the labors of our over-worked housekeepers, while it afforded the best of relief to our suffering fellow creatures. With the orphan children it prospered well. Most of these are still here, doing well, and they may grow up useful members of society. But the children whose parents could claim them, and a the women, with a very few exceptions, have returned to New-York, to the great *delight* of the families they again left *helpless*.

I have not space, nor would it profit, to detail the reasons of this failure. Difference of religious belief, the disappointment of exaggerated expectations, and a dislike to the dullness of the country were the chief. Had they come here directly from the emigrant ships, they might have been more manageable, but as it is, the result of the experiment has closed to us all hope of relief from abroad for a long time to come. It will take us nearly twenty years to recover from the effects of our recent trial.

Consequently, if there is any place where the three questions: How to do *without* servants? How to do with few? and how to manage those we have? are carefully and earnestly canvassed, it is here. I shall consider them further in my next. EMILY.

Windholme, Pa., Jan. 15th 1858.

Household and Barn Cats.

Did anybody ever have an honest house cat? That is to say; a cat that would not steal cream when she could get into the milk-room, or buttery; or the moment the meat-closet door was open, would not slip in and plunder the dishes? If so, we never yet heard of it. We have had sundry cats in our lifetime, for mouse-catching about the house. They did catch mice, to be sure, but where they caught one mouse, they caught half-a-dozen little singing birds, or chickens; plundered and committed their nuisances all over the house, meantime, and let the rats—alone. A trap, or two, or a few doses of poison would do up the mouse business better, and more promptly than all the cats we could get, put together, and therefore, we long ago put them out of the house, and got rid of their annoyance. Still women, especially young girls, and mischievous children who want something to pull and and haul about, must have a cat or two, and their indispensable appendages, a lot of scorched-backed, dirty, soot-stained kittens. We are not about to dispute with them on the subject of *taste*, in such companionship of pets, but to enter our protest, with all good housekeepers and mothers, against cultivating a liking for such treacherous and unreliable house protectors.

A barn cat—at the stock and grain barn—a stout, undeniable ten-pound grimalkin, however, is quite another matter. We like him or her, or both, as the case may be. These will usually catch rats—mice always—and will follow them over the beams into the mows, and hunt them constantly. Old Sam, as the boys call him, during the Winter season is always "on hand," At milking time he follows the herdsman round the stable, and when he has had his breakfast of milk, which is always served in a little dish, at one end of the cow stalls, he goes about his business. Biddy, too—for he has a wife most of the time—shares his meals, hunts mice regularly, and now and then bears a litter of responsibilities, which go—somewhere—we don't ask about them—and our barn cat stock increases no further. When Spring comes, and the stock are turned out, they go into the fields, or woods, and are seldom seen, till cold drives them in, or the return of barn vermin invites them They have no taste for the house, won't go there, and woe be to the woman or child who puts a hand on them; scarred fingers and scratched faces are sure to follow. The only real trouble we have with them is, when they come within reach of the terriers, and then is a muss at once. Sam and

Bidey's fur is sure to fly, while Jack and Nelly are equally sure to wear marks of decided feline discipline on their faces for long days afterwards. Both parties claim jurisdiction of of barn, and stables, and while they both do good service in their line, each equally hates the other with the intensity of a common enemy.

Agricultural Humbug at Washington---II.

PATENT OFFICE SEEDS.

We purposed in this number to continue our remarks, begun on page 40 of last No., in reference to the operations of the Agricultural Department of the Patent Office, but we cheerfully give way to the article below, from the *Philadelphia North American* of Feb. 6th, to which we call especial attention.

After referring to the benefits that may be, and even have been derived from the distribution of seeds, the writer goes on to say:

"....Mr Editor it is so much more agreeable to praise than to censure, that the writer would willingly close his remarks with an expression of his earnest hope that the future efforts of the Patent Office may be most successful—but sir, that office, and the money which sustains it, *belongs to the people*, and whenever its action requires censure, it should not be withheld through delicacy to the official, who directs its expenditure. It was, beyond question, the object of Congress, when making its several appropriations for the purchase of seeds, that the money should be expended in procuring from abroad such varieties of cereals, grasses, esculent vegetables, and, if you please, grafts, &c., as might not speedily be introduced among us through the ordinary course of trade.

The first effort to that end was during the administration of the younger Adams, who caused circulars to be issued to Consuls, Naval Officers on distant stations, and other officers in the service of the government abroad, inviting them to collect and forward to Washington, for distribution, seeds of plants, which they might deem likely to prove serviceable to their country; but as no appropriation had been made to defray the cost, the result was not attended by much success; nevertheless, the plan was praiseworthy.

The invitation, be it observed, was not to send home the seeds of vegetables we already had in profusion—"coals to Newcastle"—but novelties, some of which, it was hoped, might prove of practical value. The effort of Mr. Adams was doubtless the germ of the "agricultural department" of the Patent Office, and had his well conceived plan been carried out, when at a later day an appropriation was made, we might have seen more than *one* profitable result—*especially so, when the extraordinary expense had been incurred of two or more trips to Europe of the agricultural clerk in quest of seeds—the whole of whose expenses might have been saved, had that subordinate possessed the knowledge suited to his position;* and the sum squandered in these *pleasure* trips, could have been legitimately applied.

The writer has been led to call attention to this subject from having recently found on the tables of our Agricultural Society, a collection of vegetable and flower seeds, labelled 'as imported by the Patent Office,' *most of which were well known among us a quarter of a century ago, and some of them probably introduced by the first English colonists.*

But a still more striking evidence of the *ignorance* of the clerk who it is understood directs the importations, was the fact that among the seeds just referred to, *was a variety of turnip, of Pennsylvania origin, which the writer of this communication had himself specifically named. It had found its way to England and been imported by the Patent Office, the subordinate referred to not having knowledge to discriminate.* More than six thousand pounds of this very seed, raised in Pennsylvania, have been distributed since the last harvest by a single Philadelphia house.

There is another view of this subject worthy of notice: seeds of foreign growth are admitted 'free." To this the American seed growers make no great objection, the superior quality of the American giving them the preference. But, whilst other branches of industry are directly or incidentally protected, is it right that our own seeds should not only go unprotected, but the funds of the government be expended in purchasing abroad and scattering broadcast at home, *free of charge,* the identical varieties which our own soil produces. What would be thought of it, if, out of the appropriation for the Congressional library, $10,000 was annually expended in the importation from England of Webster's spelling books, and their distribution, under the pretence of diffusing useful knowledge. Yet, preposterous as that would be, the spelling book of Webster is not more an American production, nor is it more readily obtained in every country store than are many of the varieties of seeds distributed by the Patent Office. Mr. Editor, is not some amendment needed?"

L.

Send for the Seeds.

We trust no one will feel any delicacy in sending for the seeds offered by us, nor, as some have done, deem an apology necessary in applying for them, simply because they are offered free. We have provided a supply large enough for all, we trust, (though some rarer kinds that chance to be more largely called for may run short before Spring). We really take great pleasure in scattering them broadcast over the land. A little packet of any kind, if dropped down in any locality, where not before introduced, may prove another centre of distribution, and ere many years be the source of much pleasure, if not of positive and lasting benefit.

Our packages of some sorts are necessarily small, yet, as most of the kinds offered will reproduce seed the first year, there will, in all cases be enough to be the germ of future abundance. Some packages will appear quite diminutive, on first reception, the paper of Cockscomb for instance; yet every parcel, as small as it may appear, contains 200 to 300 seeds, while a dozen growing plants would be all that would be desirable in any collection. (By the way, this seed was so highly commended by a foreign correspondent, that we imported 2 pounds of it, at a cost of $48.) Similar remarks may apply to some other varieties of seeds offered.

Of *Sugar-Cane seed* we have a plentiful supply, having secured nearly 100 bushels for distribution and premiums,* besides the large amount already sent out. We now offer every subscriber who will provide for Postage, or carriage by Express, or otherwise, from one to four ounces (1,250 to 5,000 seeds), and this without regard to the selection of any other three kinds.

Let our readers, then, with as many of their friends as they can still induce to become subscribers, send along for the seeds. We have now started all the parcels applied for by mail, and are daily sending off many hundreds of packages. The Express parcels are not yet made up, but will be forwarded before the 10th of March.

*See large Seed Premium offered on page 96.

Cabbage, and Cabbage Lettuce Seeds

VARIETIES FIRST OFFERED RUNNING SHORT.

In our list of seeds for distribution, we offered the Enfield Market Cabbage (No. 13), and the Mammoth Cabbage Lettuce (No. 15), both described on page 8, January number. Of these, we had imported what we considered a large supply, but almost every subscriber has recently applied for these, and our stock is now running short, and unfortunately we can not get any more without a new importation, for which it is now too late in the season.

To future applicants for No 13, we shall therefore send the "*Improved Silesian Cabbage Lettuce,*" a valuable kind, and mark upon the back of all the seed bags containing this variety, a figure—2.

When the supply of No, 15 fails, we shall substitute a *new* variety just received from our enterprizing London agents, called "*Waite's King of the Cabbages.*" From what we hear of this, we hope it may prove a superior variety, and our readers may yet have occasion to thank our London friends for forwarding this new variety for trial here.

Read the Advertisements.

A GOOD TIME TO BUY.

We have seldom, if ever, seen together so large a number of really valuable advertisements as will be found in the closing pages of this number—near seventy in all. It will pay the reader to look them all through. Until we had done so, we were disposed to blame our assistants for receiving so many as to crowd over the 'Basket matter,' part of the Boys' and Girls' Columns, Notices of Books, and some of the Indoor items designed for this month. (The previous pages, 73 to 88, were stereotyped, and partly printed before half of the advertisements came in, or the Indoor department would have been thrown back, to make room for the omitted articles and items.

As it is, we think our readers will be decidedly interested in the business columns, and in fact the advertisements, taken together, answer scores of questions, in letters now before us, to which it is impossible to reply in detail. We know most of the advertisers, and we can scarcely name one to whom we would not send an order for any thing we chanced to want in his line of business.

This Spring is a favorable period to purchase a large supply of Trees, Plants, &c. The financial crisis, last Autumn, nearly suspended all operations, and dealers in these articles, especially, have an unusually large and good stock on hand now, and at reasonable rates. Let the occasion be improved to "fix up" the rural home, and start a good lot of trees and plants for profitable returns hereafter.

AN INSTRUCTIVE ADVERTISEMENT.—A large space is occupied by the old, and we speak understandingly when we say reliable establishment of PARSONS & Co.—Though a business document and paid for as such, at regular rates, it really amounts to something more than an advertisement, since it gives very useful information in regard to the culture, and especially the selection of good varieties of trees, plants, shrubs, &c. Wherever our readers may *purchase*, we advise them to carefully preserve pages 92 and 93, as a reliable guide to the selection of the best varieties Indeed the whole of the advertising pages should be kept as a business guide book.

Farm Buildings.

NUMBER I.

In pursuance of our intention to give some plans and elevations of cheap, convenient, and practicable buildings for farm purposes, we commence the series in this paper. As we intend to continue them throughout the entire range of dwelling, barn, and the various out-buildings which belong to a well organized farm of the Northern and Middle States, and some of them applicable to the Southern as well, our remarks will be considerably and diversely extended before we conclude.

In the commencement we will say, that we intend these plans for the *farmer* mainly—and for him no further than absolute utility, and economy are concerned, consistent with an appropriate expression, and agreeable appearance, coupled with their proper position and purposes. Our Rural Architecture, generally, down to thirty, even twenty years ago, was imperfect in object, and uncouth in appearance. It answered the purpose, after a fashion; but, in the main, was wretchedly out of "order," and mostly inconvenient, both in style, economy, and comfort. Suddenly, a change was introduced, and like all changes brought about by inexperienced hands, with many needed reforms, it had an equal number of absurdities. "Rural" Architects sprang up all over the country. The saw and hammer were thrown by with many a clever carpenter-and-joiner, and they went to planning houses, drawing pictures, and writing books on architecture. The country has been flooded with designs, plans, and all sorts of gim-crackery in the way of farm buildings, and "genteel" country houses, not only for retired city folks, and village people, but farmers, cottagers, and laborers—for the educated and refined, down to the rudest dweller of the back-woods. Plans of log-cabins, even, costing not 50 dollars, and thrown up in a single day by half-a-dozen stout wood-choppers and a pair of oxen, and finished off in another day, have been attempted by the architects aforesaid, and their plans laid down in the books cheek-by-jowl with country palaces costing twenty to fifty thousand dollars; and it is but sheer justice to say that in both architecture and convenience of the "cabin" the "choppers" beat the "architect" out of sight!

We are far from condemning this sudden "improvement" in architectural knowledge and taste, for we admit that it has effected much good. Substantial benefits have grown out of it, and many needed reforms have been introduced, while some standing inconveniences have been abolished, and conveniences substituted in their place, much to the relief of both household, and out-door labor, as well as a telling economy in the material consumption of every-day living in the family. Yet, the disposition on the part of many of the architects is quite as much to show their own skill in invention, as in the *utility* of their structures. Fanciful contrivances, for no possible benefit, are often introduced and commended, when their absence would be all the better for any use the structure could be put to, besides much saving in the expense of building it. Broken lines, projections, and zig-zag angles in the walls; hips, haws, jerks, and scarps in the roofs, costing, perhaps, half as much as the whole house, and good for nothing but to invite leaks and repairs, are the prominent features of the outside; while within, the whole economical and comfortable arrangement is tucked into a corner and sacrificed for a spacious parlor only occasionally used, and the every-day peace of the occupants destroyed for the sake of a little paltry pretension to which they never aimed, nor aspired. Such ambitious 'things' are found perked up all over the country, as though they belonged there, instead of the plain, comely, and appropriate structures, well fitted by their convenience and utility for the purposes of their occupants, and giving that air of repose and ruralty justly belonging to them.

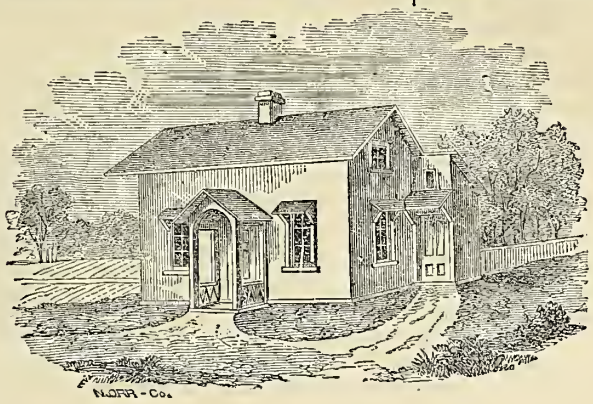


Fig. 1.

LABORER'S COTTAGE—PERSPECTIVE ELEVATION.

Such frivolity in building will not last. The fashion will ere long go out, as men better appreciate *true* architectural art, and a plainer style will be substituted. We do not, ourself, set up for any particular amount of architectural knowledge, or skill; but having lived in a house some years, and knowing somewhat of its requirements for family accommodation, and planned and constructed sundry of them for farm use on our own premises, have some notions of what belongs to their purposes and convenience. Millions of dollars, in the aggregate, have been thrown away within the last dozen years in useless tinsel and ornament on farm and country buildings, which, we are free to say, three-fourths of the owners and builders of them would now gladly be rid of; and when the repairs come round—and not long hence either—they will be disposed of in the substitution of sensible alterations; and in whatever we have to submit, we promise that if we do not altogether gratify the prurient fancy of all those to whom they are presented, they shall not, on the other hand, sacrifice their money without an object, nor prevent them from amendment by their incapacity to admit of it.

We lay down as a postulate, that *beauty*, and *utility* for the purpose intended, are one. Each is compatible with the other, when properly regarded. A thing is not to be taken by itself alone, unaccompanied by its accessories, but in its combination with other things belonging to and inseparable from it. So it is that we shall consider our farm buildings, and proceed to show our plans, with such running remarks upon them as their explanation may call forth.

Commencing at the bottom scale of *necessity* in farm life, and rising in space and expense as we proceed, our first design is that of

A LABORER'S COTTAGE.

We give above the simplest plan of a farm-cottage for a working man and his family—the latter not large, of course. It is, in the main part, 22 by 14 feet, with a lean-to 8 feet wide on the rear, and projecting 4 feet at one end; all covered under one roof. The elevation, from the bottom of the sill, to the top of the plate, is 12 feet, in the main part, and seven feet on the rear of the lean-to behind. The roof is a "quarter pitch," or 3½ feet, being one foot perpendicular rise to four in the width of building. This pitch is sufficient to give a good flow of water down the roof, but it may be increased to one-third, or a rise of one foot to three in width, if higher chamber room be necessary. The roof is a hanging one—that is, it projects 18 or 20 inches over the walls of the house, so as to thoroughly protect and shelter them from storms and weather, besides adding greatly to the warmth, comfort, and appearance of the tenement, and carrying the water completely off from all drips along the walls, and throwing it to a distance from the sills and underpinning. Just above the edges of the roof, also, can be placed gutters to carry the water to one end of the house and throw it into a cistern, if necessary. This style of roof, having no breaks, or angles in it is lasting, and if well laid, leak proof—which, if broken by modern hips and angles, it would not be.

The sills are 8 inches square, and the joists 3 by 4 inch common scantling, laid crosswise, and 14 feet long; or, they may be 2 by 6 inches laid edgewise, and of either size, not more than 2 feet apart. The lower rooms are 8 feet between joints, leaving a chamber of 2½ to 3 feet perpendicular wall below the plates, and the hight of the roof above—sufficient for such a tenement. The lean-to in rear is but a shed of course, without chamber floor, the roof running continuously down, with long rafters over its back wall. This is shown in figure 2, as the end elevation is not shown in the perspective. Yet, it is covered in with the same material, and in the same manner as the body of the house. It is a "plank" house; that is, built of inch or 1½ inch 12 feet unplaned boards or plank, placed up and down perpendicularly, and battened over the cracks with 3 inch strips of inch boards; and if a better finish than this be required, matched boards or planks, may be substituted, with battens over the joints, or clapboards, either planed or rough, can be laid over them; and, if the covering be planed, painted; if not, whitewashed.

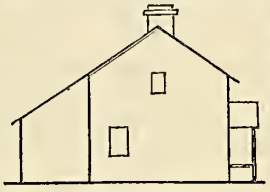


Fig. 2.

INSIDE ACCOMMODATION.

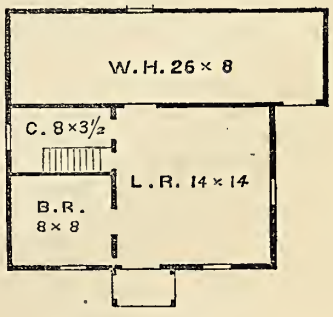


Fig. 3—GROUND PLAN.

The front door opens into a living room 14 feet square, in which is a stove for cooking, and the pipe runs up through the chamber floor into the chimney, standing either on the floor, or hung by a gallows suspended from the rafters. If the latter, the pipe goes into it through a thimble or

crock inserted in the chimney, by an elbow from its top. At the left of the entrance door, is a bed room 8 feet square, which may be entirely separated by a close partition and door, or may be an alcove simply, separated by a curtain, so as to be, in reality, only a recess for a bed, table, and glass. Next this bed-room is a flight of stairs 3 feet wide, leading to the chamber. Next to, and under the stairs, is a family "buttery," or provision, and dish closet, 8 by 3½ feet, with a window, and shelves, as convenience may demand. A door leads back into the lean-to, or shed, in which may be an outer cook-room for Summer, a bed-room, or whatever else is required, and a wood-house, with a door leading outside at one end, as shown in the plate. We have not partitioned this in the plan, leaving it for the builder to appropriate as may seem best.

The windows of the cottage are "hooded;" that is, sheltered by short strips of board 10 or 12 inches wide, sloping outward, supported by brackets at the end to ward off the violence of storms, and keep the upper joints dry, besides giving a sheltered, cosy look to them. So also, is the outer lean-to door hooded in the same way, only that its hood is 3 or 4 feet wide, and the brackets in proportion. A small stoop or verandah is thrown over the front door, say 6 feet wide and 4 feet deep, with a seat on each side. All these outer appendages give the cottage an air of completeness, and repose, which, aided by a few climbing vines, or shrubs, make it all that can be desired as a rural cottage.

We will add, that if the cooking stove be removed into the lean-to for Summer use, the pipe can run out through the roof above by displacing a few shingles, and inserting under the ones that are above it, a zinc plate, through which the pipe passes—a lip being turned up all round, except on the lower edge, to carry off the water; and when the stove and pipe are removed, the plate can be taken out, and another *whole* plate put in, or the shingles replaced, so that no leakage can occur.

COST.

We built one like this on our own farm two years ago, at an expense, all told, of $160, without porch to the front door. It was rough clapboarded outside, without lath, or plaster inside, and is very warm, and comfortable, accomodating a family of husband, wife, and three children, where they live snug, and tidy as need be, and want no better. $200 to $250, will finish it complete as in the plan, with matched and plain boards, battened and painted without, and plastered within in a plain manner. There is no cellar under it, and only a plain stone, or block underpinning.

Aside from a laborer's cottage, simply, a house on this plan can well be constructed as the *nucleus* for quite an eligible farm-house in the future, by giving it larger dimensions at first.

We have been frequently applied to by letter from sundry of our subscribers for a plan of such kind, which, answering well for a beginner, will as he progresses in means, and demand for more room, enable him to enlarge it without great expense, and yet save it from the uncouth appearance which houses, not commodiously constructed at first, are so apt to show afterwards. We shall endeavor to present such an one in our next number.

Of the *position*, or site of this cottage, we need say but little. To give it agreeable effect, it should stand at least twenty feet back from the road, or lane leading past or to it, and the yard set with trees, and more or less shrubbery, which the occupant should be compelled to take care of. The site should be dry, and if possible, somewhat sloping, to carry off the falling water, and melting snow. The laborer should be as comfortably housed as his employer, and all the little, cheap appliances be added which can render him and his family cheerful, and contented. We have found, on many year's trial, our account in this, and as a matter of principle, can well recommend it to every employer. An apple tree, or two, a few currant bushes, shrubs, and roses, costing little, or nothing, or spared from his own garden, encourages the laborer to occupy his spare time in their cultivation, or draws the attention of his wife and children, attaches them to their home, and keeps them away from the temptations of idle, or vicious companionship, and draws their good feelings towards their employers in a way that *tells*, in more results than one, to his own interest, and satisfaction. We have spent many a leisure hour, after the toil of the long Summer day was over, in friendly and cheerful converse with one and another of our laborers, and their families, beside the outer door of their cottages in the mild evening twilight, with more grateful satisfaction than with many a traveled pedant, or a group of learned pretenders.

Culture of the Soil more Healthy than Other Pursuits.

Farmers are by no means exempt from the thousand ills of life. They sicken and die, as well as other people. Husbandry, as a calling, is a healthy one; yet there are exceptions to the general rule. Farmers may overwork themselves, may wear unsuitable and insufficient clothing, may be uncleanly in their persons and habits, may indulge undue anxieties about their affairs, and may give themselves up to the control of passions which are fatal to the health of every man. And if they transgress any of these laws of health, the fact that they are tillers of the soil will not save them from the penalty due to their missdeeds.

We maintain, however, that this pursuit is eminently *favorable* to health and longevity. It furnishes exercise in the open air, which is one of the chief promoters of good health. All professional authorities and the experience of mankind at large, agree as to the value of this medicine. Abundance of the choicest food, the finest clothing, superb dwellings, education, polished society, and all other good things of life combined, are no substitute for this. With them all, and yet without this, the poor body will wither away, and fall into a premature grave.

The business of the farmer calls him into the open air at all hours of the day. If there is any virtue in early rising and the morning air, he gets it. If there is any evil in the damps of the night air, he generally escapes it, for his labors commonly close with the setting day. It is a rule of health to expose oneself to the open air every day in the year, regardless of clouds and storms. A faithful farmer can hardly shut himself within doors an entire day, unless confined there by sickness. Even in the most leisure seasons of the year, and with abundance of hired workmen, he wishes to be abroad, looking after the welfare of his stock, his buildings and crops.

The labors of the farm furnish exercise of the best kind. It is not labor in a confined shop, nor the use of one set of muscles exclusively. The arms, chest, feet, legs, all come into requisition. And the labor is so varied from day to day, as to afford a pleasing alternation of exercise and rest to the several members of the body. As a general rule, too, this labor is not exceedingly wearisome. Farmers, like other men, may lose their balance and toil imprudently, at times, as in haying and harvest; but they need not overwork themselves. The general fact still remains, that tho labors of the farm are pleasant, not burdensome and injurious, and are well adapted to invigorate the whole frame.

Temperance in living has much to do with the preservation of health. And by this we mean, not only temperance in drinking, but also in eating; abstinence from unwholesome food, as well as from alcoholic liquors. It cannot be denied that the use of intoxicating drink is much less common among farmers than among other classes. The circumstances of their life seem to forbid such indulgence. They are away from scenes of temptation; their passions are little excited; their work cannot proceed if body and mind are not under control; they must either give up their calling, or renounce the cup. The diet of the husbandman is generally simple and wholesome. The rich and highly concentrated dishes of fashionable and epicurean tables, the mysteries of French cookery, seldom find their way to his board. In their place, he has the fruits of the earth in their natural state, and in abundance. He is not without luxuries and delicacies, but they are, for the most part, those which his own industry and skill have produced from his farm and garden. He has them in great variety, and in their highest state of perfection and freshness His food is eaten, too, at suitable and regular hours, and under the impulse of a healthy appetite, not one created by artificial stimulants.

Mental excitement is a prolific source of ill health. It is a common saying that a fit of anger is about as bad in its influence on a man's longevity, as an attack of fever. Excited expectations or great disappointments are well known to wear upon the nervous system, and to derange the health. The constant anxieties and cares of trade, manifestly operate in the same way. From wearing excitements of this sort, the agriculturist is mostly free. He is not, indeed, without his cares. Late Springs, and early Autumnal frosts, untimely rains, drouths, and the uncertainties attending the ingathering of crops, give him no little anxiety. Yet these do not corrode the heart, like the cares of trade, the thousand annoyances of intercourse with selfish men; they are not so constant; they are almost remitted during the Winter season; and they are mitigated, if not wholly counterbalanced by the scenes of quiet and repose, amid which the farmer's life is passed.

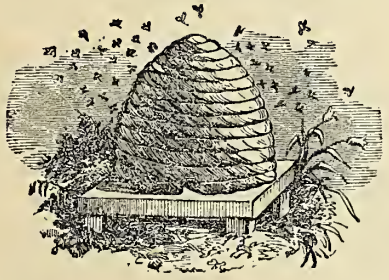
We have often contrasted the history in this respect, of different members of the same family, some of whom left their country home to engage in business in the city, while others chose farm-life. Sometimes the tradesman succeeds in business, and prosperity and health crown his days, even to a good old age. But more often, the wear and tear of business, disappointments and losses set over against successes and accumulations, sap the foundations of health, and dyspepsia, or consumption, or nervous affections in their various forms, creep in unawares, and embitter life and cut it prematurely short. As a general fact, grey hairs and wrinkles show themselves much sooner upon the tradesman than upon the farmer.

We do not mean to go into a labored argument on this subject; but in closing, we want to fire a little volley of statistics, before which nobody but a farmer can stand. From a late annual Report of the Secretary of the State of Massachusetts, containing returns of marriages, births and deaths in each town, the following facts have been gathered. The result has been made up from the

returns for nine years and eight months, of persons dying, over twenty years of age; and the comparison is drawn between agriculturists and persons in the leading mechanical trades:

Occupations.	*No. of Deaths reported.*	*Average age at Death.*	*Average length of life after 20 years of age.*
Agriculturists,	7,735	64,03	44,03.
Carpenters,	1,127	49,41	29,41.
Shoemakers,	1,839	43,10	23,10.
Blacksmiths,	541	51,62	31,62.
Painters,	275	42,00	22,00.
Masons,	273	48,32	28,32.
Machinists,	268	37,15	17,15.
Tailors,	192	43,87	23,87.
Operatives,	173	33,17	13,17.
Printers,	91	36,46	16,46.
Hatters,	88	53,87	33,87.
Tinsmiths,	52	41,44	21,44.

In the above Report, the deaths of 7,781 mechanics are given, (46 more than of farmers,) whose average age is exactly 46 years, while that of farmers is a little over 64 years—showing a difference of 18 years in favor of agriculture. Speaking statistically, it appears that a farmer at 20 years of age may expect to live 44 years, and a mechanic only 26. Among mechanics, carpenters and masons who spend much of their time in the open air, live nearly 50 years, while machinists, printers, and operatives, live less than 40 years.



Wonders of the Bee-Hive.

Number IX.

One of the wonders of the bee-hive is the beautiful white virgin comb, too delicate to be handled without injury, which soon makes its appearance when a colony of bees have taken possession of a new home. The rapidity with which it is formed has often amazed us, bringing to mind the story of the wonderful palaces produced by Aladdin's lamp. We have already spoken of the form of the cells which the bees instinctively adopt, and have shown how admirably everything is adapted to secure strength, ease of access, utility and economy of material. But what is the substance which they employ and where is it obtained?

When we put a swarm of bees into a hive, and after confining them for a day or two, find several sheets of wax fairly started, with no possibility of assistance from without, it seems more like "making bricks without straw" than anything we know of. Yet being firm believers of the truth of the old saying that "from nothing, nothing comes," we are not willing to let the mystery pass unexplained.

It was formerly supposed, and indeed some people even now believe, that bees collect wax from plants or flowers, in the same manner as they procure honey. And this is a very natural conclusion when the bees are seen bringing loads of pollen into the hives, on their thighs. But the incorrectness of this opinion was shown long ago by Huber, concerning whose researches the Edinburgh Philosophical Journal in 1833 remarked "that nothing of any importance had been added to the history of bees since his time; and naturalists of unimpaired vision have nothing of consequence to subjoin to the observations of a brother who was deprived of sight." More recently, new discoveries have been made, but some facts that he established can never again be disputed.

The wax of which the honey-comb is made is found to be a *secretion* of the worker bees, after being gorged with honey; or a substance produced in their bodies from their food and escaping to the surface *somewhat* in the way that perspiration makes its appearance on our limbs. When the wax is first seen however, it is not in the form of drops, but of small white scales, looking like small pieces of skin.

Fig. 11.

The abdomen of the bee is formed of a succession of rings overlapping each other, and these scales of wax are found in pairs, slipping out from the pouches where they are formed, as if from under a man's vest. This is very well illustrated by our engraving, (Fig. 11.) The production of wax seems to require certain favorable circumstances, such at least as an abundance of food, a high degree of animal heat and a state of repose. In the case of a new swarm, they are said to take their departure from the hive, with their honey-bags loaded; and clustering together in a thick mass, they raise the temperature to a degree that would not be possible if each bee started a home on its own account. Sometimes but a few hours elapse before the supply of wax begins to appear, and before a full day has passed, considerable advance will be made in comb building.

Often the production of wax is so great that the scales are allowed to fall upon the floor of the hive. Their shape and appearance may be learned

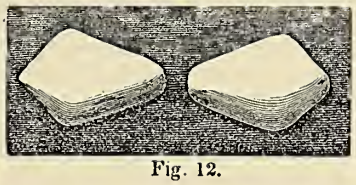


Fig. 12.

from the engraving, (Fig. 12). It will he seen that they are of oblong form; the longer diameter being about one-tenth of an inch. How these scales are detached from the pouches where they are formed, we are not able to say. Some writers speak of their being taken off by the hind legs, and transferred to the mouth. Mr. Langstroth, says "the bees seem to aid its liberation from their bodies, by violently shaking themselves, as they stand upon the combs." These thin delicate scales being made soft and pliable by the heat of the hive, are moulded by the bees, and applied to the roof of the hive, in the lines of direction which the combs are to follow. The bees may be compelled to build from the floor upwards, but in that case, they work at a great disadvantage. The sheets of comb are placed parallel to each other, and any variation from a direct line in one of them, however occasioned, is likely to be followed in the others.

The cells on the lower edges of the comb are not at first made as deep as those above them, the thickness of the sheet, diminishing somewhat like a double convex lens. But as the work advances these cells are made of full size, and if the comb is attached to the bottom of the box or hive, the lowest part has the same thickness as the rest. Sometimes, however, the uppermost cells are made of unusual depths for the storing away of honey, and the lower ones, reserved for brood, are confined to narrower limits. It seems to be necessary for the comb to have this shape like a lens, while its construction is going on; and if a sheet of comb is broken square off, the bees trim it down at the edges before proceeding to restore its original dimensions. Empty comb is extremely light and the sides of each cell in new comb are said to be so thin that one-hundred-and-eighty of them would be necessary to make one inch in thickness. When the brood cells have been occupied by many generations of bees, the accumulation of cocoons adds much to the weight of the comb, and the results of some experiments with old brood comb, show that the cocoons sometimes weigh eight or nine times as much as the wax which surrounds them.

The consumption of honey in the manufacture of wax is surprisingly great. It is thought that twenty pounds are consumed in making a single pound of comb. Hence the utility of giving to the bees whatever empty combs we can secure, and saving all the expense of manufacturing new wax. If a swarm can be saved the expenditure of twenty pounds of honey, when they first "go to housekeeping," it is so much clear gain to their owner. It is a question too, whether it is not good economy to guide the direction of the combs so as to save a useless expenditure of wax. Those who have had occasion to turn hives over, or even to open boxes of honey, know how often the sheets of comb run obliquely. And sometimes in Mr. Langstroth's hive, which is designed to bring each sheet of comb upon a single moveable frame, we have found it difficult to keep the combs from crossing to other frames. But it is very evident that attachments of the combs to the side of the boxes involves some waste of wax. Hence it is not good economy to have comb made in small or in round receptacles; and it is better that in a long box, the combs should run with the length, rather than across it, and parallel with the sides rather than obliquely. Whatever is desired in this respect can be accomplished practically by fastening pieces of guide comb into the hive before the bees enter it, and by taking care that the hive stands perpendicularly on its platform.

It is yet a question whether any substitute can be found for the honey-comb, which will save all expenditure of honey, and be proof against the attacks of the bee-moth. We think there is ingenuity enough in the land to accomplish this work, and confidently expect that we shall at some time have the pleasure of announcing that artificial honey-combs have been successfully introduced into bee-culture.

Improved Stable Floors.

To the Editor of the American Agriculturist.

Some years ago my stable was laid with a plank floor. My horse, a late purchase, (I keep but one) became lame. An experienced horseman attributed it to bad shoeing. I had the shoes removed, and a few days after replaced, but the lameness, which was in the forefeet, continued. Upon a careful examination I came to the conclusion that dryness was the cause of it, I then had recourse to stuffing with moist manure at night, which entirely remedied the lameness. But I found this troublesome, and apt to be neglected, when the lameness was sure to return. I then took up the plank in one stall and filled up to the floor with gravelly clay. But I did not like this owing to the soaking of the clay with the droppings of the animal. I then removed the clay for about two-thirds or three-fourths of the length of the stall, and laid down plank for the part removed even with the original floor leaving the horse to stand with his forefeet on the clay. This has been continued for more than a year, and answers an admirable purpose My horse requires no stuffing of the feet, and keeps free from lameness. E. H. Vanuxem.

Shrewsbury, N. J., Feb. 8, 1858.

Laziness travels so slowly that poverty soon overtakes her.

American Cattle—No. II.

[*Continued from page* 45.]

WHERE IS THE PROPER HOME OF SHORT HORNS?

Where rich land, and abundant forage abounds, and not elsewhere. Physically, the Short Horn, compared with the lighter breeds, is a sluggish animal. Consequently its food should be reached with little labor, and where it can readily graze its full, then lie down to ruminate, and digest it. As to climate, they succeed in every part of the United States north of the Cotton-growing regions, and in them, less perhaps from the absence of proper grasses, than their enervating heat. They flourish in the cold latitude of Montreal, and Northern Maine, with abundant food, and warm shelter and they will probably thrive anywhere that nutritious grasses, grains, and roots are produced, and comfortable shelters furnished. The rich lands throughout the States in the Valley of the Mississippi are, almost without exception, peculiarly adapted to them; while in many other States, but comparatively small sections are fitted for their profitable adoption as farm stock. Yet in their grades, or crosses upon the lighter breeds, for the dairy, and other purposes, they may serve an admirable purpose on thinner soils. As our weak lands grow richer, forage becomes plentier, and our agriculture is improved, the Short Horns can be adopted with advantage.

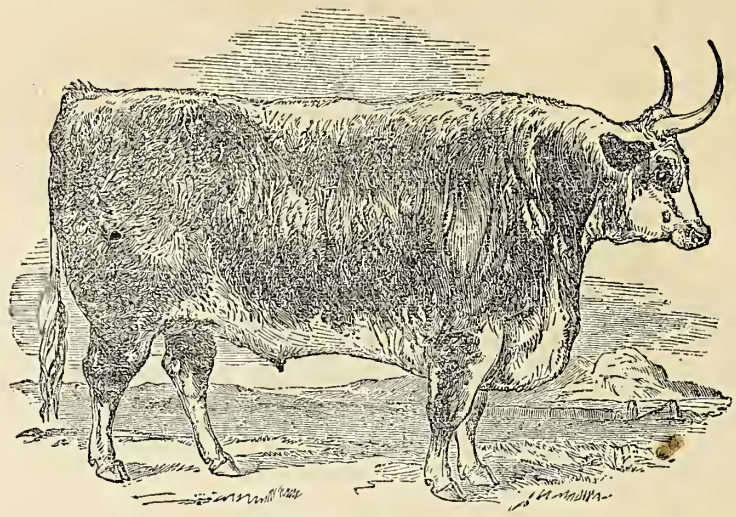
WILL THE SHORT HORNS CONSTITUTE OUR DAIRIES?

Most certainly, if they ever become plenty enough and cheap enough for that purpose. But that their blood may be infused into our native stock, and to such extent that all the essential excellence of the Short Horn, with her imposing appearance, and high milking quality, can be attained, is beyond a question. Such will be, as in many places they now are, among our best dairy cows. The only effort required to effect such result is, to choose a well-bred Short Horn Bull from a good milking dam, and cross him on to well selected, good milking cows of the common breed. Then reserve the best heifer calves of their produce, and following the same cross upon them in succession, and to their produce after them—always using a thorough bred bull—and the object, from the first cross, or half-blood, up to as near an approximation to the pure blood as possible, is attained. For all practical purposes, a herd of dairy cows, so bred, can be made as available as when the pure blood is resorted to alone, which, at the prices the pure blood will command for a long time to come, can not be profitably adopted.

THE QUALITY OF OUR AMERICAN SHORT HORNS

is probably quite equal, in the *average*, to those of England. A large majority of our importations have been selected with care and good judgment from the most celebrated English herds, at the time. The first Short Horns of any note were brought into Kentucky in 1817. These were followed by several animals brought into Massachusetts, in 1818-19, and into New-York, Pennsylvania and Maryland, and Massachusetts again, during several successive years. In 1834, a very considerable herd were imported into Ohio, succeeded in each year, up to 1840, by numerous arrivals into New-York, Pennsylvania, Ohio and Kentucky. In 1849, with an occasional one during a few previous years, importations recommenced, and during several years, up to the present, numerous, and large importations by associated companies, and individuals, have been made of selections from the best, and most celebrated herds in England, Scotland and Ireland, whose lineage traced back to the remotest records and traditions of Short Horn ancestry. Many animals have been purchased and brought out without regard to cost, so that they combined the highest blood and the best quality; and they were bought against the most eager competition of rank and wealth in England, by the spirited and liberal breeders of the United States. They are now here, on this side of the Atlantic, in the hands of those who duly appreciate their value, and will breed them onward to the full measure of their excellence and fame. We have now many established herds, with pedigrees recorded in the American Herd Book, three volumes of which have been published, containing the pedigrees of near seven thousand American Short Horns, and equal in completeness, and information to the Herd Books of England.

We might interest our readers by noticing individual herds, and animals or by giving the names of some of our prominent Short Horn breeders; but intending in these papers to speak only of the different breeds of cattle themselves, we leave them out for the present.



HEREFORD FEEDING OX. *

THE HEREFORDS.

Occasional specimens of this variety have been brought into the United States since early in the present century. Two or three were imported into Kentucky by the great Statesman Henry Clay of Ashland, in the year 1817, or 1818; a bull or two came into Massachusetts a few years later. These left no results in the way of thorough bred stock—Mr. Clay's being absorbed into Short Horn, and native grades, long ago gone out of existence, and those of Massachusetts, after producing some excellent crosses, running out, and finally lost in their infusion with the "common" stock. In 1839-40, a considerable herd were brought out from England by W. H. Sotham, which became the joint property of himself, and Erastus Corning Esq., of Albany, N. Y., and were for several years kept and bred on the farm of Mr. Corning, near that city. Within a few years past, further imporations have been made by Erastus Corning Jr., of Albany, George Clark, of Otsego Co., in this State, and an English farmer near Elyria, Ohio, and a few, we understand, into Canada. Other small importations may have been made by other parties, but the above are the only ones that now occur to us. Yet, as their numbers by multiplication have become considerable—chiefly, however, in the State of New York, where they are decided favorites, with their breeders—they may now be considered an established breed of cattle in the United States. Of the origin, and history of the Herefords, we have been able to glean but little. Youatt, the principal English cattle historian, gives but a meagre and one-sided account of them. According to him, or so far as record and tradition has been ascertained, they are claimed to be an aboriginal race, mostly confined to the county which gives them their name, and the adjacent districts.

DESCRIPTION.

In size, they rank next to the Short Horn, averaging somewhat smaller, and of a lighter figure, and more active in movement. Of their color, Youatt says: "Some of them are brown, and even yellow, and a few are brindled (roan;) but they are principally distinguished by their white faces, throats, and bellies. In a few, the white extends to their shoulders. The old Herefords were brown, or red brown, with not a spot of white about them. It is only within the last fifty or sixty years (this was written in 1833,) that it has been the fashion to breed for white faces. Whatever may be thought of the change of color, the present breed is certainly far superior to the old one."

To this we will add, that those which have been imported into this country, have, with a few exceptions of mottled fronts, been white in the face, with red bodies, or with the white extending along the backs, and bellies, to the extremities; sometimes, a striped roan, and in one instance we have seen a pure white, except red ears.

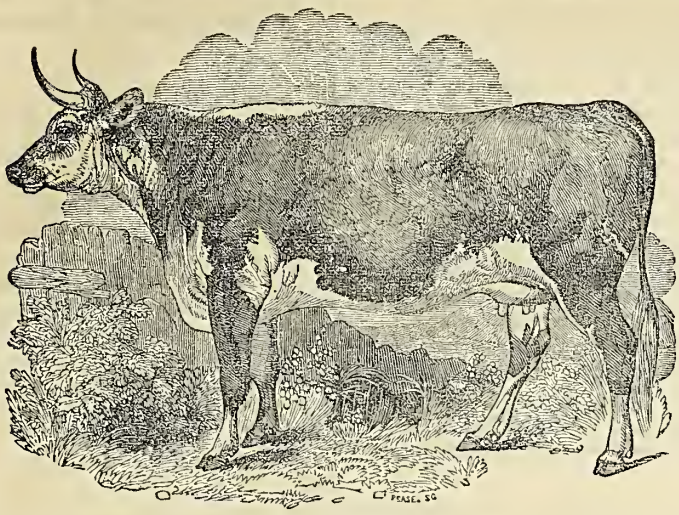
Their horns are large, long, and widely branching, gracefully turned upward, and outward, giving them a high head, a bold front, and an imposing appearance.

In its body, a well bred Hereford is good, yet hardly so fine in the bone as the Short Horn. The head is of medium size, and the eye lively; the neck in fair proportion, with a tendency to dewlap; the body long, level, and well spread, with capacious hips, an excellent loin, and a deep flank. The shoulder is more slanting than the Short Horn, less open, yet widens below, so as to disclose a prominent brisket; well spread ribs, giving a round barrel, and an excellent carcass. The Hereford stands rather higher on the legs than the Short Horn, but not out of good proportion. The leg bones are strong, and not coarse. The skin is mellow; the hair soft, and wavy, and the animal usually a good "handler." Indeed, a good Hereford is rarely surpassed in its handling quality by one of any other breed. On the whole, a fine animal.

THEIR PROPER PLACE.

Anywhere, with enough to eat, as a grazing steer, or a breeding cow. As a beef producing breed, few, if any cattle, possess more growth,

* For the two illustrations of Herefords, we are indebted to Youatt & Martin's work on Cattle, edited by A. Stevens, and published by A. O. Moore, New-York



HEREFORD COW.

according to their natural size, or take on flesh more kindly. They mature early, hardly so early, perhaps, as the Short Horn, although their English advocates claim that they do so. Their beef is of excellent quality, well marbled, and fine in grain. They are hardy, living in all climates where other English cattle do, and thriving on lighter soils than the Short Horns, yet suiting rich lands, and abundant pastures. They will thrive on any good soils, and pay well.

AS A WORKING OX,

the Hereford is unsurpassed, in his good size, strength of limbs, and honesty of labor. We have seen no finer specimens of working oxen than in some mainly of Hereford blood. For heavy labor, they can hardly be surpassed, and seldom equalled.

AS A DAIRY COW,

the Hereford, compared with others of good milking breeds, is inferior. This quality is not claimed for her in England, and we have as yet seen no evidence that she is a good dairy cow in America. We have met with an occasional one that gave a fair yield of milk. Her milk is usually of excellent quality, but inferior in measure, and scant in the time of its continuance. She gives enough to raise her calf well, and for a sufficient length of time to turn it to grass; but beyond that we can hardly venture to warrant, and the weight of testimony we have received is confirmed by personal observation.

TO SUM UP.

The Herefords have failed to achieve that measure of popularity in this country that their advocates anticipated. That they are excellent grazing cattle, and capital working oxen, we have asserted. That they have held a close competition in the fat cattle shows of England, is beyond a question; and that, on the score of profit, in our wide grazing regions in the Western States, they may hold a close competition with the Short-Horns we have little doubt. But, as yet, they have made little, or no impression there, although some of the best specimens have been exhibited at their great Cattle Shows. Their time for a fair trial may not yet have come. That it may arrive, and speedily, too, we hope. Could the cow, in her feats at the pail, compete with the Short-Horn, our hopes would be stronger, but, in her deficiency there, and the less imposing style and figure of the Hereford, with the manifest popularity of the Short-Horn already attained, wherever the soil and climate is favorable, they will hardly be successful competitors.

In our next number we shall proceed with a description of the Devons, and afterwards extend our remarks and illustrations to the other principal breeds.

City Folks and Villagers, Keep a Cow!

AND HOW TO FEED ONE.

How long have our ears been pained with the *truthful* reports of the great increase of sickness and death, especially among children, resulting from bad milk—swill-milk from diseased cows fed on distillery slops; milk rendered unfit for human use by a large admixture of chalk; milk brought from a long distance in wagons, and over railroads, and spoiled, or ready to spoil before it reaches the consumer; mixed milk from a score of cows, some of them sick, some fed on one kind of food and some on another. These complaints are more frequent in our large cities, but they are not confined to these, for there are few villages where a majority of families can obtain a full supply of fresh, pure rich milk.

All agree that really good fresh milk, from healthy and properly fed cows, is the best possible food for children and youth. But *how* shall we get it? This question has been asked of us many times lately by subscribers in this metropolis. We know of no better answer than to say

KEEP YOUR OWN COW.

This is, perhaps, not so difficult and expensive a matter as you may imagine; even a good cow costs comparatively little at first. She requires less room than one would suppose; and she will almost invariably pay her keep and a profit in milk. Let us give an example:

A neighbor of ours, a poor widow, has a small, snug built cow, *farrow*, (which is a valuable requisite in a cow furnishing milk for young children.) This cow cost $40. To keep her, aside from stable rent, costs about $1,50 per week, for good hay, ship feed, and succulent matter, such as cabbage leaves, turnips &c. She calved eight months since, and now averages six quarts of excellent rich milk daily. This sells readily to the neighbors for six cents a quart, making $2,52 worth of milk a week, which is equivalent to $1 a week, or $52 a year for the trouble of keeping, or $12 over her cost. Of course, in Summer, with green food, she gives much more than this. A part of last Summer she gave 14 to 18 quarts of milk daily.

Now this cow has no more room at present than could be obtained by nine-tenths of the wealthier people of most cities and villages. With the usual help, the trouble of keeping would not increase the family expenses. And what is a few dollars extra, when you are paying hundreds, perhaps, every year to promote the health and physical as well as mental developement of your offsprings?

HOW SHALL WE FEED THE COW?

ask several city readers of the *Agriculturist*.

Ans.—If not short of storage room, procure a small load of *loose* hay, as brought to market on wagons; the quality can be better seen than when compressed into bales. If cramped for room, get a few bundles of baled hay. A straw or hay cutter of moderate size costing from $3 to $6, will be requisite. Straw or corn stalks will answer very well as an occasional substitute for alternating with hay.

Procure at a feed store, a few bags each of ground feed (corn and oats ground together,) and as much shorts, (wheat bran,) and you have all that is really necessary. It is advantageous to give a little green food, such as turnips or potatoes occasionally. Saw a barrel in two, for a couple of boxes, one to mix and the other to feed in. Cut a quantity of hay and mix about *half a bushel* of it with *three quarts* of the ground feed, and as much of the shorts, wetting it until the meal adheres to the hay. In very cold weather it is better to heat the water a little. Feed a "mess" of this kind and amount to the cow in the morning, and as much more at evening, and fodder with dry, uncut hay at noon.

Give as much pure soft water to the animal, twice a day, as she will drink. It often happens that a quantity of turnips, carrots, parsneps, cabbages, or beets, are left on the hands of vegetable dealers which can be cheaply purchased. They form a valuable addition to the "mess," cut and mixed with it.

It is also better for the animal to have an occasional change of diet. Carrots, especially, are very good for stock of all kinds, and may be fed to milch cows without affecting the milk unfavorably which turnips will sometimes do when fed in large quantities. When turnips are fed they should be given at, or just after milking, as there is then less danger of their giving an unpleasant taste to the next milking.

A cow provided for as above, with her apartments kept clean, and neat, and well ventilated, will furnish a large supply of nice, rich, *healthful*, milk to say nothing of cream for the coffee. And unless you give an enormous rent for the small space of ground she must occupy as stable room, "*she will much more than pay her way.*"

The Next Hay Crop.

To the Editor of the American Agriculturst:

As I am deeply interested in the hay crop, my farm being almost entirely devoted to it, will any of your correspondents please enlighten me on the following points.

1. When the ground is bare of snow during the Winter, has the hay crop generally proved less than when the ground was covered with snow?

2. Or does the hay crop depend entirely on a due distribution of warmth and moisture, from the opening of Spring till it is time to cut the grass?

We all know that snow to a moderate depth, acts beneficially upon all vegetation in three ways. It keeps the earth warm, protects the roots of grass and grain from the cold and blighting winds, and brings down a certain amount of ammonia, which, as it melts, is left in the soil to fertilize it. Is not snow more beneficial during the freezing and thawing months of March and April, than the steady freezing of Winter? Q.

Nissiquoq, L. I., Feb. 13, 1858.

My experience in Chicken Culture

A NEW-YORKER IN THE COUNTRY—BORROWING A CAPITAL TO START WITH—HOW POULTRY PAID, ETC.

To the Editor of the American Agriculturist:

On the first day of February, 1857, I was lawful owner of three hens eighteen months old, twelve pullets from six to nine months old—all of mixed and undistinguishable parentage—and two fine chanticleers, one a black Spaniard of pure descent, and the other, a handsome grey quadroon Shanghai, who proved to be "Cock of the walk," and Master of the Hen-house.

For this stock, with the exception of my Spanish gentleman, I was indebted to the kindness of a neighbor, and my disbelief of General Jackson's famous assertion that, "those who trade on borrowed capital ought to break," for on my annual Summer migration from New-York to this place two or three seasons ago, I bought of my aforesaid neighbor, one dozen of eggs, and solicited the loan of a sitting hen, which was not only accorded me, but I was gratuitously offered a second dozen of eggs, on condition that I would borrow another incubating matron—a condition that I found no difficulty in agreeing to. My success was complete, and the hens, after fulfilling their maternal duties for a reasonable period, were returned with many thanks to their benevolent owner. From this novel beginning proceeded the stock, whose statistics I am about to record.

The Winter of 1856-7, was the first cold season that I had ever spent in the country, and for amusement during the dull season, I noted daily the number of eggs produced by my hens, one of which I must mention died early in the season, two were brought to the spit in July, and two were otherwise disposed of, so that by the first of September, but ten remained.

During the nine months from the first of Feb. to the the 31st of Oct. inclusive, I counted 1253 eggs, and allowing the average number of hens during this period to be thirteen, each hen laid 96 eggs and a fraction, besides bringing up each a brood of young chickens. The following is my monthly account of eggs during the whole year, including those laid by my Spring pullets, of which I kept a separate account for three months, when finding it troublesome to distinguish them, I merged both accounts into one:

	Eggs.		*Eggs.*	
February	112.	August	151 and 19	Pullet's eggs.
March	76.	September	111 and 123	Pullet's eggs.
April	176.	October	79 and 205	Pullet's eggs.
May	173.	November	139.	
June	114.	December	69.	
July	231.	January	80.	

making a grand total of EIGHTEEN HUNDRED AND EIGHTY-EIGHT EGGS, which, from all I can learn is a much larger yield than any of my neighbors can boast, and so well distributed, that not a day has passed throughout the year without the accompaniment of a fresh laid egg.

Of the above, 156 were "set" for hatching, and the result has been the rearing of 106 healthy chickens. Some of my setting hens met with the usual accidents; one had eleven eggs taken from under her by rats or other vermin, leaving only two to be hatched, and some of the young broods were thinned by casualties unknown; but during the whole season I had neither a sick hen, nor a sickly gaping chicken.

As each hen came off with her brood, she was placed in a coop, tight on three sides, with slats in front, in a dry situation, but on bare ground, without straw. She was here confined about ten days, after which she was suffered to run at large with her chickens during the day, in clear weather, that is, as soon as the dew was thoroughly dried. I believe no hen continued with her brood longer than six weeks, and several left them at the close of the fourth week, and in some instances I noticed that the hen commenced laying again, while still running with her chickens.

The food given to them was coarse Indian meal, mixed rather stiff, three times a day, and during the fourth week dry cracked corn was generally substituted; and I had the flattering assurance from my friends that no farm yard ever presented a finer, healthier looking lot of chickens.

One speckled hen, of a delicate, bluish grey color, has done remarkably well, having between the first of April, and the first of October, hatched *three* broods of chickens, and since that period laid two litters of eggs, neither of which (anticipating a cold winter) I allowed her to sit upon. She has proved the most valuable hen on the premises.

The older fowls during the Spring and Summer, were kept confined, with the exception of about an hour before roosting time, when they were privileged to range at large. The younger ones roosted in the open air until November, when they were comfortably housed, and from the fact of their having previously laid so freely, I anticipated a larger supply of eggs during the Winter months, than I have received, particularly as they have been well fed with corn, buckwheat, potatoes, and a fair proportion of raw meat. Still I am satisfied that they have proved a profitable crop, although I am unable to state accurately what has been the cost of their feed.

In this town during the past twelve months, eggs have ranged in price, from 18 to 30 cents per dozen—the greater part of the time commanding 20 cents, while dressed chickens have brought from 12½ cents to 16 cents per lb.

We commenced using chickens for small *broilers* early in July, and up to the present date, have dispatched fifty-three, weighing in the aggregate, *when dressed*, 151 lbs.—seven killed at one time averaging over 4 lbs. each. I have still on hand the old fowls, and fifty-two chickens, which, as most of them are older than those first killed, will doubtless equal them in weight, so as to allow an estimate of at least 300 lbs. of chickens. Now deduct the eggs used for hatching from the whole number, and there will remain seventeen hundred and thirty-two, and the following shows the value of eggs and chickens calculated at the lowest market rate.

300 lbs. chickens at 12½ cents	$37 50
1732 eggs, at 18 cents per doz	25 98
	$63,48.

being one year's increase from 15 hens!

Suppose I have fed to them during the year, 40 bushels of grain, at 80 cents the bushel, (which I am confident I have not done), there would still be a handsome remainder—proving to me that the rearing of chickens, if accompanied with ordinary care and judgment, will not fail to yield a profitable return.

I have never been troubled by fowls scaling my garden fence, and the few chickens that found their way between the pickets, were serviceable in destroying worms and insects.

As to choice of breeds, those of mine that most markedly showed the presence of Shanghai blood, were, when cooked, coarser in texture and less delicate in flavor; while the pullets of half Spanish blood invariably commenced laying at an earlier age than their Spanish sisters, and generally before they were five months old. Still, each distinct breed of fowls has its peculiar merits, and individual fancy alone will decide which is entitled to the preference. J. N. A.

Pembroke Green, Bridgeport, Conn., Feb. 1858.

Poultry—In-and-in Breeding—Guinea Hens.

In the last volume of the *Agriculturist*, page 248, we gave our opinion of Guinea Hens and Peacocks, which was not very strongly in favor of these "ugly, vain, vicious, pugnacious, noisy, rude, cowardly, birds," which we still keep, however, for the "variety which they give to the poultry yard, and the luxurious plumage which decorates them." A correspondent of an English journal, The Field and Country Gentleman's Newspaper, comes to their rescue in an article that we copy more especially for the sensible suggestions he gives on the subject of breeding, which are applicable to all kinds of poultry, as well as other animals. The writer says:

How rarely do we see any encouragement given to Guinea fowls at our poultry shows. The reason I am at a loss to determine, as they are a really useful sort of poultry, and number several varieties. If not bred too closely, the chicks are as hardy as most fowls; they are very abundant layers, and their eggs and flesh are much esteemed; they cost very little to keep, at least in the country, where they do good service by devouring an immense amount of insects, which would destroy far more produce than they themselves possibly could. I do not consider them adapted to confined poultry yards; but I think no one who has convenience for them in the country should be without them. I am aware that they are usually thought too delicate to rear, and such is certainly too often the case; nor can it be wondered at, if we consider how they are propagated. For instance, a person procures a setting of eggs, and hatches them under a common hen; a brother and sister are reserved for stock; these breed; an accident happens to one parent, and the other breeds again the next season with its own offspring. A neighbor obtains a setting of eggs from these, and the produce goes through a similar course of in-and-in-breeding; and then the birds are at last discarded as so very delicate! The wonder, however, is, that any are left at all to breed from. My plan, when I commenced, was to procure a cock and hen from widely different parts so as to avoid any relationship. From these I bred, saving four pullets, and again purchased two of the finest cocks I could procure from a different place. For the years I had that stock the chickens were much hardier than the common fowls. I pursued the same practice with turkeys, and exceeded far beyond my expectations; this plan of breeding I have adopted with all kinds of poultry, and I can confidently recommend it to others.

The common color of Guinea fowls is a dark grey, the feathers having small round white spots on them. The varieties are pure white and ash-colored, that is to say, a pale, soft bluish grey, the feathers marked with white spots. Black are also to be obtained, but are not very common; those having a deep black ground and clear white spots are the most difficult to obtain, and I think by far the handsomest.

The Crested Guinea fowl is, I believe, a different species. It is rather smaller, of a grey plumage, the white spots not quite so distinct, the pinion feathers being reddish brown; and, in place of the horny casque, it has a plume of feathers on the head.

A smooth sea never made a skillful mariner. Neither do uninterrupted prosperity and success qualify man for usefulness or happiness. The *storms* of adversity, like the storms of the ocean, rouse the faculties and excite the invention, prudence, skill, and fortitude of the voyager.

Tim Bunker on Losing the Premium at the Fair.

(Wherein Esquire B. gives some broad hints about the way premiums are not unfrequently awarded.)

Mr. Editor:

I told you in my last about raising a carrot crop with a new kind of manure. I did not tell you how I lost the premium on the same crop. It is an old saying, that "merit wins," but I think that must have been said in times when men were less tricky than they are now. I had always thought, that the only thing necessary to get a premium, was to raise the best crop; but I discovered at our last fair, that there was a mighty difference between raising a premium crop, and getting the premium for it.

You see, our County Fair was held at Hookertown, and the competition in the root crop was pretty sharp. The people of that town were up in force, and I guess, if there was one load of vegetables, there was twenty, heaped up with big cabbage heads and squashes, long turnips and beets, parsneps and carrots. The Rev. Mr. Slocum was up, and both his deacons, Fessenden and Foster, and Esquire Jenkins; and all brought along lots of garden produce. Smithville was well represented by the Lawsons, the Tabers, and the Wilcoxes.

Now, you see, it so happened that Tom Wilcox kept a livery stable, and had a mare that he thought might take a premium. He fed her high for a month beforehand, and got her into first-rate condition, and brought her on to the ground, without saying a word to the committee, or any body else, that she had the heaves. My neighbor, Jake Frink, was chairman of the Judges on roadsters, and must have known all about Wilcox's mare, as he sold her to him three years ago, and she was unsound then, and only brought seventy dollars.

But Jake had an ax to grind, and was mighty anxious to get a premium on carrots, so as to take wind out of my sails, So he managed to get Tom Wilcox put down among the judges on vegetables. Jake thought the thing might be managed, and, sure enough, he did manage it considerable slick. As soon as the judges came on to the ground, Jake—accidentally, of course—met Tom, and says he:

"Mr. Wilcox, you are not a going to enter that old mare, are you; you know unsound horses are not allowed to compete."

"Dew tell, Mr. Frink, you don't say so. But look here, Jake, she is as fat as a porpus, and I have fed her on green stuffs so much, that she hasn't coughed for a week. Nobody 'll know anything about it, if you do not tell 'em of it. Ha'n't you got anything you want a premium on? 'One good turn deserves another.' I'm on the committee for garden sass, you know."

Upon this, you see, Mr. Frink took Tom around among the roots, and I had the curiosity to keep within hearing distance.

"Good carrots," said Tom, "but you see, yourself, they a'n't so long or smooth as old Bunker's."

"I'll tell you what," said Jake, "I'll double my hill, to make more of a show, and you can give the premium on that."

I did not hear any more; but I saw Jake's hired man unloading a cart about an hour after; and, I guess, if Jake's sample of carrots had a half bushel in it, as the rules required, it had six.

Some of the people opened their eyes, when it was read off at the close of the fair:

First Premium on Roadsters, Thomas Wilcox, of Smithville.....$5 00
First Premium on Carrots, Jacob Frink, of Hookertown.....$2 00

But you see, my eyes had been opened before. The only shadow of a claim these men had for a premium, was, that the one had the fattest horse, and the other had the biggest heap of carrots.

At the last meeting of our Farmers' Club, we had up the subject of root crops for discussion. Of course, each man gave his experience, and, among others, Jake Frink gave the details of his mode of raising carrots, for which he took a premium last Fall.

When it came my turn to speak, I took occasion to congratulate my neighbor on his success, but was sorry that he had omitted to give one very essential item in his treatment of the crop, viz., a large application of *horse manure*.

Mr. Frink looked very red in the face, and pretty soon had occasion to go out and take the air. Whether he is troubled with apoplexy, I could not say.

Now, Mr. Editor, I think it is high time, that this business of giving premiums at the fairs, had an overhauling. If we can't have premiums awarded according to the merits of the case, one very important end of the fairs is defeated. People will very soon lose their confidence in them, and will not bring out their products for exhibition. I hope, you, editors, who know how to write, will stir up your readers on this subject.

Yours, to command,

Timothy Bunker, Esq.

Hookertown, Jan. 16, 1858.

Three Kinds of Farmers.—Our Neighbors, Jones, Smith and Johnson.

Within the range of our daily vision, are two farmers who represent two distinct classes of agriculturists. Farmer Jones' aim and end in all his operations is to secure present profit, regardless of the future. His house needs repairing and painting, not only for its appearance sake, but also for its *preservation*; but as that would take something at once out of his pocket and yield no immediate return, he concludes to let it go, for this year, at least. So with his barns and other outbuildings. He constructs them out of the cheapest materials and in a hasty manner, satisfied if they answer for the present, to let the future take care of itself. Hence we see his foundations giving way after the first year's frost, and his buildings leaning at all angles; the doors, hung by leathern or old rusty iron hinges, breaking down; the siding, imperfectly nailed on, blowing off; and the floors made of thin and poor lumber, breaking through. His fences are in the same predicament. Wanted only to answer for present use, they are patched up out of old and rotten lumber, and are constantly breaking down and exposing his crops to the incursions of hungry cattle. His mode of tillage proceeds on the same principle. Draining, manuring, sub-soiling,—he has little faith in them, certainly no further than he thinks they will bear on the present year's crops. *Skinning*, is his style of farming: this requires no outlay for an uncertain future: all that he gets out of the land is so much clear gain. And he carries out this principle in his general style of life. His education suffices for the wants of to-day; so he will not take the trouble to inform himself against the demands of the future. Hence, books and papers containing solid and useful instruction are banished from his table to make room for those affording entertainment only. He manages to get along with his present character as a man and citizen; so he don't care to build up a reputation for integrity, generosity, intelligence and virtue. Alas, too, perhaps he cares only for the trifles of the present life, regardless of the grander scenes of eternity!

Over the hill yonder, lives farmer Smith, an intirely different sort of man. Can it be that he and Jones both descended from Adam? His eyes have a good deal of the telescope in them, being very much given to look into the distant future. He thinks, plans, dreams and talks of time to come. He is *going to be* a grand farmer, one of these days. When he gets his plans all matured, and when he gets them all, or half of them executed, won't people open their eyes and say he's a long-headed man, that farmer Smith, a man of bottom, a genuine "brick?" Won't they?

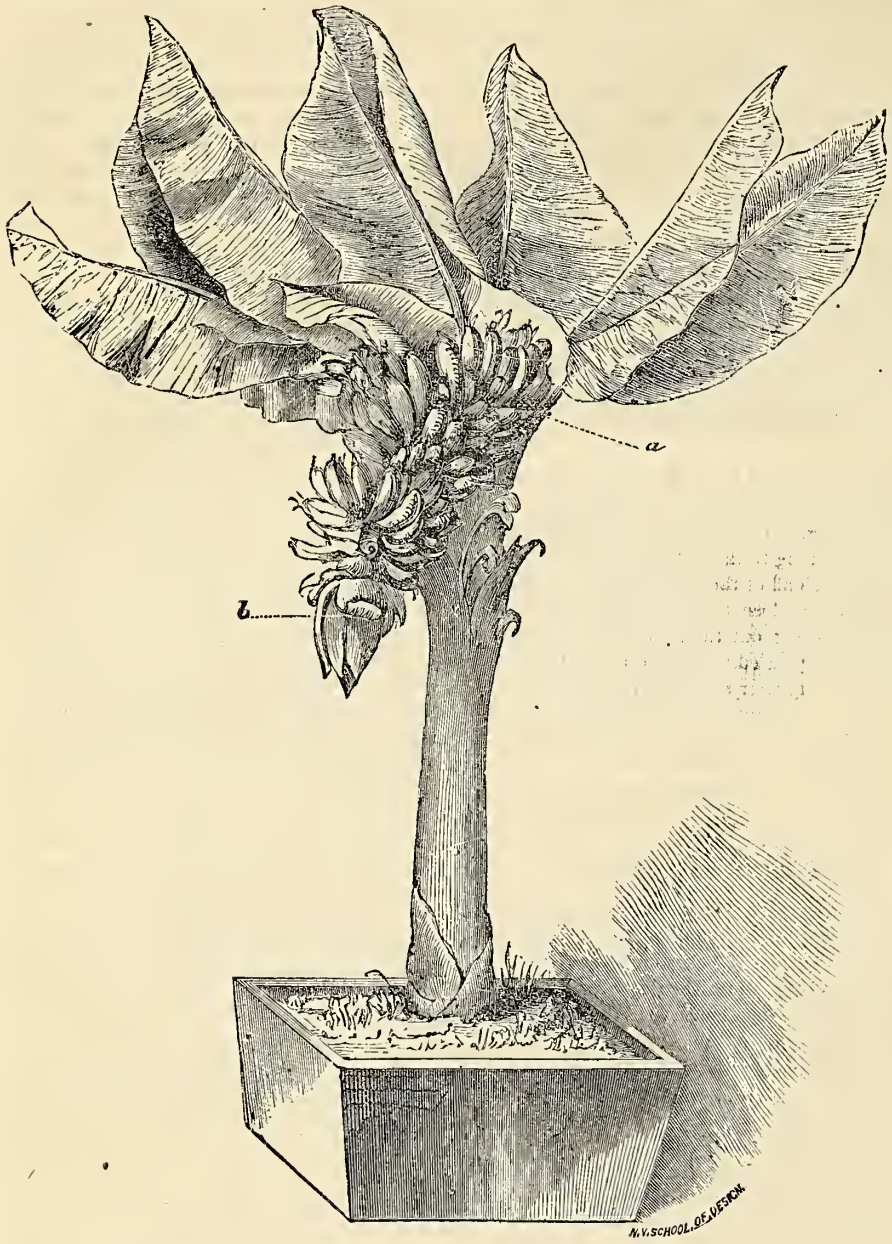
To his very bones, he believes in draining, and that thorough draining. To prove it, he has been at work for two years past, on a range of sand hills, cutting trenches down their sides four feet deep, and laying them with pipe carted a long distance at great expense. To be sure, he has never caught his drains delivering much water yet, but they are sure to do so by and by; the principle of draining is a good one, and is certain to show grand results at a future day. Subsoiling is another article in his creed. And he is proving his faith in it by subsoil-plowing a twenty acre lot of meadow-land which has a surface soil of virgin mould some two or three feet deep, resting on a porous substratum of gravelly loam. His neighbors look over the fence and shake their heads, and tell him they think he had better use first the rich soil on the surface, before going down after that near the center of the earth; or if he is trying to loosen up the subsoil so that his crops can send down their roots deeper, he needn't trouble himself to do that, for his clover and other crops already strike their roots lower than the point of his deepest plow. But he looks wise, and lets them talk on: he thinks they who plow shallow, are shallow men; they have no thought for the future; they have not read of the grand results of subsoiling. One of these days, perhaps, they or their children will see something.

Need we tell anything more about farmer Jones? How he builds stone fences six feet broad at the base, so as to have them durable; how he is now laying wide and deep the foundations of an immense barn, which it took him five years to plan; and how these and his other schemes for the future are on so grand and costly a scale that they exhaust his present means of living comfortably, and keep him continually in debt? He is a large hearted man, and has large ideas, but he rides his hobby to death.

As we have observed the ways of these two men, Jones and Smith, we have often thought, what a grand thing it would be, if the two could be "mixed together," and so form a new product, such as we found in a third neighbor, Mr. Johnson! Mr. J. does not manage his farm for present profit only, but so as to secure immediate returns, and yet provide for the future. He constructs his buildings in a sufficiently durable manner, and then keeps them in repair. He drains and subsoils only where such operations are needed, and will pay at once and in all time to come. He does not crop a piece of land without restoring the fertility taken from it. He manages his grain and grass fields, his orchards and his garden so as to reap present benefit and still greater returns in future. And while Mr. Smith and Mr. Jones left alone will come to poverty, the two combined in Mr. Johnson would prosper, first and last.

Sunday.—One of the most beautiful expressions of Longfellow is this: "Sunday is the golden clasp that binds together the volume of the week.

Bakers, generally speaking, are a set of *loafers*, often *knead*-y, and not always well *bred*.



BANANA TREE—(Musa *Cavendishii.*)

An accurate representation of a Tree now growing in an American Green-House.

We present to the readers of the *Agriculturist* an accurate engraving of a Banana Tree, the first we have seen actually fruited in this country—and we have heard of but one other. The one here shown stands in the Green-House of Messrs. Parsons & Co., of Flushing. The hight of the main stem to the base of the leaves is 4 feet; the diameter of the stalk is 7 inches; length of the largest leaves, 4½ feet. The general color of the stalk is light purple—that of the leaves, dark green.

The manner of the growth of the fruit is peculiar and interesting. Most persons have seen bananas as they come to this country for sale. The clusters are sometimes very large—often three or more feet in length, and as heavy as a man can conveniently carry. A bunch has been grown in France, upon the variety *Musa Cavendishii*, which would not go into a flour-barrel.

Each plant bears but one bunch of fruit. From the base of the leaf stalks, or head of the main stem, at *a*, a single purple flower bud starts up, and throws off from its surface successive circles of bracts or floral leaves, (*b*). Under each of these leaves appears a circle of small flowers, which develop into fruit. The main bud pushes out farther, throwing off, from time to time, new leaves and new circles of fruit. The increasing weight bends the fruit stem over in a curve. In thrifty growing plants of this variety, the cluster of fruit is extended nearly, or quite to the ground.

GENERAL NOTES ON BANANAS.

The bananas or plantains are natives of the East and West Indies, Cape of Good Hope, and other tropical regions, where they are very valuable, both for the abundance of nutritive and delicious food afforded by their fruit, and for the many domestic purposes to which the gigantic leaves of some species are applied. The leaves are used for thatching the roofs of Indian cottages, and as material for basket-making; and one species "*Musa textiles*," yields an excellent flax, from which some of the finest muslins of India are prepared.

The tall stems of the bananas are formed of the united petioles, or stems of the leaves, and are remarkable for the great quantity of spiral vessels they contain. The banana is propagated by removing and transplanting the suckers which are constantly springing up from the roots of old plants

In their native locations they are very productive—yielding enormously in favorable situations. A patch of thirty to forty plants has been known to produce as much as four thousand pounds of nutritive substance in a year. The fruit arrives at maturity in about nine months from the appearance of the bud or sucker above the surface of the ground; and as these buds are produced rapidly at the base of the old stem, or stool, a succession of fruit-bearing plants is kept up throughout the season. They do not, however, so readily produce fruit under artificial cultivation. With a green-house temperature, it requires about three years from the bud, but in stove or hot-house heat, they will fruit in about eighteen months in our climate. They grow and fruit best in a strong loam, enriched with very rotten manure and vegetable matter.

Most of the fruit-bearing species require a large space, as they grow to the hight of fourteen to eighteen feet, which renders their cultivation impracticable in ordinary-sized green or hot-houses Happily, the species represented by our engraving, *Musa Cavendishii*, obviates this difficulty. Being very dwarf in habit, it rarely, with the best cultivation, attains the hight of six feet This is also one of the most productive species known. It is a native of the East Indies, and this, with "*Musa dacca*," also from India, and very dwarf, are the two best species for cultivation for the fruit in our climate.

The fruit from the West India Islands which is imported in such quantities into our markets, is produced by "*Musa sapientum*" and "*Musa paradasiaca.*" These can only be cultivated with success in very lofty houses, and they require also to be planted in a border or pit.

There are several species which produce very splendid bloom, among the most showy of which is the old "*Musa Coccinea*," with bright crimson and scarlet flowers; these are all very dwarf, not growing more than two or three feet high, and their fruit is worthless.

Current Notes from American Green and Hot Houses.

NEW GREEN HOUSE PLANTS.

INDIGOFERA *decora.*

A dwarf Green-House shrub, of great beauty, recently introduced from China. It resembles very much the "*Indigofera tinctoria*" which is the Indigo of commerce, but does not grow quite so large. The flowers are large, pea shaped, produced in large spikes, on the young shoots, and are of a delicate peach color. The leaves are large, pinnate, and glossy. It is a deciduous plant, has large tuberous roots, and will probably be hardy south of Washington. It requires a light and sandy soil to bloom well. It is a suitable plant for a small vase.

VIBURNUM *suspensum*

This is a new species of the "*Laurustinus*," a native of northern Asia. It is a medium sized shrub, with large glossy foliage, erect habit of growth, and flowers of a light rosy pink color It produces flowers in midwinter, and though not very brilliant, they are in such profusion as to make it a most desirable plant and well worthy of cultivation in the Green-House. For the South, it will be a very valuable acquisition, being evergreen, and better adapted to endure the extreme heat and dryness of the climate than the common Laurustinus. It is a thrifty grower under pot culture, and should be planted in a rather strong loam.

VIBURNUM *japonicum.*

Another new species of the *Laurustinus* family. Leaves bright, glossy, very thick and fleshy, and

obovate in form. Flowers white, and fragrant, produced on the ends of the shoots in large panicles. This is a fine evergreen shrub—rather more difficult of culture than the "*suspensum*," but more showy. It is still rare, being of slow growth, and rather difficult to propagate, since, from the fleshy character of the wood, it is exceedingly liable to rot in the cutting. A compost of sandy loam with one-fourth well decomposed leaf mold, and free drainage, will secure a vigorous growth.

ACACIA *Drummondii.*

This is a new Australian species, very distinct, and decidedly the best in cultivation for a small green-house, as it is of very moderate growth, requiring years to make a plant five feet in hight. The foliage differs very much from any known species. They are compound, leaflets very large and broad, with very short footstalks, and thickly set upon the branches. The flowers are produced from the axils of the leaves, in spikes of from two to four inches in length, of a bright yellow color.. It grows well in a light, rich, sandy loam, but will not bear overpotting, as it does not grow with the vigor of most Acacia's. It requires very little pot room, produces flowers while very small, either when raised from seed, or from cuttings.

ACACIA *grandis.*

This is a species very much admired for its graceful habit, and beautiful lively green foliage. It belongs to the "*pulchella*" section of the genus, but is more robust in growth, and is not so liable to become sickly as most others. The flowers are produced in the greatest profusion, in little round balls of the color of gamboge. This is one of the best species for training as standards, either to form a compact head or with pendant branches. The natural growth of the plant being so uniform, little skill or labor is required in training to any shape.

ACACIA *acutissima.*

Another quite new species, of dwarf bushy habit and very peculiar appearance, the leaves and wood being precisely of one color—a dark French green. The leaves are aphyllous, very spiry, and sword shaped. The flowers are produced in little balls which do not project beyond the points of the leaves. They are of a greenish yellow color, and contrast beautifully with the deep rich green of the wood and foliage. Its growth is very dense, and it is a species well adapted to a small green-house.

NEW HOT HOUSE OR STOVE PLANTS.

EUPHORBIA *puniccus.*

This fine stove plant is of recent introduction nto this country. There are several other showy species which are common in our Green-Houses, but all are inferior to this in beauty, when well grown. It has a very erect habit, and to form a neat bushy plant, the ends of the young shoots should be pinched off several times through the season, while the plant is young. After it has attained age, its growth is less vigorous, and it will not make shoots more than four or five inches in length in a season. These shoots are terminated by a head of flowers which are surrounded by large bracts or floral leaves, of a deep brilliant crimson color, that retain their beauty for a great length of time. The foliage is light green and of a bright silky appearance. It is a very beautiful but rather tender plant, requiring careful treatment and a high temperature to grow it well. This plant belongs to, and is the type of an extensive *natural order*, abounding in the dry regions of Africa, where they assume the form and appearance of the *Cactus*, and are leafless. Some of them are deadly poisons, others furnish powerful medicines. In other parts of the Tropics, the "*Mandioc*" plant or "*Jatropha manihot*," furnishes the delicious article of food "Tapioca" which is obtained from the large tuberous roots.

GREVILLEA—TILLERMANII.

We have succeeded in getting a very fair sketch and engraving of a specimen of this plant, which was described in the February *Agriculturist*, page 54. It is impossible to fully represent the delicate foliage, and nothing short of a finely tinted colored picture could give a perfect conception of the beauty of its large clusters of bright red flowers. The plant from which our sketch is taken, is nearly three feet in hight, with the branches spreading over a space about four feet in diameter.

BILBERGIA *acaulis zebrina.*

A very fine little plant, with beautiful variegated leaves, and pure white spikes of flowers. It belongs to the "Pine apple," family—or "*Bromeliaceæ.*" It is from South America, where it grows upon the branches of trees in the dense forests. It requires to be grown in the shade, in order to preserve the delicate and rich marking of the foliage. It may be grown on a block of wood or in a pot as desired. The compost should be of light porous materials, such as coarse peat and moss mixed with broken potsherds. It delights in a high temperature and rather humid atmosphere.

IXORA *Javanica* (Low's,).

The Ixoras are among the neatest and most beautiful plants that are grown in the Hot-House. There are now a dozen or more species in cultivation which are exceedingly showy and fragrant. With few exceptions, they are low growing shrubs, natives of India and the Islands of the Indian Ocean. They bloom very freely during the early Spring and Summer, bearing large heads of flowers, some pure white, others crimson, with all the intermediate shades. The *Ixora Javanica*, of which there are two varieties, has been recently introduced. It has a rather slender growth; foliage pale green, with orange and light crimson flowers. The other variety called "*Rollinson's variety*" is of a higher color both in flower and leaf. The habits of the plant in other points is the same as Low's variety. These two varieties bloom more freely and for a greater length of time than any of the others. A light, rich soil, and a high temperature are required to grow them successfully. The natural order to which this plant belongs "*Cinchonaceæ*" is interesting. It is not only one of the largest known, but also contains a number of important species, much employed for the use of man. To this order belongs the Coffee tree, "*Coffea Arabica*," and many are among the most valuable remedial agents, acting as tonics, emetics or purgatives. An eatable fruit is furnished by a few species. The "*Genipap*," a South American fruit, as large as an orange, of a whitish green color, but containing a dark purple juice with an agreeable vinous taste, is produced by "*Genipa Americana.*"

Setting Out Trees, instead of Attending Lawsuits, Auctions, &c.

RAINY DAY RAMBLES.—NO. VI.

To the Editor of the American Agriculturist:

My rainy day rambles have not been "suspended," like most commercial affairs of late, though I have "failed" to communicate them. During my last rainy day neighborly visit, I overheard a little chat which suggested a thought or two that may not be uninteresting, and I give you the substance if not the exact words.

"Well neighbor, I must say you have many beautiful trees around your house. A few years

ago there was not a tree here; somehow you have had good *luck*, or the soil suits them. I love to see trees growing as well as anybody, but I can't find time to set them."

"Aye 'squire, I have heard this many times before. As to soil, many of my friends expressed wonder that I should plant trees where the ground was so unsuitable, and as to not having time, I have never seen the farmer, unless he had a double business pursuit, who had not had time to plant shade and fruit trees. You have had abundant time, and I will prove it. One day last Spring, when the frost was out of the ground, but too wet to plow, I took my man and team and went into the woods and dug up over twenty ash and elm trees. After dinner we dug the holes and set them out by the road. Next day we put posts around them and secured them against the winds and cattle. Now, on that day you went to a trial at the Court-House ten miles off, in which you had no personal interest, and the next day you went to the village and was so busy telling about the trial to other loungers at the stores and tavern, who have never found time to set out a tree, that the whole day was consumed. Last Fall, I went to the nursery and purchased a quantity of fruit trees, and set them out in the orchard; but it was by staying at home, and not going to the political meetings, auctions, &c., as you did, and by so doing I was ahead of you in my work when Winter came."

"Neighbor, you hit pretty hard to be sure, but somehow, I don't know what kind of trees live best."

"Nothing easier. Dig up and transplant any kind of trees carefully, and they will live; but do not choose too large ones; you will seldom find a forest tree more than two inches in diameter to succeed as well as a size smaller. And there are but few places in the United States where access cannot be had to good nurseries from which you can make your selection."

"Yes, but neighbor, they are too costly for me; the rich can only purchase enough to fill their yards, and line their roads."

"Very well, this Spring instead of walking down to the village to spend the time, or attending every auction you hear of, unless you intend to purchase before you go, take your men into your woods, and commence operations. Where you cut off timber five years ago I recently noticed a beautiful lot of sugar maples, and in another part some black-walnuts, beech, and bass-wood trees. I noticed near your swamp, white-woods, and sweet-gum. Try them too, they are beautiful trees, and succeed well if of the right size. I have no belief in this want of time to set out trees. Plant one a year, if nothing more, for shade around your house, and in twenty years you may have a respectable shade. If you love your wife, squire, as you ought to, if you love your children, if you respect the opinion of your friends, or regard the beauty of country life, ornament your grounds with a suitable number of shade trees. And while you are about it, just set a few rose bushes around your house, say altheas, or any other pretty flowering shrub, and I know Julia will thank you for it, and your daughters will esteem you the more. Try it."

The 'squire acquiesced in the suggestion of his neighbor, and I trust he will act upon them. S.

North Hempstead, Feb., 10th., 1858.

An Irishman, in great fright and, haste, rushed into Abernethy's office and exclaimed: "Be Dad, the boy Tim has swallowed a rat!" "Then, be dad," said the doctor, "tell the boy Tim to swallow a cat!"

Cultivation of Cranberries.

The *cultivation* of cranberries has been confined, almost exclusively, to New England, and chiefly to Massachusetts, though they have grown well, to some extent, in several other States. Many have supposed that this fruit could be raised successfully only on the salt marshes of the seaboard, or, at least, on low, boggy land, subject to frequent inundations. We are glad to see an interest springing up in the cultivation of this delicious fruit outside of New England, and are pleased with the evidence that it can be raised in any part of the country, and on upland as well as in low marshes.

One species, the small, European, abounds, not only in northern Europe, but also on this continent, in Nova Scotia, New Brunswick, and along the St. John's river. Another, the common American, is found in all our higher northern latitudes, and from thence to North Carolina, on the south, and to Minnesota, on the west. Each of these species may be subdivided into several varieties, such as the oval, flat, globular, &c., The "bell variety," we believe, is the most popular sort for cultivation in New England. As the farmers of the middle States are beginning to turn their attention to the culture of this fruit, we offer a few hints on the subject. (An excellent article from the pen of Mr. Bagley, appeared in our last volume, page 9.)

Let it be premised that, though the cranberry can be grown successfully on upland, it is yet questionable whether it will pay as well as corn or grass. The native habitation of this plant is in low marshy land, unfit for raising any other crop, and it is such soils, chiefly, that we advise our readers to use for this purpose. But of this, more hereafter.

The native species has a stem two to four or five feet long, sometimes, indeed, stretching out a dozen or more feet, in favorable localities. The leaves are oblong, and the flowers quite showy. The berries hang from the end of the young branches on reddish stalks, so bent at the extremity as to resemble a crane's head, neck and bill, from which appearance it derived its name—*crane's-berry*. In their growing state, the herries have a dull green color, and are comparatively tasteless; when ripe, they assume a rich scarlet, or carmine hue, and contain a rich acid, very agreeable to the palate.

As it has been already said, its favorite home is in wet, boggy land; yet it is sometimes found in hilly regions. Plainly, it is not fastidious about the place of its abode. It will grow on low land, inundated by the tide; on coarse, clean sand; on peaty soils; on dry gravelly upland; and in any rich garden mould—though it thrives best, and bears most abundantly on lands just suited to its wants.

It is propagated in three ways, viz., by seed, by cuttings, and by transplanted roots. The first is a slow method, requiring the loss of two years, but answers well where time is of little account. To prepare the seed—mash the berry, wash away the pulp, mix with sand to facilitate sowing; then scatter broadcast, and harrow in. To propagate by cuttings, a well-informed writer says: "Gather a large quantity of vines, and run them through a common hay-cutter, until they are reduced to the required length, an inch or two, when they may be sown broadcast and harrowed in. These slips, take root very soon, starting from the base of the leaves, and at the same time shooting up many rising branches." Others prefer sowing in drills, covering with care. In propagating by transplanting the roots, the ground needs hardly less preparation than for sowing. All bushes and foul weeds and grasses should be exterminated. After the ground is well cleaned, spread on the surface three or four inches of sand. Take up the plant with a sharp spade, and set them a foot apart in the rows, and the rows a foot and a-half or two feet apart. Some persons prefer setting them wider apart, and cultivating between them. If the hoe is allowed among them, it should be used with great care, as the roots of the young vines are easily loosened. Not a few maintain, that the best way is to take special pains at the outset, to rid the soil of all weeds and grasses; then to set the plants one foot apart, when they will soon spread over the ground, and keep the weeds in check. When the land lies so that it can be irrigated, it is considered advisable to do so several times a year, not only to furnish the plants moisture, but also to check their too early growth in Spring. An occasional flooding in April will retard the blossoms sufficiently to protect them from frosts.

The cultivation of cranberries on upland has its advocates. Many even insist that the fruit is larger and better than that grown on lowland. This mode of culture has, at least, these advantages: that the work of tillage is pleasanter and healthier, and that the plants suffer less from late frosts. When one has no low marshy land, we would advise him to devote a portion of his upland to this crop. No manure is needed in preparing the soil. All the application required is a dressing of swamp muck, and perhaps a mixture of sand, if the soil is not naturally light and porous. While the vines will grow tolerably well on land dry enough for corn and potatoes, they succeed better on that which has a light, sandy surface, with a moist substratum. A stiff, clay soil, which becomes dry in midsummer, is very objectionable.

Plants can be bought in any quantity, for about $5 a thousand; and they may be set out, either in the Fall or Spring. An excellent mode of planting is, after the ground has been prepared, to stretch a cord across the patch; draw drills or make holes with a hoe, a foot and a-half, or two feet apart, by the side of the cord, and then follow with the plants, setting them out with the hand, like strawberries, and covering the ground about each hill with a little sand. With a little care at first, in weeding, the vines will cover the ground in about two years. When well established, they often bear from 100 to 200 bushels per acre. A rake, made on purpose for gathering cranberries, can be found at nearly all agricultural stores. The berries are usually sold at from two to four dollars a bushel.

Among the drawbacks in the culture of this fruit may be mentioned, the injury from the growth of weeds among the plants, from late Spring frosts, and from the attacks of a worm resembling the common apple-worm. But with all these, it is worthy the attention of farmers, especially those who have low, boggy land, unfit for other purposes. The food is wholesome and palatable, and always commands a good sale in market, both for home consumption, and for exportation.

"All Flesh is Grass."—A Western editor, speaking of one of his brethren of the quill, noted for his fatness, remarked that if the Scripture proverb, that "All flesh is Grass," was true, then that man must be a load of hay.

"I suspect I am, from the way the asses are nibbling at me," replied the fat man.

"What did you give for that horse, neighbor?"

"My note."

"Well, that *was* cheap."

Downing's New Gooseberry—Not in Market.

Our notice of this variety, on page 23 (Jan.) has called forth a number of inquiries for it. We addressed a note to the originator, Chs. Downing, Newburgh, N. Y., to which he replies that "....The seedling gooseberry has not been propagated at all; all the cuttings have been given away to the many nurserymen and amateurs who have applied for them; so that in time, some will be for sale. I have no cuttings left, and do not intend to propagate it for sale.—It is an improvement on the Houghton's in size, and form of the bush (being more upright and stout;) in flower, about the same; color, greenish white."

Leaf and Blossom Buds.

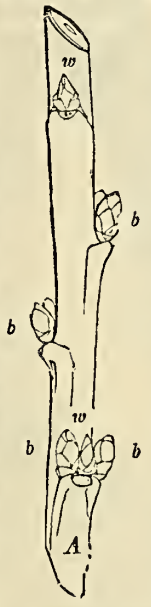
To the Editor of the American Agriculturist:

I understand that all peach buds will not answer for working upon small trees, as some of them bring blossoms only. If such is the case please inform me, and give directions so that I will know which to cut. I also wish to know how and in what month to bud the peach. I intend planting an orchard in the Spring, and would like to see an article containing the desired information.

Tippecanoe Co., Ind. G. N. O'Dell.

REMARKS.

We introduce the accompanying cut to illustrate the different buds referred to by our correspondent. The side buds *b b*, known by their full round appearance contain the embryo blossoms, and should not be used in budding. The proper ones to select are the single, pointed, leaf or shoot buds, as seen in the upper end of the cut at *w*. Sometimes a leaf bud is formed by the side of or between two blossom buds, as seen near the bottom of the cut, *w* being the leaf, and *b b* the blossom or fruit buds. They should be discarded in working, as the vital fluid necessary to nourish the bloom, and sometimes form fruit even, would be diverted from its proper channel, and a weak growth would be the result.



More care is required in selecting peach buds than cherry, pear or other kinds of fruit. Buds are chosen in mid summer from the *present* season's growth, and excepting in the peach, we seldom find fruit buds on these shoots. July and August are the proper months to bud in. Full directions with illustrations were given in our last volume at page 161 (July), and other suggestions will be thrown out at the budding season of the present year.

Peach Borer Plastered Up.

We lately heard of a fruit-grower who, after cutting out a number of grubs from his peach trees, thought he would try the experiment of *walling in* a few. So he took some pure white clay, and plastered up the holes left by the gentlemen within. The clay soon became dry, the wound healed over, and, of course, the borers were smothered.

Taking a hint from this, we, last Summer, cut off the retreat of a borer in one of our young English elms. He had worked his way into the tree, an inch or more, and then ascended, pushing behind him, and out of the hole, the debris made by his incisors. With a sort of malicious delight, we cleared out the mouth of the hole with a knife, and then filled it up with a mixture of gum-shellac, made of about the consistency of thick cream. This dried very soon, and, of course, gave the borer an air-tight parlor, which was fatal to his health and his future explorations.

The Orchard—No. III.

Apples—*Continued from page* 50.

For the first half-dozen years, plowing the whole ground will not be necessary. A few feet each side the tree, say twice the distance that the limbs spread from the trunk will be sufficient to mellow the earth for the young roots to penetrate and to let down the warmth, air, and rains, upon them. Beyond the spread of the roots the plowing may be deep, but where they have already run it should be shallow, as, otherwise, the roots will be cut and injured. We have seen fine young orchards almost ruined by *deep* plowing close to the trees. When the trees have grown to five or six inches in diameter grasses may be permitted occasionally to grow among them, particularly if pastured by small animals which will not injure the bark of the trees; the grass being closely cropped will admit the rains to penetrate the soil, which *crop* grasses will not so readily do. Hogs, thoroughly rung in the snout, are the best graziers in the orchard. They eat the windfalls, and of course destroy all the worms in the fruit, and so far, prevent the further propagation of such insects. Sheep may be allowed, but if the grass be cropped too close, they may gnaw the bark of the trees, which should be carefully looked after. Cattle and horses are too large to range in the orchard, as they browse the limbs, tear off the fruit, and bark the trees by their horns, or teeth. A rampant young bull of our own once bounded through our orchard bars within sight, and before we could reach him, he had attacked the body of a fine tree, four or five inches in diameter, with his horns, and being in the Summer, when the bark was "in the peel," he destroyed it in less than a minute's time.

Thus it will be seen that a positive, and for a term of years, a dead investment of capital, according to the extent of the orchard, must be made before any compensating returns can be expected from it. Yet, when those returns commence, they rapidly increase to cent per cent, and that almost in perpetuity during the better part of a century; and although the actual returns of the orchard have been greatly exaggerated, still, in the absence of extraordinary casualties, and under favorable circumstances, no agricultural investment can be more profitable or certain, when within the control and supervision of an intelligent proprietor.

LOCALITY OF THE ORCHARD.

Where *good* varieties of apples will not net the grower twenty-five cents a bushel at his farm, an investment in a large orchard may well be questioned. And when the soil and position are not natural to the growth and annual bearing of the trees the orchard is not to be recommended. Situations liable to late Spring frosts are to be avoided. We repeat even what we have already said, that warm, free soils, with natural protection, by way of hills or woods, from high sweeping winds, are, if possible, to be preferred. Sweet, friable soils, natural to white clover, even if stony on their surface, are excellent; but where the water stands long after rain or snow, or in places naturally springy, the soil is cold, and adverse to the growth of fruit trees. Dry and warm strong clay loams are good for many varieties of apples. Some soils not naturally warm and dry, may be made suitable by under draining; but as the orchard usually occupies only a small portion of the farm, lands *naturally* fitted, are the best for the purpose. As the choicest fruits for marketing and long keeping, are those which are *handpicked*, they should not be subjected to trundling over rough, jolting roads, in transportation. We have known the products of large orchards ruined by wagoning a dozen miles over bad roads. Therefore, proximity to a railway, canal, river, or other water communication, is a very desirable requirement in locating an orchard.

PROFITS OF ORCHARDING.

We have been often amused in looking over the Reports of Fruit Conventions, and some enthusiastic writers in our periodicals, at the absurd statements they make of the profits of fruit-growing, drawn from the example of a single tree, or a half dozen trees, in a fortunate locality, and a successful season. Such statements may all be true, as a chance or extraordinary crop; but he who takes such samples for a rule will be sorely disappointed. The orchard has to encounter predatory enemies of more formidable description than any crop-bearing material on the farm. These enemies extend, not only through the long catalogue of the insect tribes, but they embrace numerous birds and beasts. From the mouse and the mole, up to the rabbit, they are subject to occasional depredations, to say nothing of the sometimes inevitable damages by the larger farm stock, and the violations of lawless men. Adverse seasons, and the elements, may affect them ruinously, and against all, or some of them, it is, at times, scarcely within the vigilance or ingenuity of man to guard. Then most kinds of apples give but a *full* crop once in two years. Some varieties are so well balanced in their bearing that they give a moderate crop annually; but they are the exceptions, not the rule. True, an orchard may be so constituted, that it will give a fair crop every year, but not from the same trees. Trees of the same variety, in the same year, will not bear equally alike; they may alternate each with the other. Late Spring frosts may cut off the crop of some, while it may be spared in others, and thus accident will change their years of bearing. In looking over the proceedings of our pomological conventions, it must be borne in mind that they are composed principally of nurserymen who raise trees to sell; and although we regard them as a useful, intelligent, and upright class of men—as much so as those of any other profession—we must bear in mind, that they are there in the promotion of their own interests, as well as that of the public, and their statements of individual things are to be taken with some allowance, when applied at large.

To conclude: The following items may be adopted at the outset, by all who are about to enter on the plantation of orchards.

1st. A dedication of the land appropriated to that purpose, and *to nothing else*, so far as *profitable* crops are concerned.

2d. An annual outlay of labor and manure, without much return, as the case may be, in the cultivation and growth of the trees, until they arrive at a bearing condition.

3d. An investment of the necessary capital to get the trees, the preparation of the ground, and planting them; from all of which no return of

consequence can be expected for the first six or eight years.

4th A thorough study and knowledge of the whole subject of selecting and preparing the land, the kinds of apple to cultivate, training, pruning, protection—in short, acquiring the trade of fruit-growing, in its most intelligent and comprehensive manner. These may all be got from the books—every author of which should be consulted; and whose works, altogether, need not cost over ten or fifteen dollars in the aggregate—and with all this knowledge reduced to practice.

5th. A persistent watchful care and vigilance, in all that pertains to the orchard afterwards.

We have not taken apple-raising for cider and vinegar purposes into the account. That they may be raised for these purposes alone, in some localities, is probable; but windfalls, and enough fruit not fit for marketing, will usually be found in every considerable orchard for such uses, or to an extent sufficient to supply the demand that may be required for them.

For the American Agriculturist.

Suggestions on Pruning.—No. II.

BY A. O. MOORE, NEW-YORK.

[*Continued from page* 25.]

Being convinced that no set of rules or recipes can be given for the pruning of fruit trees, which will enable a person unacquainted with the principles of vegetable growth to become a successful *practitioner*, I will first give a few general facts and illustrations of these principles.

A tree is not simply an individual organism or *unit*, like a man or a horse. It is a "*Mutual benefit Society*," composed of a number of individuals, amounting sometimes to many millions, each one being capable, under favorable circumstances, of maintaining its own existence, not only when in connection with, but when separated from the community in which it was produced; or it may easily be transferred to another society, and will there grow and reproduce its kind with undiminished vigor.

These individuals in whom alone resides the vitality or growing power of the tree, are the *buds*.

Fig. 1.

Fig. 1, presents a familiar object, a twig with buds upon it The stem and branches of a tree are merely the mass of rootlets or descending fibers from the buds, extending to the reservoir of food, the soil. The newly developed buds form their fibers on the outside of those previously formed, causing the annual increase in the diameter of the stem. The old fibers gradually cease to perform any part in the economy of the tree, and becoming heart wood, are *dead*, though preserved from decay

Fig. 2. Represents a section of a twig with buds. *a, a*, are buds cut so as to exhibit the layers of young leaves. *b, b*, the pith which contains a store of nourishment for the young buds. *d, d*, are the vital or growing points of the buds, corresponding with the germ of a seed. *c, c, c*, are the layers of fibers or roots of the buds which descend through the branches and stem to the soil. By a process precisely analagous to the germination of a seed, each bud, in its growth, sends downward, under the bark, its rootlets, while it pushes upward its stem and leaves, bearing a new series of buds.

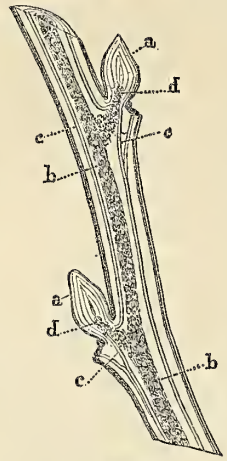


Fig. 2.

The striking similarity in the growth of a seed and a bud may be seen in *figs.* 3 and 4.

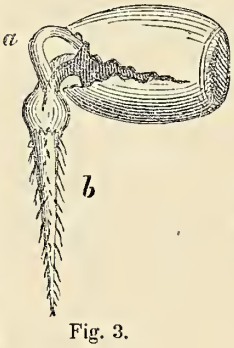


Fig. 3.

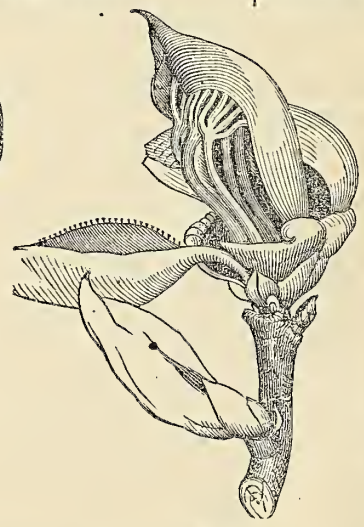


Fig. 4.

Fig. 3 is an Acorn sprouted. Having burst the shell it is sending upwards the stem *a*, and downwards its root *b*.

Fig. 4 is a leaf bud of the Hickory, in the act of breaking from the sheath. The Acorn has burst to allow the escape of the downward growing root and the upward growing stem; while the Hickory bud is pushing out of its sheath which has protected it during the Winter. The roots of the latter are of course hidden within the stem. I have selected the seed and buds of forest trees for examples, because the process is more easily seen, but the same principles govern the growth of all trees.

Leaves are the nurses of young buds. In fruit trees every bud has a leaf charged with its especial care; and when so grand an event as the birth of a *blossom bud*, or as it may be called, a *prince*, destined to form a new dynasty, is about to occur, two or even six leaves are often deputed to the nourishment of one bud.

These buds, then, being independent individual existences, may be removed from the tree or parent community, without injury to those that remain.

In all healthy vigorous trees, especially when young, there is a greater number of buds produced in each year than can receive the highest development, or can find space for growth without mutual interference and injury. Nature thus provides against accident and injury, as well as for the sustenance of insects and animals which are fed by the foliage of trees. If, then, none of these buds are removed, some will be suppressed and smothered by more successful rivals, and others will mutually injure each other and produce a weak growth, while a few of the most favorably situated will have a monopoly of the wealth of the vegetable nation, and of the light and air of Heaven.

This points to the first object to be attained by pruning, viz.—to regulate the number and position of the buds upon a tree.

Our object in the cultivation of fruit trees, is the production of the greatest quantity and best quality of fruit. We care nothing for the tree itself or any other of its products. That course of treatment will be the best which throughout the life of the tree will produce the greatest aggregate of fruit, regard being had to the labor, manure, and space devoted to this purpose. If we produce a great growth of wood it should be only to afford space for fruit. If we find that the growth of wood interferes with the production of fruit, of course the former must be curtailed. It is well known that in all plants either an excessive or deficient growth of stem is unfavorable to the production of the seed, fruit or grain. The *second* object, then, to be attained by pruning is the proper equilibrium between the nutritive or wood producing tendency, and the generative or fruit producing power. Besides these objects I know of no others, except in cases of injury, disease or old age.

A tree to be perfectly educated should be properly pruned from the first year of its growth; no after care can atone for neglect at that time. If properly managed from the start, a larger tool than a pruning knife need never be used upon it—cases of injury, disease and old age, excepted.

I will endeavor in subsequent numbers of the *Agriculturist* to give what I consider to be the true theory and practice of pruning—first with the young tree, and then for old and neglected trees. I would here advise those who would cut away large branches of trees, or any over two inches in diameter to postpone the operation until the months of June and July. March is so frequently employed in this work, that a word of caution may be appropriate now.

Roses from Cuttings.

To the queries of A. Durkee, Windsor Co., Vt., we reply: Roses can be propagated by cuttings, but more successfully by layers when they branch sufficiently near the ground. To strike from cuttings, select wood of last year's growth, and plant in early Spring. The shoots should be prepared before the buds have swelled, cut into pieces eight to ten inches long, and planted in a moderately moist, loose soil. A slight hot-bed heat is best for starting them in. The bottom heat, the loose yellow soil, and especially the *glass covering* facilitates their rooting. When planted in the open ground, only a small proportion of them usually live, unless the ground be deeply trenched, and the plants screened from the hot sun, and frequently watered. But, with care, enough will generally live to supply the home demand.

Camellia—Lowii.

This is a new variety of this well known and popular flower. It was raised by Hugh Low & Co., of the Clapton nurseries, near London. There are now a very large number of varieties of the camellia in cultivation. Many of them, in form and richness of color, of both flower and foliage, approach very near to perfection, and seemingly leave nothing to be desired. Yet there are still points to be attained in some of the sections of the family which will be a decided improvement. Among the white flowered varieties we have nearly reached the climax as to *form*, and of rose colors which so much abound in the new hybrids, we have plenty that are all that could be asked.

But we have still no good crimson—that is a perfect well filled up flower. *Eximia* is good alone in color. *Matholtiana*, which is also new, is very little better in form, but is still a trifling

improvement. *Lowii*, here shown, is the greatest advance yet made in this direction. The anthers of the flower are perfect; the petals are broad, finely imbricated, and of good substance, but wanting in the center. It appears as if the whole energies of the plant had been expended upon the splendid outer rows of petals of the flower, and it had not strength to finish the work. The color also fades a little in the center upon full expansion. Still we can recommend this variety to all lovers of the camellia as the best crimson yet known. The habit of the plant is good; the foliage, very dark green, of great substance. It has a rather dwarf habit of growth, and flowers late in the season.

Plants that are Raised from Seed.

Among younger readers, and perhaps older ones who are new hands at cultivation, there seems to be incorrect notions in regard to propagating plants from seed. Thus, for example, we have frequent applications for *seeds* of Blackberries, Raspberries, Strawberries, Currants, Gooseberries, Grapes, Apples, Pears, Plums, Cherries, Quinces, &c., to say nothing of Rhubarb, and of Dahlias, Double Petunias, Camellias, Roses, Verbenas, Geraniums, Fuchsias, Chrysanthemums, and various other flowers, of which the true kinds are only propagated from cuttings, suckers, roots, buds, or grafts.

Now, though all the above named and others, *may* be grown from seed, and indeed are so grown, to produce *new* varieties, yet they all *sport*, that is, the seed from a single specimen of any variety of the above plants or trees, whether good or bad, is quite apt to produce half a dozen or more varieties, generally all different from the parent, and usually inferior to it.

Suppose a hundred seeds from the same apple tree, be planted and grown into a hundred trees; it is quite likely that the fruit on no one of the new trees will resemble that of the parent stock. One or more may *chance* to be superior. In this case, an improved variety is obtained which is afterwards propagated by grafting or budding. The other fruits, the berry plants, &c., which we have named, follow the same rule.

Persons often devote their whole lives to experiments upon seeds, in an effort to obtain a new valuable variety, and they often feel rewarded if only one in many thousands of experiments prove successful. We know a gentleman who has been planting strawberry seeds, for fifteen or twenty years, but while he has grown thousands of varieties only to throw them away, when the fruit is seen, he has not chanced to obtain more than one or two kinds which he deems sufficiently valuable to continue their propagation by runners or roots.

Try the Winter Cherry.

We were so highly pleased with this plant last year, that we are quite anxious to have it tried by our readers, and we have therefore saved and obtained from others near half a million of seeds, which we have put into small parcels of about 150 seeds each in order to have them go as far as possible. If one-fifth part of these grow they will furnish quite a supply of plants for the present year's use and especially for future seed.

The growth and habits of the plant is similar to that of the common tomato, and hence it has been called the "Strawberry tomato." The ripe seed balls make a most beautiful sauce and preserve, and a syrup so much like honey that our correspondent, N. Goodsell, recommended it as a substitute for honey. (See Vol. XVI, page 35). We for one feel quite obliged to Mr. G. for calling our attention to it, and such of our readers as are led to cultivate and use it successfully will doubtless feel obliged to him also.

The seeds may be sown in the open ground the latter part of April or early in May, in this latitude—earlier at the South—and afterwards thin or transplant to about 2½ or 3 feet apart. It may be well, in order to secure early fruit, to start a few in the house or in a hot-bed the same as cabbage or tomato plants, and put out at the proper season. We shall in due time refer to the use of the fruit. Our seed will be sent to all subscribers applying, until the supply runs short. Wm. B. Mendenhall, of Delaware Co., O., inquires concerning the "Hull Tomatoes." They are the same as the above described Winter Cherry (*Physalis viscosa*).

European variety—*Physalis alkekengi.*

This is similar to the common American variety (*Physalis viscosa*), but differs from it in having a heavier and more upright stalk, with larger and more acid fruit. It requires a longer time to mature, and at the North, requires starting in the Green-House or hot-bed. South of say latitude 38° it will probably ripen if planted at first in the open ground. Where it will mature, it may be quite as valuable as the American variety. We have a few thousand seeds of our own growth, which we shall be happy to distribute in small parcels to subscribers, desiring to try it.

Abutilon—striatum.

We present above an illustration engraved from a beautiful pencil sketch kindly contributed by Lucy A. Matson of Thetford, Vt., for which she will please accept our thanks. The *Abutilons* are among the most pleasing plants grown in the house or under glass protection. In this latitude they will thrive well in the open air until the appearance of frosty weather. They are especially adapted to parlor or house culture in pots, as they endure changes of temperature remarkably well, not being injured by any cold short of actual frost, and they are little affected by a hot, dry atmosphere, but seem rather to delight in it.

They are propagated by cuttings which strike readily, and will begin to bloom almost as soon as well rooted; and, what adds particularly to their attractiveness, they will continue in flower the entire year if kept warm. The habit of the plant is bushy, but may be shaped by pinching the ends of the leading shoots. In two or three years it may be grown to the hight of 10 or 12 feet if desired, or it may be kept down to a convenient size for a room or conservatory. If grown in pots the soil should be a strong unmanured loam, to save the necessity of frequent changing. They are now so common as to be readily obtained at most commercial Green-Houses at a small price, say 25 cents to $1 according to size, &c.

Varieties.—There are a dozen or more varieties of the *Abutilon*. The one shown in the engraving is the most common, but by no means the least beautiful. Its flowers are Orange, veined with crimson. There are some newer sorts having larger flowers, which are of different colors. The *Abutilon insigne* has flowers almost black. The *Abutilon alba* yields a pure white bloom. The *Abutilon venosa* has a larger flower than any other variety, but is coarse and straggling in habit. The two varieties now most esteemed are *Van Houttcii* and *Insigne*.

Hook was walking with a friend, when they came to a *toll-bridge*. The friend asked if Hook knew who built the bridge.

"No," replied Hook, "but if you go over you will be *tolled*."

To Raise Extra Early Potatoes.

Cover the bottom of several shallow boxes with six inches of equal parts stable manure and loam and put any early variety of potatoes over the surface two or three inches apart; then cover them with six inches of the compost. Nail slats or an open cover over the top, and bury in the side of a fermenting manure heap, the warmth of which will soon start the potatoes into growth. If the heat should be too great, remove a portion of the manure from the top, and admit air inside the box. When the weather will allow planting out, remove the boxes, which will contain a mass of roots and whitish colored stalks. Leave them in the open air for a few days to harden off, and having watered them copiously, take out the potatoes with as much earth as possible, undisturbed about the roots already formed, and transplant in rows. You will then have potatoes at least two or three weeks earlier than when planted at first in the open grounds. The middle or latter part of March will be a proper season for putting them in the compost heap, in this latitude.

Interesting Facts about the Winter Rest of Trees.

During the mild weather of December and January last, we heard the fear often expressed that the buds of fruit-trees would begin to start, and that they and other trees would be injured. Such fears will not bear the test of a little examination. All trees have a natural period of rest, and will not allow themselves to be awakened until they have enjoyed it. That period begins in Autumn, at the usual time of the fall of the leaf, and even before. It begins when the buds for next year's growth have become fully formed, at the axils of the leaves, and the new wood has well ripened. Growth then ceases, and the leaves begin to fall. The soft, hazy weather of Indian Summer may then intervene, yet it will not disturb the slumbering tree. A few plants, such as daisies, violets, Noisette and Bourbon roses, the natives of warmer climates may open their eyelids and smile for a few days, but trees will not be aroused. They will sleep through a fortnight of warm weather in early Winter, for that is their appointed and necessary period of repose. Their slumber is sound and heavy, like that of a weary man in the early hours of night.

Nurserymen have experimented with lilacs, spiræas and similar plants which are most easily excited; and they find that if taken up in the Fall and planted in a warm green-house, they will not start, for at least a month, although exposed constantly to light, heat and moisture. So with hot-house grapes; they refuse to push until they have had their needful rest of from two to four months. Heat of 60° will not start them during their natural time of rest; but after that period, 40° will develop their buds.

The oak and beech trees drop their leaves, in the Island of Madeira, even while the temperature is as high as that of our own Summer; and they take a nap of several months, undisturbed by the untimely heat around them. In that country, the beech casts its leaves in November, and buds out again in April, making a rest of about 150 days. The oak sleeps about 110 days; the buttonwood 90; the tulip-tree 150; the grape vine a little less. So that these trees, the natives of cold climates, drop their leaves nearly as early in warmer latitudes, and rest nearly as long, as in their native habitats. Were we to moralize here, we might say that when "Young America" travels in foreign parts, he might well learn a lesson from the trees, and maintain while abroad, the good habits learned at home. But we cite these facts rather to show that mild weather, at least in *early* Winter, can do little or no harm to vegetation.

The Atmosphere and the Farmer.

The chief business of the cultivator, of course, is with the soil beneath his feet; it is by draining, manuring, and plowing *that*, that he must expect to obtain prosperity. But is he not also dependant on the air above him? Indeed, a little reflection will show that no unimportant part of his farm lies in the atmosphere enveloping the soil in which he delves so industriously. He owns an invisible ocean—fifty miles deep above his head; yet not wholly invisible, either, for if he looks around and upward, he sees it tinged with a beautiful blue. He can feel it more plainly than he can see it, especially when its waves are put in motion in winds. Then, it fans his burning cheek, sways his luxuriant grain, and if lashed into fury, it uproots his trees, overturns houses, and spreads desolation far and wide.

The weight of this superincumbent ocean is fifteen pounds to every square inch, never more; and were not this pressure the same on all sides, upwards as well as downwards, it would oppress, if not crush every living creature. Men drink large draughts from this ocean continually. The farmer, and other out-door laborers, public speakers and singers imhibe it more largely than men of sedentary pursuits. A person of medium size and sound health, drinks eighteen times a minute, and in twenty-four hours consumes fifty-one hogsheads of air.

But, dropping all figure, the atmosphere as God has made it, is rightly compounded to promote the health of man, animals and plants. It is composed chiefly of two gases, oxygen one-fifth part, and nitrogen four-fifths, with a trace of carbonic acid. Oxygen, being the chief supporter of life, and the fraction of it in the air so small, it is exceedingly important to preserve it unvitiated. Any increase of carbonic acid in the air is injurious to the health of all animals. It is increased by respiration, by the decay of animal and vegetable matters, by stagnant water and by cumbustion. When pure air, and enough of it is inhaled, it purifies the blood and promotes the general health of the system: impure and insufficient air saps the very citadel of life. The air of damp cellars and of stagnant marshes is unwholesome; rooms lighted with gas, and heated by coal stoves with poor draft, are often filled with carbonic acid and other noxious gases. "A single gas-burner," says Coombe, consumes more oxygen, and produces more carbonic acid gas than six or eight candles." Close and over-heated rooms of all kinds are unhealthy; especially so, if they are occupied by a number of persons for any length of time. Foul and unventilated stables are injurious to the health of animals. If farmers as a class are more healthy and vigorous than other men, it is chiefly because, in addition to continued exercise, they live so much in the open air, and inhale the prime source of health at every breath.

But the atmosphere has much to do with the farmer's welfare in another respect. Plants breathe, as well as men, and their life and health depend on their breathing. Every leaf on the trees of our orchards, on the bushes and vines in our gardens, on the grains, grasses and vegetables in our fields, has a multitude of pores or mouths through which the plant breathes. Destroy or shut up those pores, or remove or seriously vitiate the air, and the plant dies. The air does a work also in the soil, preparing it to nourish the roots of every plant. Draining, sub-soiling, plowing and hoeing do not of themselves make plants grow: they are but adjuncts or pioneers to the air. We break up the ground with machines, not merely to give the roots a chance to spread themselves, but in order to give the air free passage between the particles of the soil.

The stratum of air just above the ground is constantly absorbing gases from decaying vegetation, which the dews and rains carry down into the earth for the food of plants. The oxygen of the air "causes the particles of soil to yield up their constituent elements for the support of vegetable life. Carbonic acid in the air furnishes plants with carbon, which is the chief element in their constitution." A compost heap would be of little value, were it not for the heat and moisture communicated by the air.

As the air is essential to the germination of plants, it is important that seeds should be planted just deep enough to secure needful moisture, without carrying them beyond the reach of the air. Hence, also, the importance of a thorough pulverization of the soil about the roots of all trees and plants. This is one reason, also, why a stiff clayey soil needs an admixture of sand to loosen its texture, and provide channels for the ingress of air. But without further enumeration of particulars, we conclude that the farmer and the atmosphere have much to do with each other, and that the first should hold the fact in distinguished consideration.

Our Singing Birds.

This is the month which brings back our annual songsters from the warm and shady groves of the tropics where the most of them spend their Winter "season"—gay, frolicking things that they are, loving fun and hilarity, quite as well, and enjoying themselves much more sensibly than a great majority of us who boast the higher intelligence of humanity. Let the wren and the blue-bird, the martin, and the swallow boxes all be in their places. If you have them not, stick up a lot of oyster kegs —every body has or can get them, now-a-days— in the trees for the wrens and blue-birds, put up sundry little shelves—a bit of rough board eight inches square will do—for the phebes in the wood-house or back porch; and have a nice well painted box for the martins. The swallows will take care of themselves under the barn, and stable eaves, through the air holes in the gables, under the edge of the roof inside on the rafters. The more of all these things you have about you, the better. They cheer up the husbandman, please the housewife, gladden the children, and make everything seem happy and joyful.

The tree and the forest birds will be along, also. The meadow lark, the robin, thrush, and blackbird among the larger shade trees, and the orchard; and, best loved of all, the sweet little song sparrow in its quaker-brown coat, opening his music-filled throat in the honeysuckle, or lilac bush under the window, where it intends to nestle for the Summer. Let not a gun, or an idle boy with murderous intent be about your premises. These joyous little birds are among our best benefactors. We may sometimes be annoyed by what we thoughtlessly consider their depredations; but they are only "tolling" their share of the fruits, which their labors in destroying the innumerable tribe of insects that would otherwise have preyed upon them, hereafter entitle them to. Spare then the birds, and invite them to stay with and return to you every Spring with their delightful companionship

Advantages of a Mild Winter.

The Winter now fast gliding away has been remarkable for its mildness. Up to February 12 the weather was, for the most part, like that of an ordinary November. There was an absence of snow, as well as of cold. The ice-dealers had well-grounded fears lest their crop would be cut short. Farmers were anxious for their exposed wheat fields, and were much hindered in getting out fuel and lumber.

But we are now looking out for the *advantages* of such a Winter. And the one which strikes us first, is the saving of fodder it occasions. Throughout the early part of Winter, young cattle and sheep required but little feeding; they much preferred the green food they could glean from the pastures and corn fields. And other stock, confined mostly to the barn, ate less food than usual, in Winter—they were not obliged to eat for feed and for fattening too. An intelligent farmer lately gave it as his opinion, that the daily saving of hay in a neighboring country town, was at least 50 tons. In one of our exchanges, we see it estimated, that the daily saving of hay, in a single county in this State, amounted to one hundred tons. Multiply either of these numbers by the number of days less than usual, that cattle have required feeding, this Winter, and we ascertain, pretty nearly, the hay and money saved in each case by the mild weather.

The saving, to the poor, of food and clothing, and fuel, is an item of no small importance. How many hearts trembled at the approach of the late Winter, coming, as it did, upon the heel of commercial disasters! How many sick and poor thrown out of employment, and with no other means of gaining a livelihood, apprehended suffering from cold and hunger, and saw nothing before them but starvation or crime to avert it! But that long and much dreaded Winter has nearly passed away, and has brought with it far less privation and hardship than was feared. The weather, for the most part, was bright and genial. December and January gave us an almost constant succession of clear, sun-shiny days, with the air pure and bracing—yet not severely cold—and nights of unsurpassed brilliancy. The little of the Winter that remains, may be cold and stormy, yet it cannot be long, for in a few short weeks, the time of the singing of the birds will have come, and the sound of the turtle dove will be heard in the land. Let us not fail to note the hand of Providence, which tempers the wind to the shorn lamb, and in the cup of deserved discipline, mingles so many mercies.

Old Time Agriculture.

Among the books lately added to our library, are two antique and musty volumes which treat of agriculture as conducted several centuries ago. The nearest of the two is "Ellis' Modern Husbandry," published in London, 1744. In reading it, we have been surprised to note how little the husbandmen of the present day have improved on their forefathers. Unquestionably, ours is an age of invention and improvement, but it ought to take all conceit out of us to see how little, after all, our advancement has been. For instance, in the management of turnip crops, on the value of muck and the mode of applying it, on rotation of crops, deep plowing, hop culture, preparing ground for wheat, composting manures, &c., &c., we do not see why this Hertfordshire husbandman did not know about all that we know.

But we now refer to this book more especially to set forth some of its oddities, and to show that farmers in those times busied their minds with some things which we consider of small account. Notice some of the titles of the chapters in this book:

"How a Farmer, by a right Way of plowing, got good Crops of Grain, where there had not been such in the Memory of Man."

"How a Person got poor, and was forced to sell his Land for Want of ploughing it deep enough."

"How a Farmer after four Plowings and Sowings, lost his Crop of Turnips."

"A Particular Account of a great Gain being made by Means of Cole-Seed."

"The cheapest Way of Victualling Harvest-Men."

"How one Farmer broke, and another had like to do the same, by wrong Plowing their Ground," &c.

Take the following as a specimen of the author's style, in treating the last mentioned topic:

"On the Farm before mentioned, it was usual for the former Tenant to give strict Orders to his Ploughmen to plow an Acre and a half at one Journey, or in one Day, before he came Home: accordingly the Ploughman did, but when he was forced to plow large Thoroughs with his wide set Broad-Board Wheel Fallow-Plow, which every Time turned almost sixteen or eighteen Inches wide of Earth, and which should indeed have been rather turned at twice, for then the Ground would have been so broke, that Weeds would have had less Power, to grow and increase. This Mismanagement broke the Farmer, and had like to have done another, but his Eyes got open just in Time, for as soon as he was sensible of his Error, he took in his Fallow Plow narrower, and saved himself from that Ruin which otherwise must have come upon Him. For such Plowing not only keeps the Land sour and hard, but gives Weeds a Foundation to breed and grow luxuriant; because in sour, hard Ground, the Roots of Corn can't strike in their thready fine Fibres with that Freedom and Ease as are requisite to maintain them in a thriving condition; and when Corn is stunted, Weeds will certainly grow predominant; and then follows the great Charge of employing a Number of Weeders a long Time, to the Damage of the Corn and the Impoverishing of the Farmer. But the succeeding Farmer, with his Foot-pecked Shave-plow, plowed the ground into very narrow Thoroughs, by which he laid the Land evener and better than the first Tenant did with his Wheel Fallow-Plow; so that he sowed his Grain in a fine, loose Earth, that caused it to grow a-pace, and outrun the Weeds to his great Advantage."

On page 58, speaking of hop-growing, he says:

"Sometimes, dwarf roses are allowed to grow in low Hedges, in the middle of Hop-Alleys, and if there happen to be a full Crop of them, they may (as they have,) pay the Rent of the whole Hop-Ground, by selling them to the Apothecaries."

Will our hop-growers please make note of this?

In the Chapter headed, "How to make Crams that will whiten Calf's Flesh," he says:

"I will here tell you a way to do this that will make a calf sell for more Money than otherwise. I mean to make a Calf's Flesh which is naturally red, to become white. Take a half Penny's worth of Senna Leaves, and pour a quatern of Gin on them in a Pot, let them stand an Hour to infuse: then, with the Liquor, make Crams with Wheat Flour, and give three of them at a Time, dipped in Milk, in a Morning immediately after suckling, and do the same once next Day, twice in all, and it will purge the Calf and cause its Flesh to become White."

In the Chapter on "Victualling Harvest Men," he says that:

"The Farmer should have ready his March strong stalish Beer, and a June-brewed mild Ale, which being drank in a Mixture, goes a great deal farther, by quenching Thirst better, by reaching the Men's Heart sooner, and keeping them in Health surer."

He then goes on to speak of

"Pickle-Pork as mighty useful to eat with lean Beef, and commonly together becomes an acceptable hearty Dish, with a Plum-Pudding."

What could John Bull do without his mug of beer and a plum-pudding!

We should like to quote many chapters from this simple and honest Husbandman's book; but must lay it aside for the present, to notice briefly the other and more ancient volume. This is styled

"The Best, Sure and Readiest way to make a good Orchard and Garden. London: Printed by Nicholas Okes, for John Harrison, at the Golden Unicorne, in Pater Noster Row, 1631."

This book is chiefly occupied with the details of orchard and garden culture. It gives excellent rules for manuring, and plowing the soil, and for planting, pruning and grafting trees. In connection with one of his plans for laying out a Garden, he says:

"I have shadowed out these for the better capacity of those that are led more with the eye than the mind, craving pardon for the deformity, because I am nothing skilfull either in painting or causing."

Few men have greater faith than he, in the longevity of trees. On this point, here are some good thoughts:

"If, therefore, out of reason grounded upon experience it be made (I think) manifest, but I am sure probable, that a fruit tree in such a soile and site as is described, so planted and trimmed and kept, as is before appointed and duly foiled, shall dure 1000 years why should we not take pains and be at two or three years charges to reape such a commodity and so long lasting.

"Let no man think this to be strange, but peruse and consider the reason. I have apple-trees standing in my little orchard, whose age before my time I can not learne, it is beyond memory tho I have inquired of divers aged men of 80 years and upwards; I asure myself they are not come to their growth by more than two parts of three which I discerne not only by their owne growth, but also by comparing them with the bulk of other trees. * * *

"If my trees be a hundred yeers old, and yet want two hundred of their growth before they leave increasing, which make three hundred, then we must needs resolve that this three hundred yeers are but the third part of a trees' life, because they must have allowed them for their increase one third, another third for their stand, and a third part also for their decay. All which time of a tree amounts to 900 years.

"But every living thing bestows the least part of his age on his growth, and so it must needs be with trees. A man comes not to his full growth and strength before thirty years, and some slender and cleane bodies not till forty, so long also stands his strength, and so long also must he have allowed for decay. * * *

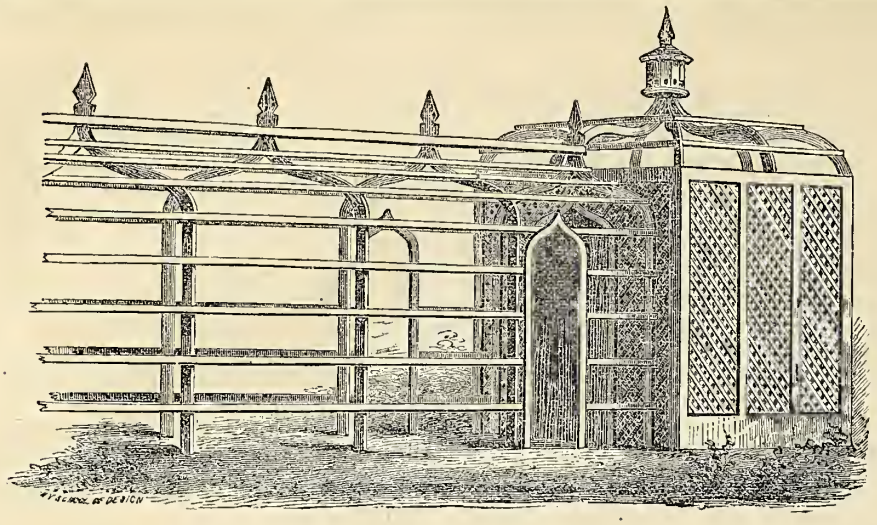
"Ever supposing that he be well kept with neecessaries, and from and without straines, bruises and all other dommysing diseases, I will not say upon true report, that physicke holds it possible, that a cleane bodie kept by these 3 doctors—Dr. Diet, Dr. Quiet and Dr. Merryman may live neere a hundred yeares. Neither will I here urge the long yeeres of Methusaleh.

"So that I resolve upon good reason that fruit trees well ordered may live a thousand yeeres and beare fruit, and the longer the more, the greater and better, because his vigor is proud and stronger when his yeeres are manny.

"It is good for some purposes to regard the age of your fruit trees, which you may easily know, till they come to accomplish twenty yeeres, by his knots. Reckon from his roots up to an arme, and so to his topmost twig, and every yeeres growth is distinguished from others by a knot, except lopping or removing doz hinder."

We had marked for quotation several more quaint passages in this volume, but our limits forbid further citation. May we moderns learn to pursue our callings, as farmers or gardeners, with something of the quiet philosophy and earnest enthusiasm which distinguished these husbandmen of old times!

The trials of life are the tests which ascertain how much gold there is in us.



Our Grape Arbor

Last Spring we put up a Grape Arbor with a fixture at the far end of it, to screen a rather unsightly, and always unpleasant building, which chanced to be located by a former proprietor, right in the center of the prettiest part of the garden, and which could not well be changed to any more convenient, and yet out-of-the-way place. This Arbor has been so well liked by others, in short, we have been so well pleased with it ourselves, that we give the above sketch of it as one model for others. Only the rear and three panels are shown. There are eight panels in all, running up to within a few feet of the dwelling. The whole length is sixty feet. Fourteen grape vines—seven on each side—are planted to be trained over it. The square screen in the rear will be covered the present season with sundry trailing plants set out last year.

The general structure is so well shown in the engraving as to need little description. We give the Carpenter's figures as a guide to construction, though any other proportions may be adopted.

Arbor.—The posts are pine, upon locust foot or ground pieces. Hight of the posts above the ground level, 7 feet. Width of the Arbor, 6 feet. The arch pieces are in the form of an Ogee; the center spring, or hight of the top of the arch above the plates, 2 ft. 4 inches. These are terminated at the top by tips sawn out. In building again we would turn these tips round and larger. The arch pieces are cut from 1¼ inch boards, 4 inches in width. The horizontal pieces upon the sides and top, are 2 inches wide.

Screen.—This is 8 feet square, with three panels of lattice work upon each side, made of planed laths. Hight of the screen to the plates, 8 feet 3 inches. Hip roof, with Ogee arches, and a birdhouse upon the center, 6 sided, 10 inches in diameter, and 10 inches to the roof. Just far enough back from the entrance to allow passing round it, is a large two-panel screen (not shown) which stands against and hides the privy, so that looking down the Arbor, nothing but lattice-work is seen.

The whole cost of the Arbor and screen, including painting white, was $65. The cost will of course depend upon the size, finish, and economy of time and material in construction.

The grape vine borders are of course upon the outside of the Arbor. Upon the inside is a walk, 3 feet wide, rounded in the middle, laid with cobble stones gathered from the garden. Upon each side of the walk is a row of box edging, leaving flower borders 18 inches wide.

The borders were set with a variety of flowers last season, but after the grape vines produce a heavy shade, only these varieties can be grown which will flourish without full sunlight

New Grapes.

We are pleased to note the increasing interest shown in the introduction of new, hardy grapes, and we intend to keep our readers posted in reference to all of real merit that come within our knowledge.

THE LOGAN GRAPE.

Our attention has lately been called to this new Western variety, named from the county in Ohio where it is supposed to have originated, and in compliment to the memory of the celebrated Mingo chief of that name. It has been propagated, as yet, only to a small extent, but sufficiently so, it is thought, to test its hardiness, early maturity, productiveness and its excellence for the table. The vine grows rapidly, the wood is short-jointed, the young shoots presenting a peculiar, grey appearance, as if withered and nearly dead. Under good cultivation, the clusters are large, but with ordinary management, of only medium size. The berries are jet black, with a blue bloom. The fruit is said to ripen before the Isabella, and by many is preferred to that, but we very much doubt whether it will rank above that standard variety. Mr. Hovey, of Boston, says that at the Annual Exhibition of the Massachusetts Horticultural Society, in September last, "it appeared to be riper than the Delaware at the same time." He represents it as "of good quality." In the Horticulturist for January, Mr. Samuel Miller, an extensive grape grower in Pennsylvania, speaks of it as "quite early: bunch and berry of good size; sweet and excellent."

THE WINSLOW GRAPE.

This has lately been brought to public notice by Dr. Kirtland, of Ohio. He says of it that the berries are small, and arranged in oblong, compact bunches; color coal black, resembling somewhat Miller's Burgundy; the pulp and flavor much like the Clinton, though superior. It was raised from seed by a gentleman in Cleveland. The wood is small, short-jointed, and ripens well before Winter, and is perfectly hardy. It ripens its fruit two weeks before the Diana.

From the above account, which makes it only a little superior to the Clinton, we should not think it of great value, except for extreme northern latitudes, where the finer sorts will not ripen. But we hope to hear further from it.

IN DOOR WORK.

Snatches of Science, In-door....I.

We have learned to look upon the Dining, Kitchen and Wash rooms of a house as only a counterpart of a chemical laboratory. In both of these establishments, are carried on the chemical operations of solution, composition, decomposition, change of form, the application of the laws of reaction, chemical affinity, &c.—with this difference only, that in one the operations are guided by scientific knowledge, in the other by rote, or too often by chance. Mixing and baking bread and pastry is very like compounding acids and bases, and changing their form by heat. Washing or cleansing is akin to the making of solutions by the chemist in his retorts or beaker glasses. Both are really chemical operations, and a knowledge of the principles involved, are necessary to their pleasurable and most successful performance. And these principles may, nay, should be understood by the intelligent housewife, though perchance her cooking manipulator Bridget, may know no more of them than Prof. Silliman's colored man, who washed his apparatus, and indeed did most of his *work*, knew of chemistry.

The field is so extensive that we scarcely know at what point to enter it first.....If we go into the kitchen the first thing that meets our eye—in the pail, in the kettle, in the tub, indeed everywhere—is

WATER.

What is water? "Why, what a simple question! Water is—is—is water. That's all." Yes, but it is a curious, as well as important thing. Were the reader present we could show her that it is not a *simple* substance. To say nothing, now, of the great amount of foreign materials, even in the purest liquid we commonly use, every tiny drop of water is itself a *compound* body made up of two other substances—both of them gasses, (that is, air-like bodies,) and both of them very different from water itself. Every 9 pounds of water contains 8 pounds of a very singular substance (*oxygen*), which is the element in air that makes the fire to burn; while the other pound (*hydrogen*), is that lightest of all gaseous bodies with which balloons are sometimes filled, to make them rise in the air. These two air-like substances, when separated and then brought together, burn with the most intense heat; and in the very act of burning, they combine and condense into water, which is the best extinguisher of fire itself. Could you see these experiments performed, it would, perhaps, add interest to the liquid you are hourly using for so many purposes.

PURE WATER.

Take the purest spring or well water, and put a few drops upon a clean glass plate, dry it over the fire, and it will leave a dirt stain, which will be quite visible on holding the glass up before a strong light. Very little water is so pure as not to leave a spoonful or two of earthy sediment on the bottom of a kettle, when a few pailfuls are evaporated or boiled away. So, also, set a vessel of clear water aside for a few days, in a warm place, and it will become stale or putrid from the decay of minute animals, and of vegetable matter found in all well or spring water. But no sediment will be left on evaporating rain water, or condensed steam upon the glass plate. Distilled water is that obtained by condensing steam. Rain water is simply distilled water that has risen from the earth in vapor, and returned in the condensed form of rain, with no impurites

in it, save a slight amount of dust washed from the air or from the house roof, in its descent.

If people would all use for drinking and cooking, only rain water caught from clean roofs and kept in clean cisterns, it would not only conduce to their health, but many cooking and cleansing operations would be rendered more certain and uniform. But the truth is, we become so accustomed to the spice, or flavor of lime, magnesia, &c., in well water, that real "simon pure" water from the heavens tastes insipid. A habit of using pure rain water would soon render it the most acceptable drink to be found.

IMPURE WATER.

All water having been in contact with the soil, whether in the springs, wells, or brooks, contains *dissolved* matter, and also more or less of materials merely *suspended* in it. The most common impurity held in solution (dissolved) in water is lime. We have chemically examined water from very many wells and brooks, and never yet found any entirely free from lime.

It is a very singular fact that *cold* water will hold dissolved, nearly twice as much lime, as *hot* water. Hence water may be partially freed from lime by boiling it. When heated it loses a part of its dissolving power, and a portion of the lime settles to the bottom of the containing vessel. This accounts for the coating upon tea-kettles in many parts of the country where lime abounds in the water. In such localities, and indeed in all places, we believe it advisable to boil all well or spring water briskly for twenty or thirty minutes, and then allow it to cool and settle before using for drinking, cooking, or washing. Besides partly purifying it from lime, (almost always present as we have said) boiling would remove or destroy organic matter, so productive of disease, especially in newer countries.

Substances held suspended in water.—By these we mean those which are not dissolved, but simply held up by the water, so to speak. If water remains perfectly quiet for some length of time, such substances will mainly settle to the bottom, but the least disturbance again mingles them with the water. Hence it is very often expedient to resort to

STRAINING OR FILTERING WATER.

This can be done almost perfectly by passing it through a few layers of closely woven flannel, or even cotton cloth. But the operation would be tedious if performed daily with all water used for drinking and cooking. We present two very convenient and easily constructed water filterers, the first of which we have used for years.

Fig. 1 is a large barrel or cask. A lower false head, *l*, is fitted in, say 6 or 8 inches from the bottom. This is perforated with very small gimlet holes, over which is placed a layer, *s*, of coarse clean sand, previously washed upon a fine sieve, to remove the finer particles which would otherwise wash through the gimlet holes. Over this sand is a layer, *c*, of broken charcoal; above the charcoal is another layer of the prepared sand, upon the top of which is another false head, *u*. The space above is filled with water, *w*, which gradually filters down into the vacant space, *p*, entirely freed of its impurities. We should add, that when it is impracticable to wash the sand, a white flannel cloth may be placed upon the false head, *l*, under the sand. Upon the right of the filter barrel a glazed stoneware jar, *r*, holding one to two pailfuls, is set its whole depth into the ground or cement of the cellar bottom. This keeps cool at all times. When water is desired for use, it is dipped out of the jar, and the stopcock is then turned to fill it up again, that the water may be cooled against the time it is needed. Such an apparatus can be fitted up in a few hours, and it serves admirably for purifying water, however brackish or bad previously. Dark colored swamp water, on passing through it, comes out clear, limpid and agreeable. Try it, you who are so unfortunate as not to have good well water. The upper layer of sand will need occasional renewing, and where much bad water is passed through, it will be well to frequently renew both sand and charcoal.

Fig. 1.

Fig. 2 represents a still better filtering apparatus, though one not quite so easily constructed. *B* is a board fitted tightly from top to bottom, say six inches to the right side of the middle. A half circle, *o*, is cut out at the bottom of the board, *B*. Another board, *c*, say 15 inches high, is fitted in, six inches to the left of the middle. A bottom piece, pierced with very small gimlet holes, is placed below the two upright boards, say 3 inches above the bottom of the cask. Upon this is placed layers of sand, *s*, *s*, and coal, *c*, just as described in fig. 1, with a punctured board over them. Water, *m*, is then poured in, and it passes through the opening, *o*, *up* through the sand and coal, and into *n*. Such an apparatus will last a long time, since the sediment separated from the impure water will fall down, leaving the filter free; while in fig 1, this sediment would require frequent removal. A stoneware side vessel for cooling the water may be provided for fig. 2, the same as in fig. 1.

Fig. 2.

Fig. 2 illustrates very well, an excellent mode of constructing cisterns to have water always *pure*. The division may be made of brick-work, laid in water-lime (hydraulic cement). The filtering layers need occupy but a small space in the centre, on one side of the division cell. The water from the roof, conducted into *m*, will filter through into *n* gradually, and except immediately after a heavy fall of rain, or after large drafts upon the purified portion, the water will stand upon a level in both compartments. We hardly need dilate upon the advantages of such an arrangement. Rain water usually washes down considerable quantities of dust, lodged upon the roofs of dwellings. The filtered water will be found admirable for drinking, cooking, and for washing and rinsing clothes *clean*.

Hints for Washing-Day.

If we can write anything to alleviate the evils of the "washing-day," we shall gladly do so, and we think we can. The object of washing is, of course, to remove dirt, which has been quaintly described as "matter in a wrong place." But this cleansing operation is dependant entirely upon chemical principles, and should be done "scientifically" if needless labor and wear and tear of both muscles and fabric would be avoided. We obtained a new "patent" wash-tub last Autumn which is constructed upon philosophical principles, and before discussing other washing topics we will describe "our new wash-tub."

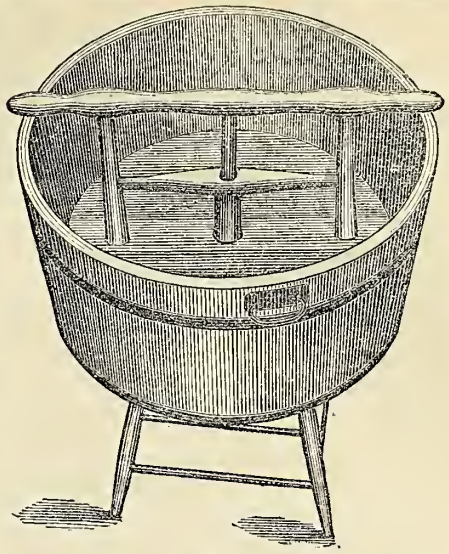


Fig. 3.

The great agent in washing is *water*, but most garments to be washed, are chiefly soiled with oily materials exuded from the skin, which also catch and cement dusty particles. Cold or lukewarm water does not dissolve grease or oily matter. Hence we add to the water some dissolver of the oily dirt or grease, such as potash, soda, lime, &c. Any of the *alkalies* will dissolve oil or grease. To help the memory, we will here say that the word *PSALM* contains the initial letters of the principal *alkalies*, viz., *Potash, Soda, Ammonia, Lime, and Magnesia.* The alkalies are generally used in the mild form of soaps—as potash soap (soft soap,) and soda soap (hard soap.) A chapter on soaps is in contemplation.

But with the use of soaps, much labor in rubbing, pounding &c., is often required. Boiling is generally resorted to. This is founded upon the fact that *hot* water has a far greater dissolving power than *cold* water. Now if there could be any simple contrivance by which clothing could be "rubbed" while in *boiling-hot* water, the filth would be removed with half or a quarter part o

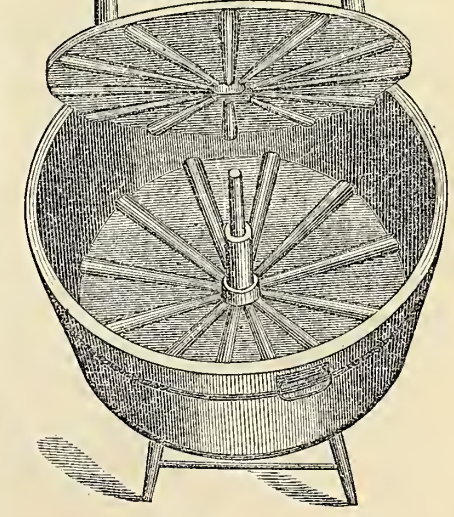


Fig. 4.

the labor—and this is just what is done in "our new wash-tub." The engravings in this column show its construction so plainly as to scarcely need explanation. Fig. 3 is the tub closed, and in Fig. 4, the lid or upper rubber is raised to show the rubbing apparatus.

The clothes are put into the tub with a little

soap previously rubbed on, and water, *boiling-hot*, is poured over them. They are immediately *covered up* by the circular board which slides down over a center guide-pin. *This covering keeps nearly all the heat in*, and by turning the handles backwards and forwards the clothes are rubbed between the ribs fastened in the bottom of the tub and on the under side of the cover. The principle of construction is, that *the garments are rubbed in hot water*, which cannot be done in the ordinary mode, where the water must be cool enough to admit the hands. The hot water has ten-fold the dissolving power of lukewarm water upon the oily matter, and this, combined with friction, does the work with remarkable rapidity and ease, and saves the necessity of after boiling. We have tried the thing and proved its value, and have made the above sketch of "our new tub" to illustrate the principle on which it operates. We have done this without ever having seen the owner of the patent, and now, having given his tub this handsome "Notice" all we ask is, that he should return the compliment to our lady readers, by not letting the patent lie idle, but go to work and get up a lot of the tubs and offer them at such prices that people can afford to buy them. We have not quite got over that $5, 50 we had to pay last Fall for the first and only one we had seen at the time, and we have seen but one or two stray ones on sale since. Four dollars, or four and a half at most, will do, but $5,50 is too much, if we can judge of the cost of manufacture. ....Here endeth chapter first on washing.

Grapes in Winter.

On Thanksgiving Day, Nov. 26th, we received from Mrs. M'Kay, of Naples, Ontario Co., N. Y., a box of Isabella grapes, which the bearer said had been subjected to much hard usage, as they had been carried in a trunk over a long, roundabout journey. They were put up in a pasteboard box, with a sheet of cotton wadding at the bottom and top. We pronounced them very good at the time, and, as an experiment, set them into a room without fire. We have since tried them at sundry times, and to-day (Jan. 21), find them in very good condition and flavor. By the way, it may be interesting to state, that Mrs. M'Kay gathered over 7,000 pounds of grapes last season, from an acre, containing only 160 vines, They are planted one rod apart, each way, and trained upon simple trellises, consisting of 3 wires, running east and west, upon posts 8 feet apart, with a wooden strip nailed along the top, 8 feet from the ground.

☞ Emily's communication on "Housekeeping in the Country," was received too late for last month; it will be found on a preceding page.

Boys' and Girls' Own Columns.

My Ship comes.

Mr. Agriculturist:

What could two little girls do to while away the half hour after supper? The blocks were all put away, so no more houses could be built that night. The paper dolls had all come home from school, and with their beautiful dresses been put away. There was not room at the table for slates and picture-books, and unless somebody would help the little girls, they were likely to have a romping game which would wake up the baby, disturb the family, and end in their being sent to bed. "Perhaps" said one of them, "Aunt Lizzie will tell us a story." So Mary and Emma came and begged for a story. After telling the little girls about the selfish monkey who used pussy's paws to pull the hot chestnuts out of the ashes, Aunt Lizzie said, "I know of a nice play, called "MY SHIP COMES,"

"It is played thus: We will all think of several things that begins with the letter A., which could be put in a ship. Then we will each tell what our ship comes laden with, but every one must bring in her ship something different from what has been brought before. And when we have thought of all the things beginning with A, we will take B, and so on through the alphabet."

Both the little girls sat down and Aunt Lizzie began the game in this way.

"My ship comes laden with *Apples*."
Emma said: "My ship comes laden with *Animals*."
Mary said: "My ship comes laden with *Ants*."
Aunty said: "My ship comes with *Almonds*."
Emma said: "My ship comes with *Apes*"
Mary said: "My ship comes with *Acorns*."

Thus they went round until they had exhausted all the A names they could think of, and then they went to B, and brought Bread, Butterflies, Bats, &c., and for each letter they found something to name; though as Emma was not five years old and had never learned to spell much, she did not always get a proper word without help; but they did not mind that.

By the time they reached the letter *P*, Father, Mother, and Johnny were all engaged in the game, and it grew more interesting. At *X*, they were all puzzled; so they gave up the last letters of the alphabet.

When they had played the game through it was nearly bed time. They did not go over it a second time; but if they had done so, the interest of the play would have been, for each one to send a *double* cargo; as Almonds and Axes; Broomsticks, and Books, &c., without repeating words given before.

As I listened to this game of words, I thought it might be a pleasant amusement for the boys and girls who have a column in the *Agriculturist*.

ONE WHO LIKES TO READ THEIR PAGE.

The Editor is much obliged to the correspondent who contributes the above. It is very pretty, very amusing sometimes, and very innocent too, as well as beneficial, because it helps girls and boys to think....When a number of girls are together, it may be played in this way: Let them all stand up in a row like a spelling-class, and let the one at the head of the row begin and tell what her ship comes laden with, and then the next do the same, and so all through the row; and then round again and again, using only words beginning with *A*. If any one fails to name a cargo, or repeats something that has been given before, or names something that could not be carried in a ship, she sits down. So they go on until every one is *down*, when they all rise up and commence with words beginning with *B*. and so on through the alphabet. This play kept up in a family, or when girls and boys meet together, would soon set them to hunting up and remembering a large list of things for every letter. ED.]

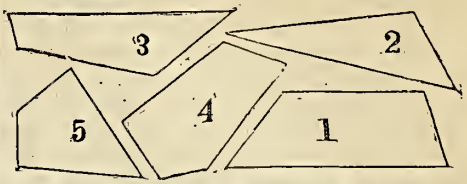
About the Problems.

A few years ago when we had been absent from home traveling for several weeks, we went into our Sunday school room very early one Sabbath morning, to meet the children as they came; but they had found out that we had got home and when we reached the school room, there they all were, and they rushed around us in such a group, with so many pairs of bright eyes beaming a joyful welcome, and so many scores of arms thrust up to shake hands, that we did not know where to begin, or what to do. After trying in vain to speak to each one, we reached out our hands above them, and said "good morning to *all* of you together." What do you think reminded us of this incident? Let us tell you... When letters come our confidential clerk opens all, except such as are marked "Private," and sorts them out into separate lots, some for "mail clerks," some for "immediate answer," some for "Basket items," some for "Good-at-any-time" and so on. All that are from Girls and Boys are put in a separate box. Well, after the middle of the month we take all these letters out together and calling some one to help us we read and sort them. Those that have correct answers are laid in one package and the others are put aside, for when a boy or girl *tries* to get a problem right and fails—as a great many do—we do not tell of it, but are glad that they have tried even, and always hope that

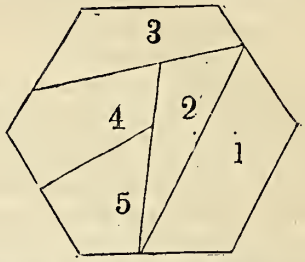
If at first they don't succeed
They'll try, try again,

for it is far better to try and fail at first, than not to try at all....But what called to mind the Sabbath school incident, was the great box *full* of boys' and girls' letters in reply to problems 24, 25, and 26, and to those preceding. Why what a crowd there would be if our young friends who read these columns and write to the Editor, could for once come together. Here are lots of letters from Maine, New-Hampshire, and Massachusetts, and many from Minesota, and Iowa, and Kansas, and Missouri, and Louisiana, and Texas, and all the States between those named: and here's some from Oregon and California, and from Bermuda too. Why what shall we do with them all? We want to speak to all of you, we really love you all, if we have not seen you; but we are worse off than we were on that Sabbath morning. But here's thanks to you all—*all together*—for your trials....We are heartily sorry to tell you that we find not all of your answers to the problems are right this time, but do not be discouraged for that—not at all. You have gained mental strength by the effort you have made, and then your writing a letter has given you very useful practice First let us look at

PROB. 24.—To arrange the following five pieces into a perfect hexagon.



A great many write that this is "too much for them." Others do not get them together rightly. Here is the way.

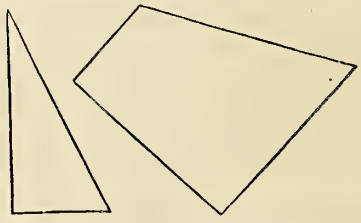


The following are all who have arranged them thus, so far as received and examined to this date (Feb. 17th:) Henry W. Hart, Westchester Co., N. Y.; Benj. Snively, and Martin L. Bussler, Blair Co., Pa.: Peter E. Bird, Hunterdon Co., N. J.; Jacob D. Shank, Clinton Co., O; John H. Hoffecker, Kent Co., Del; F. Sexton, Erie Co, O; G. H. La Fetra, Clinton Co., O; Chs. Truesdale, Erie Co., O; Saml. Christy, Chester Co., Pa; B. F. Smith, Deenfield Co., Ind.; W. Chandler, Lenawee Co., Mich.; Jane E. Peters, Linn Co., Iowa; Wm. Ideson, Moniteau Co., Mo; Sarah Eglee, Fauquier Co., Va; Saml. R. Williams, Markham Co., C. W; Lemuel Withers, Pasquotank Co., N. C; Melville Scott, Lauderdale Co., Tenn; Jas. Ames, Newport Co., R. I.; Christopher Esterly, Cherokee Co., Ala; Amelia Simmons, Bourbon C., Ky.; Nathan Richards, Telfair Co., Geo.; Geo. King, Avoyelles Co., La.; Martha Affleck, Kings Co, L. I.

To problems 25 and 26, an uncounted number of replies have been received—so many that we must wait until the April *Agriculturist* to *examine* them all. We find the word "bouts" was very differently understood, and the answers varied greatly. By "bout" we understand once round the field.

We will give you two questions for study, but having so many answers to 25, 26, and many preceding numbers, for the April issue, we will give you until April 14th to answer 27, and 28, which will be in time for May; and you can in the same letter answer any new problems given in the April *Agriculturist*.

PROB. 27.—(From T. Mix)—Take *ten* pieces like the following—(*five* of each kind)—and put them into one figure perfectly square.



AN ENIGMA.—We here say to our young friends, do not send us any more enigmas; we have generally put them into the kindling basket, and shall continue to do so with the exception of the following one (From S. M. B., Henry Co., Ill.) It refers to an excellent motto which all of you have frequently seen, and which we hope all will remember.

PROB. 28.—Miscellaneous enigma, containing 72 letters.

My 60, 58, 62, 3, 12, 71, is a city in Illinois.
69, 68, 10, 8, 28, 53, 22 is what most are seeking.
43, 66, 45, is a conjunction.
57, 59, 12, 61, 63 is a girl's name.
29, 4, 7, 23, 5 is the name of a flowering shrub.
16, 24, 17 is a tree much used for shade.
1, 6, 55, 41, 10, 44 is a city in New York.
46, 43, 55, 42, 48, is an article of furniture.
21, 37, 45, 19, 34, 72, is a river in New York.
54, 52, 30, 32, 3, is an animal valuable for its fur.
40, 12, 2, is a kind of fruit, seldom grown here.
9, 13, is a pronoun.
70, 11, 43, 14, is a kind of food.
27, 4, 38, 31, is the name of a class of animals.
67, 65, 33, 60, 56, 39, is a place of worship.
15, 18, 32, is a farming tool
5, 50, 36, 25, 23, 2, 65, is a rural habitation.
1, 10, 4, 20, 26, 49, 57, 52, 12, 5, is a branch of study
64, 50, 51, 48, 35, is a Scripture Historian.
47, 34, 33, 11, is a loved place.

A REQUEST.—In writing, please put the answer to *each*

problem on a separate slip of paper (in the same letter,) and your name. County, and P. O., on *each* slip.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW-YORK, Feb. 23, 1858.

The Wholesale Produce Markets have been characterized by increased activity during the past month. The receipts of produce have been limited, while the demand has been quite brisk, especially for flour and corn. The available supply of flour was good throughout the month, and holders met the wants of buyers, promptly. Hence, prices fluctuated very slightly, though, toward the close sellers have had any existing advantage.....Wheat has been sparingly offered at prices above the views of buyers, and the transactions have consequently been restricted. Corn has advanced, and closes buoyantly, with a reduced supply of desirable lots of the last crops, which is the only kind now sought after in this Market.....Rye, Barley and Oats, have been in moderate request and prices have slightly improved .....Cotton was briskly inquired for at advanced quotations early in the month, but it closes rather quietly, with a tendency in favor of purchasers..... Provisions have been pretty freely dealt in at higher rates.....Groceries attracted considerable attention and the leading articles increased in value..... Hay has been less freely offered and purchased at firmer prices .....Hops and Grass seeds have been moderately sought after at essentially unchanged figures.....Hemp and Wool ruled quiet, without any noticeable alteration .....Other articles of produce have presented no important variation from the previous month.

CURRENT WHOLESALE PRICES.

	Jan. 25.	Feb. 23.
FLOUR—Com'n to Extra State	$4 25 @ 4 60	$4 25 @ 4 65
Common to Fancy Western	4 25 @ 4 50	4 30 @ 4 65
Extra Western	4 45 @ 8 00	4 45 @ 7 50
Fancy to Extra Genesee	4 35 @ 7 00	4 40 @ 7 00
Mixed to Extra Southern	4 50 @ 8 00	4 75 @ 8 25
RYE FLOUR—Fine and Super.	3 00 @ 4 00	3 00 @ 4 00
CORN MEAL	3 00 @ 3 50	3 00 @ 3 50
WHEAT—Canada White	1 10 @ 1 25	1 10 @ 1 25
Western White	1 10 @ 1 35	1 10 @ 1 40
Southern White	1 15 @ 1 38	1 15 @ 1 42½
All kinds of Red	1 00 @ 1 20	96 @ 1 22
CORN—Mixed, old	72 @ 73	None selling.
Yellow, new	65 @ 67	70 @
White new	67 @ 70	70 @ 71
OATS—Western	45 @ 46	45 @ 47
State	42 @ 45	44 @ 46
Southern &c	28 @ 38	28 @ 40
RYE	69 @ 72	70 @ 72½
BARLEY	68 @ 73	70 @ 78
White Beans	1 37½@ 1 40	1 37½@ 1 40
Black eyed Peas, per 2 bush	3 12½@	3 25 @
HAY, in bales, per 100 lbs	55 @ 75	55 @ 80
COTTON—Middlings, per lb	10⅜@ 10¾	11¾@ 12
RICE, per 100 lbs	2 75 @ 3 37½	2 75 @ 3 75
HOPS, per lb	5 @ 10	4½@ 9
PORK—Mess, per bbl	14 65 @	16 50 @16 65
Prime, per bbl	11 50 @11 75	13 25 @13 10
BEEF—Repacked Mess	10 00 @12 50	12 00 @13 50
Country mess	9 00 @10 00	9 50 @11 00
" prime	6 00 @ 7 00	6 50 @ 7 50
HOGS, Dressed, per lb	6½@ 6⅝	6 @ 7⅜
Lard, in bbls. per lb	8¼ @ 9⅛	9¾@ 10
BUTTER—Western, per lb	11 @ 15	12 @ 17
State, per lb	12 @ 23	16 @ 25
CHEESE, per lb	6 @ 8	6½@ 8½
FEATHERS, Live Geese per lb.	38 @ 42	40 @ 46
SEED—Clover, per lb	8¾@ 9	8¾@ 9¼
Timothy, mowed, per bushel	1 75 @ 2 00	2 00 @
Timothy, reaped, per bushel	2 00 @ 2 25	2 25 @ 2 50
Flax, Am. rough, per bush	@ 1 20	1 35 @
SUGAR, Brown, per lb	4 @ 7⅞	4½@ 7
MOLASSES, New-Orleans, prgl	25 @ 27	30 @ 33
COFFEE, Rio, per lb	8 @ 10¾	9½@ 11½
TOBACCO—Kentucky, &c. pr lb	6½@ 18	6½@ 18
Seed Leaf, per lb	9 @ 35	9 @ 35
WOOL-Domestic fleece, per lb	27 @ 45	27 @ 45
Domestic, pulled, per lb	20 @ 30	20 @ 32
HEMP—Undr'l Amer'n pr ton	100 @110	100 @110
Dressed American, per ton	140 @165	140 @165
TALLOW, per lb	10 @ 10¼	11 @
OIL CAKE, per ton	34 00 @36 00	35 @ 37
POTATOES—Junes, per bbl	2 25 @ 2 37	2 50 @ 2 75
Mercers, per bbl	3 25 @ 3 75	3 25 @ 3 75
Peach Blow per bbl	2 75 @ 3 00	3 00 @ 2 25
Carters, per bbl	2 50 @ 3 50	3 50 @ 4 00
Nova Scotias, per bushel	85 @ 90	1 00 @ 1 10
Sweet Del., per obl	@ 5 50	@ 5 50
ONIONS—Red, per bbl	1 25 @ 1 37	1 50 @ 1 75
White and yellow, per bbl	1 75 @ 3 00	1 75 @ 3 00
CRANBERRIES—Per bbl	7 00 @ 9 00	10 00 @12 00
Hickory Nuts, per bu	2 00 @	2 50 @
APPLES—Common, per bbl	2 50 @ 3 00	2 50 @ 3 00
Spitzenburgs, per bbl	3 50 @ 4 50	5 00 @ 6 00
Greenings, per bbl	3 00 @ 3 50	3 50 @ 4 00
TURNIPS—Ruta bagas, per bbl	50 @	50 @ 62
SQUASHES—Marrow, per bbl	2 25 @ 2 50	
CABBAGES—Per 100	2 00 @ 4 00	5 00 @ 6 00
CELERY—Per dozen	50 @ 75	1 00 @ 1 50
POULTRY—Fowls, per lb	7 @ 12	10 @ 15
Chickens, per lb	8 @ 12	
Ducks, per lb	12 @ 16	18 @ 21
Partridge, per pair	63 @ 75	1 00 @ 1 25
Prairie Hens, per pair		1 00 @ 1 25
Guinea Fowls, per pair	44 @ 50	44 @ 50
Turkeys, per lb	10 @ 14	12 @ 16
Geese, per lb	8 @ 10	10 @ 11
PIGS—Roasters	1 25 @ 2 50	1 25 @ 2 50
VENISON—Carcass, per lb	8 @ 10	12 @ 13

Total receipts of Breadstuffs, and total sales for 24 business days, ending to-day:

	Receipts	*Sales.*
Wheat-flour, bbls	128,000	250,386
Wheat, bush	11,660	108,200
Corn	450,000	570,000
Rye		10,650
Barley		16,000
Oats	21,000	

This statement affords the following comparison of the total receipts in each of the last two months

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
27 bus. days last mon.,	325,125	117,562	372,385	4,050	22,500	30,150
24 bus. days this mon..	128 000	11.660	450,000			21,000

It also enables us to give the following comparison of the total sales in each of the last two months:

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
27 business days last month.	233,190	207,506	483,189	30,213	38,418
23 business days this month,	250,386	108,200	570,000	10,650	16,000

The following is a comparative statement of exports of the leading kinds of Breadstuffs from the port of New-York, from Jan. 1, to Feb. 15:

	1857.	1858.
Wheat Flour, bbls	179.427	197,698
Rye Flour, bbls		821
Corn Meal, bbls	5,797	8,632
Wheat, bushels	375,686	255,208
Corn, bushels	354,100	252,164
Rye, bushels	17,600	

Stock of Articles on hand, in New-York, about Jan. 1.

	1857.	1858.
Coffee, packages	102.049	127,297
Cotton, bales	70,177	13,312
Wheat Flour, barrels	393,100	603,150
Wheat, bushels	531,650	389.000
Corn, bushels	1,967,500	97,000
Hemp, tons		550
Hemp, bales	15,937	22,175
Molasses, hogshead	1,798	4,613
Molasses, barrels	100	4,512
Tar, barrels	unknown	2,000
Resin, Common, barrels	unknown	12,000
Pork, barrels	13,046	10,558
Beef, tierces and barrels	19,488	39.144
Rice, tierces	4,788	4,708
Rice, bags	2,700	3,161
Sugars, hogsheads	10,476	16,075
Sugars, bags	none.	1,400
Sugars, boxes	19,931	8,698
Tobacco, Crude, hogsheads	5,747	4,644

In reference to the Western HOG CROP, returns have been received from one-hundred and six places where packing has closed, and give the following aggregate for each State:

	1856-7.	1857-8.
Sixteen places in Ohio foot up	400,696	516,732
Eleven places in Kentucky foot up	377,016	355,874
Thirty-four places in Indiana foot up	289,388	371,582
Thirty-two in Illinois foot up	335,667	370,557
Thirteen in Missouri foot up	128,494	154,547
	1,491,255	1,769,292
Increase	278,037	

LIVE STOCK MARKETS.—Receipts of Beeves, at the New-York City Markets have been moderate (11,536) for four weeks) but sufficient for the demand. For week ending Jan. 27, receipts were, 2,739; Prices ¼c. lower,—Feb. 3, 3,067; ¼c. advance.—Feb. 10, 2,700; ¼c. advance.—Feb. 17, 3,030; ¼c. decline. Latest selling prices per lb. for estimated dressed weight; Premium Cattle, 11¼c.@ 12c.; First quality, 10c.@10¼c.; Medium quality 9c.@9¼c.; Poor quality 7c.@8¼c.; Average of all qualities 9c. or ¼c.@¼c. higher than last month.

SHEEP AND LAMBS.—Receipts of live animals have fallen off to only 26,035 for the four weeks just ended. Dead animals arrive so freely that prices of live stock have advanced but little. They are now worth 4c.@5c. per lb. *live* weight. Extra animals bring 5¼c.

Hogs are in less supply and rule higher. Corn hogs are now worth 5¼c.@6¼c. gross. Distillery bring 5c.@5¼. which is near 1c. higher than four weeks ago.

THE WEATHER has mainly been fine for the season, with very little snow and but few really cold days. The mercury has only reached within 6° of zero. As we now write, the ground is nearly covered with snow making passable sleighing; the first of the season. Very little rain has fallen since the 16th of January.

OUR Condensed weather notes read: Jan. 26 to 28 mild; 30 and 31 clear and cooler; Feb. 1 cool, thermometer 16° A. M., milder P. M., with rain at night; 2 fog with light rain A. M.; 3 to 10 mostly clear with frosty nights, the ground closed; 11 and 12 cold days, mercury standing at 12° each morning; 13 cloudy, thermometer 18°; 14 1 inch snow fell; 15 and 16 clear and cool; 17 cold, mercury at 10° A. M.; 18 clear and nearly as cold. People filling ice houses, no previous freezings making sufficient ice; 19 and 20 cold snow storm, 6 inches fell on a level; 21 clear and moderate; 22 1 inch more snow fell during previous night; clear and mild; 23 coldest morning of the season, thermometer marking 6°; clear and very pleasant.

☞ **The actual circulation of the Agriculturist to regular subscribers, is believed to be much larger than that of any other Agricultural or Horticultural Journal in the world.**

Advertisements.

TERMS—(invariably cash before insertion):
Twenty-five cents per line of *space* for each insertion.
By the column or half column, $30 per column.
☞ Business Notices *Fifty* cents a line.
Advertisements to be sure of insertion must be received at latest by the 18th of the preceding month.

Country Homes.

Intelligent men, who know what constitutes a true social life, who value their own enjoyment, or who have children whose physical and moral health are to them of more importance than everything else, are rapidly coming to the conclusion that these are to be obtained more thoroughly in the country than in the city. Those who are compelled to study economy are becoming convinced that the country is the *cheapest* place to live in; and the suburbs of villages which are near the city are thus rapidly filling up.

This applies particularly to villages like FLUSHING, on Long Island, less than an hour's railroad ride from New-York, where epidemics rarely prevail, where children are robust and healthy, where the country is highly cultivated, abounding in pleasant walks and drives, and where numerous Schools aid the parent in the education of his children. [See end of first column, next page.]

To all who settle in such localities, whether with ample or moderate incomes, every item of information is welcome which may enable them to cultivate their grounds, grow trees and flowering plants, and surround themselves with every thing in nature which can make a home attractive and enjoyable.

After building the house, which should be done with regard to comfort more than show, the first thing is to prepare the LAWN. But of this we have not room to speak here. Directions for forming it we will gladly furnish. The next object which should receive attention is the

FRUIT GARDEN,

in which should always be found the following plants, while the possessor of large grounds can increase the list at his pleasure. Throughout this article the *prices* will be given, in order that the planter may form accurately his estimate of expense, bearing in mind that the prices are for moderate sized trees, that large trees for immediate effect always command an extra price; and that there is a slight additional charge to cover the cost of material for packing. In naming the following as well adapted to a limited space, the Proprietors wish it clearly understood that the kinds enumerated throughout the advertisement, are but a very *small proportion* of the varieties contained in their collection, and detailed in their Catalogue, which can be obtained as stated below.

ASPARAGUS..... 75 cents per 100 plants.
RHUBARB.—Linnæus..... 35 cents each.

CURRANTS.—Per Dozen.

Red Dutch	$1.25	Black Grape	1.50
White Dutch	1.25	Cherry	2.50

GOOSEBERRIES.—Per Dozen.

Houghton's Seedling.... 1.50 Large English sorts..... 1.50

RASPBERRIES.—Per Dozen.

Red Antwerp	1.00	Knevett's Giant	1.50
Fastolff	1.00	Brinckle's Orange	2.00

BLACKBERRY.—New Rochelle..... 1.50 per dozen.

STRAWBERRIES.—25 cents per Dozen.

Burr's New Pine. | McAvoy Superior.
Early Scarlet. | Jenney's Seedling.
Hovey's Seedling.

GRAPE VINES.—Each.

Isabella	0.35	Concord	1.00
Catawba	0.35	Diana	1.00

DWARF WALNUT TREES..... 25 cents each.
FILBERT Do. ..... 25 cents each.
FIG Do. ..... 25 cents each.

The next object to receive attention should be the

Orchard.

in which the following selection, from a large variety, is well adapted to a limited space:—

APPLES.—25 cents each.

Early Rough. | Rhode Island Greening.
Early Harvest. | Fameuse.
Red Astrachan. | Porter.
Summer Rose. | Baldwin.
Autumn Bough. | Boston Russett.
Gravenstein. | Newtown Pippin.
Fall Pippin. | Danver's Winter Sweet.
Northern Spy. | Yellow Bellflower.

PEARS.—50 cents each.

Madeleine. | Louise Bonne.
Bartlett. | Seckel.
Urbaniste. | Buffum.
Beurre d'Anjou | Lawrence.
Beurre Diel. | Duchesse d'Angouleme.
Fondante d'Automne. | Vicar of Winkfield.

CHERRIES.—50 cents each.

Black Eagle. | Governor Wood.
Black Tartarian. | Mayduke.
The Bigarreau. | Early Richmond.
Downer's Late Red | Arden's Whiteheart.

Of apples, pears, and cherries, *standards* should be planted twenty feet apart, and *dwarfs*, ten feet. The dwarfs are best adapted to garden culture.

PLUMS.—50 cents each.

Jue's Golden Drop. | Lawrence Favorite.
Smith's Orleans. | Golden Gage.
Yellow Gage. | Washington.
Reine Claude de Bavay | Lombard.

PEACHES.—25 cents each—large reduction by the 100.

Large Early York. | Old Mixon Cling.
Old Mixon Free. | Golden Eagerige
Coo'edge's Favorite. | George IVth.
Stump of the World. | Crawford's Early.
Fox Seedling. | Crawford's Late.
Heath Cling. | Heath Free.

NECTARINES.—35 cents each.

Early Violet, | Boston.
Elruge. | Stanwick from Syria.

APRICOTS.—35 cents each.

Early Peach. | Moorpark.
Large Early. | Blenheim.

QUINCES.—Orange..... 25 cents each.
MULBERRIES..... 25 cents each.
MADEIRA NUT..... 50 cents each.
PECAN NUT..... 25 cents each.

Before planting an Orchard the ground should be cultivated at least one year with root crops, having been spread with stable manure at the rate of 1500 bushels to the acre. Where it is possible the soil should be double trenched, keeping the black earth on the top. Where this is too expensive, plowing to the depth of 18 inches is indispensable.

A provision for the *palate* of the family having thus been made, equal care should be entertained for their pleasure and comfort. Nothing external will more conduce to this than a smooth green turf, and

Trees, Shrubs and Flowers.

If the ground is prepared the trees can very properly be planted before the building of the house or preparing the lawn, but such a plan is not always convenient.

The taste of the owner also is generally better developed after the erection of the house. According to the capability of the grounds, these may be planted, singly or in groups,

ORNAMENTAL TREES.

Of these the following are the finest, although the list can be profitably enlarged in proportion to the extent of the grounds.

The outside lines of the Lawn should first be planted with a thick belt of Evergreens ten feet apart. A back ground being thus formed, other trees can be embroidered upon it to suit the taste of the owner. For this purpose the most satisfactory tree under all circumstances is the

NORWAY SPRUCE.

This can be furnished at prices ranging from ten cents to a dollar each, according to the object desired by the planter. Many plant the belt very thickly with trees worth only $20 per 100, and when they grow crowded transplant them to other parts of the lawn. This gives a thick belt very soon. Other good *Evergreens* for grouping or planting singly are the following:—In grouping, Evergreen and Deciduous Trees should never be planted together, and strong contrasts in the color of foliage always produce the finest effect.

	Each.		Each.
White Pine	0.75	Atlas Cedar	2.00
Austrian Pine	0.75	Balsam Fir	0.50
Bhotan Pine	1.50	Silver Fir	1.00
White Spruce	0.75	Scotch Fir	0.75
Hemlock Spruce	1.00	Arbor Vitæ	0.50
Himlayan	1.00		

Of the large DECIDUOUS TREES the following can be recommended:—

	Each.		Each.
Sycamore Maple	0.50	Linden	0.50
Sugar Maple	0.50	Larch	0.50
Norway Maple	0.50	Ash in variety	0.50
Silver Maple	0.50	Beech, European	0.50
Tulip Tree	0.50	Beech, Purple	1.00
Oriental Plane	0.50	Liquidambar	0.50
Elm American	0.50	Cypress, Deciduous	0.50
Oak, American	0.50	Weeping Willows	0.50
Elm, English	0.50	Oak, English	0.50

The first eight of the above, if of a size commanding a dollar or more, are very suitable for avenues.

Deciduous trees of a *lower* growth include among the best

	Each.		Each
Mountain Ash	0.50	Silver Bell	0.25
Paulownia	0.75	Catalpa	0.50
Kentucky Coffee	0.50	Magnolia Glauca	0.50
Laburnums	0.50	" Tripetala	0.50
White Fringe	0.50	" Acuminata	0.50
Purple	0.50	" Macrophylla	2.00
Ash Leaf Maple	0.50	" Chinese	2.00

The prices attached to the ornamental trees are for those of moderate size. Where purchasers wish a larger size for immediate effect, they should name the price they are willing to pay.

EVERGREEN SHRUBS.

For undergrowth and massing, as well as planting singly, the following selection of SHRUBS may be safely made. For massing, nothing whatever can compare with the Rhododendron. Its evergreen foliage is very beautiful in winter, and its flowers are more gorgeous than those of any other shrub.

The Catawbiense, with its varieties, is the only desirable species which is perfectly hardy.

	Each.		Each.
Rhododendron Catawbiense	0.75	Dwarf Pine	0.75
do. grafted varieties	2.00	Kalmia	0.75
Tree Box	0.50	Cotoneaster	0.50
Evergreen Thorn	0.50	Irish Juniper	0.75
Andromeda Floribunda	1.00	Swedish Juniper	0.75
Golden Arbor Vitæ	1.00	Siberian Arbor Vitæ	0.75
Siberian Stone Pine	1.00		

The last three can be particularly recommended. The Siberian Arbor Vitæ makes the finest hedge known.

The Rhododendron and Ghent Azaleas should be planted in a soil of which half is peat.

DECIDUOUS SHRUBS.

	Each.		Each.
Ghent Azaleas, many sorts	1.00	Buffalo Berry	0.25
Deutzia Gracilis	0.50	Oak Leaf Hydrangea	0.50
" Scabia	0.25	Lilac of sorts	0.25
Spiræa Reevesii	0.35	Weigelia Rosea	0.35
" " double	0.50	Forsythia	0.35
" Prunifolia	0.50	Euonymus	0.25
" Callosa	0.50	Altheas of sorts	0.35
" many others	0.25	Philadelphus	0.25
Red Flowering Currant	0.50	Pyrus Japonica	0.50
Indigo Shrub	0.25	Clethra	0.25
Bladder Senna	0.25	Upright Honeysuckles	0.25
Mahonia	0.25	Indigofera	0.50
Berberry, Purple	0.25	Tamarix	0.25
Sweet Scented Shrub	0.25	Snowball	0.25
Daphne Mezereon	0.25		

VINES

For training on verandahs, covering old trees, making tree umbrellas, &c.

	Each		Each.
Clematis Flammula & others	.25	Ivy	0.25
" Sieboldii	0.50	Chinese Glycine	0.50
" Helene	0.50	White Glycine	1.00
" Sophia	0.50	Trumpet Creeper	0.25
" Lanuginosa	0.75	" Chinese do. & others	0.50
Honeysuckles of sorts	0.50		
" Standishii & others.	0.35		

FOR HEDGE PLANTS

The best are—

American Arbor Vitæ	$20 to $40 per 100
Osage Orange	10 per 1000
Buckthorn	12 per 1000

PÆONIES.

Tree Pæony	1.50 each
" varieties	1.50 to 3.00 "
Herbaceous of sorts	0.50 "

ROSES.

No flower will give so much pleasure as the Rose; beautiful in its bud, beautiful in its expanded bloom, beautiful on a single bush, in groups and masses, in the conservatory of the rich, or in the window of the poor, it possesses a charm superior to those of any other flower. They are cultivated by PARSONS & Co. in very large quantities, and of the finest varieties only, of which they have nearly 400 choice kinds in growth. All particulars respecting their cultivation will be found in "Parsons on the Rose,"—a standard Work, to be obtained of Wiley and Halsted, or any of the booksellers in New York.

Of those which bloom more than once in the season, the CHINA, TEA, and BOURBON varieties, though exceedingly valuable, require protection in the winter.

The REMONTANTS are perfectly hardy and have several distinct periods of bloom during the year. This, therefore, is the best class of Roses for general use.

Those which bloom only once in the year, such as Garden Roses, Moss Roses, &c., are generally hardy.

A few of the *best* of each class are named below. Where a quantity is wanted, and the selection from this list is left to the Proprietors, they will be furnished by the hundred at the following rates, which do not apply to any quantity less than a hundred:—

Remontants Tea, and China, $25 per 100.
Bourbon, Moss, and Other classes $30 per 100.

The kinds thus selected by the proprietors will not be of inferior quality, but those which are cultivated in larger quantities on account of their excellence.

REMONTANT.

Adele Mauze	0.75	Geant des Batailles	0.50
Amandine	1.00	Josaine Hanet	0.50
Augustine Mee	1.00	Louis Odier	1.00
Baronne Prevost	0.50	Pius IX	0.75
Dr. Arnal	1.00	Sydonie	0.50

BOURBON.—50 cents each, except those noted.

Appoline..... 1.00 | Madam Margot.
Bouquet de Flore. | Mrs. Bosanquet.
Cardinal Fesch. | Queen of Bourbons.
Henri Plantier. | Souvenir de la Malmaison.
Imperatrice Josephine.

CHINA, TEA, AND NOISETTE.—35 cents each.

Antoinette Bouvage. | Louis Philippe.
Arch'ess Therese Isabelle. | Leon Felize Bigot
Devonensis | Nemesis
Eugene Beauharnais. | Ophir. ...
Feilenberg. | Pactole.
La Charmante. | Safrano.
Lady Warrender. | Solfaterre.
Lamarque. | Triomphe du Luxembourg

JUNE ROSES.—All 50 cents each.

GARDEN.

Baron Cuvier. | Hortensia.
Boula de Nantenil. | La Calaissienne.
Capitaine Sisolet. | Œillet Parfait.
Chenedole. | Queen of Summer.
Comtesse Mole. | Rien ne me surpasse
Coupe d'Hebe. | Schismaker.
Duc de Trevisse. | Sophie de Marsilly
Duke of Sussex. | Tibille.
Duke of Cambridge. | Tricolor.
Eugens | York and Lancaster
Grandissimma.

MOSS.

Alice Leroy. | Luxembourg.
Crimson. | Perpetual White
Crispata. | Princesse Adelaide.
Hooker's Blush.

CLIMBING.

Baltimore Belle. | Perpetual Pink.
Milledgeville Prairie. | Queen of the Prairies.
Miss Gunnell. | Virginia Lass.

Greenhouse Department.

NINE HOUSES.

Greenhouses are generally thought to be within the reach of the rich only. They can, however, be erected at very moderate prices, and one costing only $200 would hold many plants.

Visitors are invited to examine the houses which are stocked with blooming and sale plants, and will always give pleasure.

They are mostly 20 feet wide and 100 feet long.

No 1.—Is devoted to the fruiting of Exotic Grapes, in order the

GREEN-HOUSE DEPARTMENT CONTINUED.

there may be no error in the varities which they cultivate in pots.

No. 2.—Is devoted exclusively to Camellias, which are cultivated in large quantities.

No. 3.—Is devoted partly to Camellias, and partly to Azaleas and other Greenhouse plants.

No. 4.—To Heaths and other plants.

No. 5.—To Orchideous and Stove plants.

No. 6.—To large specimen plants.

No. 7.—To propagation.

No. 8.—To Roses and bedding plants.

No. 9.—To general stock.

EXOTIC GRAPES.

The following are the best sorts for culture under glass :—

1 year old, 50 cents each ; 2 do., 75 cents each ; extra strong, $1.

Black Hamburg.	Flamed Tokay.
Black Prince.	White Sweetwater.
Golden Chasselas.	Constantia of Zante.
Grizzly Frontigean.	Red Chasselas.
Royal Muscadine.	Xeres.
Muscat of Alexandria.	Zinfindel.

GREENHOUSE PLANTS.

Below will be found a selection of some of the best varieties, some of which are suitable for window culture, some for cheap houses, and others for stores and conservatories.

Abutilon Van Houttii	.25 to 1.00	Echites picta	1.00
" insigne	0.50	" nutans	1.00
Acacia armata	.0.25 to 1.00	" Russellianum elegans	1.00
" intermedia	.0.25 to 1.00	" truncatum spectabile	1.00
" cultriformis	1.00	Erythrina caffrii	0.50
" longinima	0.50	Euphorbia sanguinea	0.50
" grandis	0.50	Francisca gracilis	0.50
" koi Leopold	1.00	" confertiflora	0.50
" squarrosa citrina	0.50	" angusta	0.75
Andisia crenulata	.0.50 to 3.00	Fuchsia Duchesse of Lan-	
Azalea lateritia	.0.38 to 3.00	" caster	0.50
" nitso plena	.0 50 to 3.00	" Honeybell	0.50
" Gledstanerii	1.00	" Cornuodore	0.50
" wirzana	1.00	" Mrs. Taite	0.50
" amœne	1.00	" Psyche	0.50
" vittata	1.00	" Ajax	0.50
" Beauty of Europe	1.00	" Empress	0.50
" Narcissæflora	1.00	" Joan of Arc	0.50
" Stanlyana	1.00	" Glory	0.50
" rameutaceæ	1.00	" Lady Franklin	0.50
Bouvardya longiflora	0.50	" Incomparable (Mayle,)	0.50
Brunsvigea Josephina	1.00	" Queen Victoria	1.00
Camellia alba plena	0.75	Gardenia Devoniensis	0.50
" candidissima	0.75	" Whitfieldii	1.00
" Chandlerii	1.00	" Fortunii	0.50
" Duchess of Orleans	0.75	Genista fragrans	0.50
" Florida	1.00	Gloxinia Imperialis	1.00
" Feastii	1.00	" Wilsonii	1.00
" Hempsteadii	0.75	" Nobilis	1.00
" Henri Favre	1.00	" Leonie Van Houtte	1.00
" Jeffersonii	1.00	" Grand Sultan	1.00
" Mrs. Abby Wilder	1.00	Grevillea Tillermanii	0.50
" Princesse Bahchiochi	1.00	" Sternbergii	0.50
" Wilderii	1.00	" sulphurea	0.50
Campylobotrys discolor	0.50	" lavendulacea	0.50
Cineraria Lady Hume Camp-		Hoya imperialis	2.00
" bell	0.50	" picta	3.00
" Rosy morn	0.75	Hydrangea Japonica	0.38
" Resplendant	0.50	Ixora coccinea superba	1.00
" Advancer	0.50	" erocata	0.50
" Lady Camoys	0.50	" Javanica	1.00
" Estella	0.50	Lilium longiflorum	0.50
Cissus discolor	0.50	" lancifolium album	1.00
Clerodendron fallax	0.50	" punctatum	1.00
" Bungeii	0.50	" rubrum	1.00
" Clethra arborea	0.50	" speciosum	1.00
Olivia nobilis	1.00	Medinella, erythrophylla	0.50
Correa Cavendishii	0.75	" speciosa	0.50
" speciosa	0.50	Musa Cavendishii	2.00
" brilliant	1.00	" dacca	2.00
" delicata	0.50	Pimelia spectabile	1.00
Croton pictum	0.75	Rhopala elegans	0.50
Cyclamen Persicum	0.25	Rojiera amœna	0.50
Daphne odora	0.50	" cordata	0.75
" rubra	1.00	Rondolet a speciosa	0.50
Dielytra spectabilis	0.50	Stephanotus floribundus	1.00
Diplacus grandiflorus	1.00	Thyrsacanthus lilacina	0.75
Diplodenia crassinoda	1.00	" rutilans	0.50
Dracena terminalis	1.00	Tremandra verticillata	0.75
" nobilis	1.00	Viburnum odoratissimum	1.00
		" suspensum	0.50

Our collection embraces the finest new Pelargoniums and all the choicest bedding plants, such as Geraniums, Chrysanthemums, Verbenas, Phloxes, Gladiolus, Amaryllis, Petunias, Heliotropes, Salvias, &c. No lawn is at all, complete which has not its surface variegated with some of the many brilliant bedding plants now cultivated.

It is scarcely proper for the Proprietors to speak of their mode of dealing; they leave that to those who know them. They will simply say, that they do not trust their sales to irresponsible men, whose only object is to make large commissions, irrespective of the interest of the purchaser or the reputation of the proprietors. Reputation and character are of more value in their eyes than money. The first two they wish to secure by fair and liberal dealing—the last must take care of itself.

TRANSPLANTING

Is carefully done at the Nursery, but as the planting is often improperly done by the purchaser, and the trees consequently die, it is expressly understood that the proprietors do not ensure the living of any trees. Directions for transplanting will be found on the cover of their catalogue.

It will be born in mind that the varieties given above are but a small part of the catalogue, which can be obtained on application, as below.

Where very large quantities are wanted by dealers, or others, a liberal discount will be made.

SMALL TREES CAN BE FURNISHED AT HALF THE ABOVE PRICES.

TERMS CASH.

For packing, a charge will be made simply covering cost, and the trees will be delivered at Fulton Market (New-York City) free of freight.

Priced and detailed catalogues will be furnished on the grounds, or at the office of the Bridgeport Insurance Company, 34 Wall street, New-York City.

FACILITIES OF COMMUNICATION WITH NEW-YORK.

Visitors can reach Flushing from Fulton Market slip, New-York, by boat and railroad six times per day. Time of transit, 50 minutes; leaving both New York and Flushing at 8, 10, 1, 4, and 5½ o'clock.

ORNAMENTAL TREES AND PLANTS FOR SPRING OF 1858.

EVERGREEN, DECIDUOUS, WEEPING, &c.

Ellwanger & Barry, Rochester, N. Y., beg to inform Nurserymen, Landscape Gardeners and Planters generally, that their Stock of the following articles is large, and will be sold at prices to suit the times.

1st—EVERGREENS.

NORWAY SPRUCE, of various sizes from one to six feet high, well formed specimens, in quantities from one dozen to 100,000.

PINES, Austrian, Scotch, and White or Weymouth, from 8 to 12 inches—frequently transplanted.

ARBOR VITÆ, Siberian, 2 to 3 feet; this is a beautiful hardy tree.

" " American, 1½ to 4 feet, for hedges, screens, &c.

PINSAPO SPRUCE, 12 to 18 inches high, quite broad and stout—a fine rare tree.

AFRICAN OR SILVER CEDAR, 2 to 3 feet high. This is a noble tree, resembling the *Cedar of Lebanon*, but hardier and of more rapid growth.

JAPAN CEDAR, (Cryptomeria Japonica,) 3 to 4 feet high, (in pots,) not quite hardy at Rochester.

CHILI PINE, (Auracaria Imbricata,) 12 to 18 inches, stout and bushy, (in pots,) not quite hardy at Rochester.

Besides these we can furnish a great number of others, for which we refer to Descriptive Catalogue No. 2.

☞ See also advertisement of California Evergreens.

2nd—DECIDUOUS TREES.

Scotch Elm, 8 to 10 feet,	Snowy Mespilus,
Huntington Elm, 8 to 10 feet,	Profused flowering do. grafted 4
Tulip tree, 8 feet,	to 5 feet high—a fine small lawn
Magnolia acuminata, 4 to 5 ft.	tree.
Purple leaved Maple, 4 to 5 ft.	Rosemary leaved Willow, 5 feet
Gold striped leaved do. 4 to 5 ft.	grafted-a beautiful feathery tree

3d—WEEPING OR DROOPING TREES.

We have the pleasure of offering a fine stock of the following graceful trees so desirable for lawns, cemeteries, &c.:

Weeping European Ash,	Weeping European Birch,
Weeping Lentiscus leaved Ash,	Weeping American Willow,
Weeping Mountain Ash,	Weeping Kilmarnock Willow,
Weeping Poplar,	Weeping cherry, ever blooming.
Weeping Linden,	Weeping Heart Cherry.

The above will be supplied in quantities to suit purchasers. Priced Catalogues sent gratis to those who enclose one stamp.

ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

TO AMATEURS AND PLANTERS. CHOICE TREES, SHRUBS AND PLANTS.

We have, as usual, an extensive and varied assortment of FRUIT TREES, SMALL FRUITS, ESCULENT ROOTS, FLOWERING SHRUBS, ROSES, DAHLIAS, &c. Also, ORNAMENTAL TREES, EVERGREEN TREES, WEEPING TREES, and all new varieties of STRAWBERRIES, RASPBERRIES, GRAPES, CURRANTS, GOOSEBERRIES, BLACKBERRIES, MULBERRIES, &c., &c. These will be disposed of at reasonable prices to amateurs and others by the dozen or hundred. Catalogues sent on application, by enclosing a stamp for each.

A. FROST & CO.
Genesee Valley Nurseries, Rochester, N. Y.

ESTABLISHED, 1823. REBUILT AND ENLARGED, 1856

BRID-GEMAN'S HORTICULTURAL ESTABLISHMENT,

Nos. 876 and 878 Broadway, NEW-YORK.

FIELD, HERB, VEGETABLE AND FLOWER SEEDS

Fruit and Ornamental Trees,

GREENHOUSE PLANTS, &c., &c.

Every article appertaining to the business furnished at reasonable rates, and warranted as represented. The seeds are grown to order by experienced cultivators, and fully tested before being offered.

For sale by the quantity or in packages for retail trade.

Goods packed securely to go any distance. Orders by mail will be attended to with exactness and promptitude.

Catalogues furnished on application.

New Verbenas.

The subscriber would take pleasure in calling the attention of Amateur Florists and all lovers of this popular bedding plant, to the following new and superb foreign varieties.

Geant des Battailles, deep scarlet crimson, one of the finest verbenas yet introduced.

Madm. Abdt, deep purple maroon, extra fine for vase culture or bedding.

Charles Dickens, rosy lilac, darker center, large eye, fine for pot culture or bedding.

Celestial, pale rose, very large truss, very free.

Lady Palmerston, delicate pale blue, with large white center.

Le Gondolier, soft rosy carmine, fine truss.

King of roses, mottled rose, good form.

Also a couple of seedlings raised by ths subscriber.

Chieftain, dark maroon crimson, light eye.

Black Prince, deep indigo purple, very dark.

The above at 25 cents each, or the set for $2.

Verbenas in packages as follows.

Package No. 1. 12 first class, including two of the above novelties.....$1 75.
Same by mail post-paid.....2 00.

Package No. 2. 25 first class, including four of the above novelties.....$3 00
Same by mail post-paid.....3 50

Package No. 3. 50 first class, including six of the above novelties.....$5 00
Same by mail post-paid.....6 00

Well established plants, if ordered early in the season, can be forwarded by mail a journey of from three to four days without the slightest injury. To those who order either of the above packages in *March with cash enclosed*, a package of choice Verbena seed will be added. Price of seed per package to those not ordering plants 25 cents. Plants ordered in March and placed in Hot-beds will make fine plants for bedding out in May

All orders enclosing cash shall be promptly and faithfully attended to. Descriptive Catalogues now ready and forwarded to all making application. Address DEXTER SNOW.
Chicopee, Hampden Co., Mass.

ROSES AND DAHLIAS.

HYBRID PERPETUAL ROSES.
MOSS ROSES.
HYBRID CHINA ROSES,

And other classes, a large stock of strong plants

DAHLIAS, a superb collection embracing the finest new English and French varieties. The stock of the above is large, and will be sold at very low rates.

Descriptive priced Catalogues forwarded gratis to all who enclose one stamp. ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

Flower Seeds! Flower Seeds!

J. M. THOBBURN & CO., have just published their CATALOGUE of FLOWER SEEDS for 1858 with practical directions for their Culture, containing over 1,000 VARIETIES, and many of them quite NEW AND RARE, among which are the following GEMS.

ACROCLINUM ROSEUM, *New Rhodanthe like Flower, per pkt.*	25 cts
ALONSOA WARCZEWICZII, *bright Crimson.*	25
LINUM GRANDIFLORUM KERMESINUM, *beautiful crimson flax.*	25
LINUM LEWISII VARIEGATA, *splendid variegated*	25
PHLOX DRUMMONDII ALBA, " LEOPOLDINA NAPOLEON, " QUEEN VICTORIA & OCULATA } *all magnificent, each*	10
PORTULACA CARYAPHYLLOIDES, *new carnation, striped.*	10
ASTERS INCOMPARABILIS, &c., *seven distinct fine German sorts.*	10
STOCKS GRANDIFLORA, &c., *six beautiful German sorts.*	10
LEPTOSIPHON AUREUS AND LUTEUS, *both new, each*	10
TROPŒOLUM MINUS COCCINEUS, *hardy Dwarf, crimsan.*	10
IPOMŒA TRICOLOR NOVA, *new, beautiful striped hardy Ipomœa.*	25
WHITLAVIA GRANDIFLORA, *beautiful blue hardy annual.*	10
DATURA METELOIDES, *new hardy annual.*	25
SABBATIA CAMPESTRIS, *new Green-House annuals.*	25.

We have but a limited supply of the above SEEDS and orders will be filled in rotation

On receipt of order covering the amount, we send the above postage paid, as also the following:

COLLECTIONS OF

100 Varieties of Annual, Biennial and Perennials, for	$4.00
50 Varieties of Annual, Biennial and Perennials, for	$2.00
25 Varieties of Annuals for	$1.00
10 Varieties of Annuals for	50
20 Varieties of New and Rare Annuals for	$2.00
20 Varieties of Choice Green-House Seeds for	$2.50
40 Varieties of Choice Green-House Seeds for	$5.00
20 Varieties of American Seeds for European Culture	$2.00

ALSO;

Choice Assortments for Rockwork	$1,00
Choice Assortments of Aquatics	6.00
Choice Assortments of Ornamental Grasses	1.00
Choice Assortments of Imported German Asters and Stocks from	.75 to $1.50

OUR OWN SELECTION.

We can still supply small quantities of

DANIE O'ROURKE & SANGSTER'S No 1 Peas, each at	49c. per qt.
NAPOLEON & EUGENIE Peas, each at	75c. per qt
HARRISON'S GLORY AND PERFECTION Peas, each at	50c, per qt
FAIRBEARD'S CHAMPION OF ENGLAND Peas, each at	30c per qt
RED, WHITE AND YELLOW ONION, from $1 50 to $2 50	per lb
HUBBARD SQUASH,	25c. per oz
LONG ORANGE CARROT,	at $1,00 per lb
AFRICAN IMPHEE, true,	at $1,00 per lb
SORGHUM OR CHINESE SUGAR CANE,	at 25c. per lb
HEMLOCK TREE SEED (clean),	at 75c. per oz.
WEYMOUTH PINE (clean seed),	at $3,00 per lb
NORWAY SPRUCE,	at $1,50 per lb.
EUROPEAN SILVER FIR,	at $1,50 per lb
DECIDUOUS CYPRESS,	at 50c. per qt

&c., &c., &c.

J. M. THORBURN & CO.
15 John St., New-York.

☞ Catalogues will be mailed to applicants enclosing a postage stamp, please say whether a Flower or Vegetable Seed Catalogue is wanted.

GARDEN, FIELD AND FLOWER SEEDS.

The subscriber offers a full assortment of Garden Field and Flower Seeds of the growth of 1857 and of the very best qualities, and in addition to all the standard varieties, will be found many novelties, for sale Wholesale and Retail. Orders by mail attended to immediately

PEAS—choice and new varieties, Extra Early Daniel O'Rourke, Champion of England, Carters Victoria, Hairs' Defiance, Dwarf Sugar, Tall Sugar, Hairs' Dwarf Blue Mammoth, Harrison's Glory, Harrison's Perfection, Epps' Monarch, Epps' Lord Raglan, British Queen, with all other varieties

CAULIFLOWER—Early Paris, Nonpariel and Alma.

CABBAGE—Early Wakefield, Early Ox Heart, Enfield Market and Winningstadt.

CORN—King Philip, Early Darlings, Constantinop'e and Stowell's Evergreen

TURNIPS—Ashcroft's Swede, Rivers Sweedish Stubble and Waites Eclipse.

Frize Cucumbers for frames,

Winter Cherry or Strawberry Tomato,

New Zealand Spinach.

Potato Seed German and English.

OATS—Poland, Potato and other choice varieties.

POTATOES—Prince Albert's which we highly recommend, (Ash Leaf Kidney, imported) Early Dikeman, Farly June, Dover, Mercer, and all other varieties.

SPRING WHEAT—Golden Drop or Fife, Sea, Canada Clubb, &c.

SPRING BARLEY, SPRING RYE.

TOBACCO Seed, Havanna and Connecticut Seed Leaf.

SPRING AND WINTER VETCHES OR TARES—Broom Corn, Spring Buckwheat, Cotton Seed, &c.

FRUIT SEEDS, Apple, Pear, Quince, Currant, Gooseberry, Raspberry and Strawberry Seed Peach, Plum and Apricot Pits.

OSAGE ORANGE, Buckthorn, Yellow and Honey Locust, Chinese Arbor Vitæ.

GRASS SEEDS, Hungarian and American Millet, Green, Kentucky Blue or June, Orchard, Ray, Italian and Perennial, Foul Meadow, Sweet Scented Vernal, Fine Mixed Lawn, Red Top, Timothy or Herds, &c.

CLOVERS, Large and Medium Red, White Dutch, Luzern or French Sainfoin, Aliske, Crimson, Yellow Trefoil, &c.

ONION SETTS Red and Yellow, Top or Button and Potato Onions.

RHUBARB ROOTS, Myatt's Victoria and Linnæus, Imported.

ASPARAGUS ROOTS—Cabbage, Cauliflower, Egg and Tomato Plants furnished in season.

Everything in my line furnished and at reasonable rates.

A Catalogue containing a full list of seeds and prices furnished on application.

AFRICAN IMPHEE, genuine as raised by Leonard M. Wray, One Dollar per pound.

CHINESE SUGAR CANE—American and Imported, 25 and 40 cents per pound

R. L. ALLEN
191 Water-St New-York.

The Allen Raspberry.

Our spare stock of this approved, tried, and *thoroughly hardy* fruit will be ready for filling orders as soon as the grounds is free from frost. Its superiority is now so well established, that several distant Raspberry growers, after a satisfactory trial, with a few plants, have taken five hundred, to a thousand each for their own cultivation. Descriptions of the fruit and the mode of cultivation will be sent to all applicants, and with every package.

Prices: 10 plants $1. 2 dozen plants and upwards, $1 per dozen. 100 plants, $7 per 100.

Orders, enclosing money, may be addressed to the subscriber, care of Lewis F. Allen Esq., Black Rock, N. Y.

March, 1858. THOMAS DUFF.

STRAWBERRY PLANTS.

250,000 Hoveys Seedlings.
100,000 Boston Pines.
100,000 Crimson Cones.
25,000 McAvoys Superior.

All of which have been raised with great care. Pure and unmixed, and in fine condition. Will be Sold in quantities to suit purchasers at the following rates, viz:

From	100	to	1,000	$10	per Thousand.
do	1,000	to	5,000	$6	do do
do	5,000	to	10 000	$4 50	do do.
do	10,000	and upwards		$3 75	do do.

An extra charge made for Packing.

Apply at the Gardens of the undersigned at Yonkers, or at their office in New-York.

WELLS & PROVOST, (Proprietors of Spratts Patent Self-Sealing Cans.) Nos. 215 & 217 Front-St., New-York.

A. O. MOORE.

AGRICULTURAL BOOK PUBLISHER.
140 FULTON ST., NEW-YORK.

New Works Just Published.

WARDER'S HEDGE MANUAL.

A complete treatise on Hedges, Evergreens, and all plants suitable for American Hedging, especially the Maclura, or Osage Orange—the only successful system of pruning—manipulation and management—fully illustrated with cuts of implements and processes, to which is added a treatise on

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1 VOL. 12 MO. PRICE one Dollar.

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A Treatise on the Propagation and Cultivation of the Pear in America—a full catalogue and description of the different varieties—their adaptation to Dwarfs and Standards—the best modes of pruning with directions for ripening and preserving the fruit, numerous engravings, carefully prepared, exhibit both the erroneous and correct methods of treatment. By Thos. W. Field.

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A Treatise on the Artificial Propagation of Fish, with the description and habits of the kinds most suitable for pisciculture, also the most successful modes of Angling for the fishes therein described. By Theodatus Garlick M. D.. Vice Pres. of Cleveland Academy of Nat. Science.

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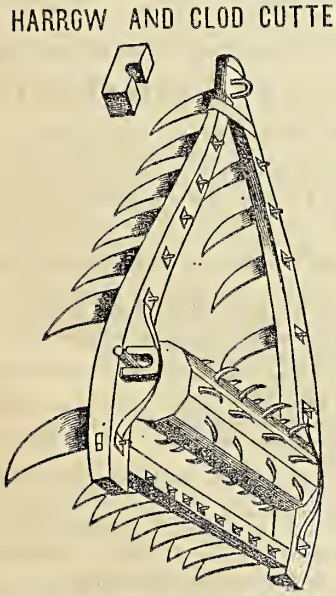
A Practical Treatise on Grasses and Forage plants, with more than one Hundred Illustrations of grasses and implements. The editor of the *American Agriculturist* says: "*This is the best treatise of the kind we have seen on this important subject. We advise our readers to get this book and study it thoroughly, as we are now doing.*" By Charles L. Flint A. M., Sec. of the Mass. State Board of Agriculture.

1 VOL. 8 VO. PRICE $1 25.

All the above works will be sent post-paid on receipt of price.

Address, A. O. MOORE.
Agricultural Book Publisher,
140 Fulton St. New-York.

HARROW AND CLOD CUTTER.



This is a highly useful and valuable Farm implement, for preparing sod-lands for corn, or to reduce cloddy lands to proper tilth for seeding oats, wheat or rye.

This Harrow drew a premium at the last State Fair, for the best harrow and harrowing.

Farmers who may want an important improvement for the harrowing of rough and cloddy ground, will do well to call and examine this patent Harrow and Clod-Cutter

Manufactured by J. WINEBRENNER & CO., Harrisburg. Pa.

Sold also by P. MORRIS & CO., Philadelphia; and by J WARDRUP, Pittsburg, Pa.

PIANOS! elegant 6¼ oct. rosewood Pianos new and perfect for $150. JAS. M. EDNEY, 56 John-st. N.Y.

SUGAR IS MADE!!!

OLCOTT'S BOOK "SORGHO & IMPHEE," or the Chinese and African Sugar Canes: Containing full instructions for making SUGAR, MOLASSES, ALCOHOL, etc., etc. Sent by mail post-paid. Price $1.

IMPHEE SEED. One variety, enough to plant 2 square rods sent by mail pre-paid, with the book for six cents more in postage stamps. Each additional variety of Imphee *six cents. Only sent to those who order the book.*

TEN VARIETIES. Gov. J. H. Hammoud, of South Carolina, who raised the above seed testifies under date of Nov. 26, 1857, that he does not recollect any variety of the Imphee which is inferior to the Sorgho, while many varieties *have a larger stalk, yielded more juice and marked a higher degree on the sacherometer*, and in a letter to the undersigned of Jan. 13th, 1858, Gov. Hammond says: "I think these seed well worth distributing. They produce a Sugar Cane at least equal to the Sorgho in all respects and some of them are twice the size. I am inclined to think we shall ultimately find several of the varieties (ripening at different periods) *superceding the Sorgho altogether.* I plant this year 60 acres of the Cane—of these four will be planted in Sorgho and the remainder in Imphee."

BETTER THAN SORGHO.

A supplement to "The Sorgho and Imphee" containing the American experiments of 1857, with J. S. Lovelings statement of his successful manufacture of Brown and White Sugar from the Sorgho, will accompany the Book.

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A. O. MOORE.
Agricultural Book Publisher,
140 Fulton Street, New-York.

Bees and Bee Books.

The subscriber will sell a few stocks of Bees the coming Spring, (about the first of April). Price in common hives, from five to eight dollars, according to age and condition. Also some in Langstroth's hives—new swarms—price, aside from patent right, ten dollars They will be packed on sorings and delivered at the Railroad Depot for fifty cents per hive, or three for $1.

Stocks were taken by express last Spring near 1000 miles, and delivered in good condition. When three or more are ordered, the "Mysteries of Bee-Keeping Explained" will be added without charge; or, for one dollar in gold, or postage stamps, the book will be mailed to any one, free of postage. Address

M. QUINBY, St. Johnsville,
Montgomery Co. N. Y.

THERMOMETERS, BAROMETERS, &c. of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by

D. EGGERT & SON, 239 Pearl-st.

FARM IMPLEMENTS OF MOST APproved patterns, made in best and most durable manner, and at low prices. Our large assortment embraces almost every implement, tool or seed wanted by the Farmer, Planter or Gardener. For sale by R. L. ALLEN,
191 Water-st., New-York.

PASCHALL MORRIS & CO.,

N. E. corner 7th and Market sts., PHILADELPHIA.

AGRICULTURAL IMPLEMENTS AND SEEDS.

COLEMAN'S FARM MILL for grinding all kinds of grain will grind from 3 to 15 bushels of corn per hour, according to the power and speed used, and the fineness of the meal.

DANIEL'S HAY, STRAW AND FODDER CUTTER for hand or horse power—two sizes—these are unsurpassed for efficiency, simplicity and durability.

NEWSHAM'S PATENT STEAMER for cooking food for stock—no danger from fire or bursting—it is portable, and will be found an economical method of heating water for all domestic purposes.

DEDERICK'S HAY PRESSES of six sizes, from $100 to $200, these are spoken of by those using them in the highest terms of praise and satisfaction.

CORN SHELLERS of superior quality and finish. PLOWS in great variety, and most approved patterns. Also, Root Cutters, Sugar Mills, Lime and Guano Spreaders, &c.—in fact every implement needed by the farmer or gardener.

FIELD, FLOWER and GARDEN SEEDS of our own selection and importation—warranted fresh and genuine, and true to name.

Wholesale and Retail orders respectfully solicited. Strangers from a distance favoring us with their orders, may rely on their being filled with as much care as though they were present. They may also rely on our representations of all goods sold by us. PASCHALL MORRIS & CO.,
Philadelphia.

Cane Mills and Distilleries.

GENERAL COPPER-SMITH WORK.

Distilleries of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills, syrup pans, skimmers, dippers, syrup guages and pumps, steam brewing apparatus. JOHN W. REID, 11 Old-slip.

PLOWS—A LARGE VARIETY OF ALL Sizes and Kinds. HARROWS—Field and Garden Rollers, Seed and Grain Drills—Wagons—Carts—Wheel Barrows—Forks Hoes, &c., &c., Horticultural Tools—Pruning Shears and Knives—Lawn Rakes and Scythes—Pruning Saws and Hooks, &c., &c. For Sale by R. L. ALLEN.
191 Water-St, New-York.

BEST Garden Engine—complete and ready for use for $24. JAS. M. EDNEY, 56 John-st., N.Y.

WYANDOT PROLIFIC CORN,

THE GREATEST AGRICULTURAL WONDER OF THE AGE.—Its discovery worth millions to the country. Yield 150 bushels to the acre. Recommended anywhere south of New-York City. Plant only one kernel in a hill, each kernel will produce from three to 12 stalks, 10 to 12 feet high, 4 to 20 ears, 8 to 14 inches long, 10 to 16 rows, of beautiful pearl white corn. Seed selected with care, warranted genuine, put in a parcel sufficient to plant an acre. Price $1 50, delivered in New-York City. Money or Post Office Stamps must accompany the order, with directions how to send.

Those who order sent by mail, and remit $4, will receive (post paid), a parcel to plant an acre; $2, half an acre, $1, quarter of an acre. Orders for less, double the above rates. Circulars showing the result from different parts of the Union, will be sent to all who send for them. Address to J. C. THOMPSON
Tompkinsville, Staten Island, N. Y,

Illinois Lands for Sale.

The subscriber offers for sale at low prices and on accommodating terms, 55,000 acres of choice Farming Lands, situated in Central Illinois, in the counties of Montgomery, Christian, Shelby, Macon, Moultrie, Piatt, Sangamon, Fayette, Bond and Clay. Said lands were mostly selected and entered at an early day, and are very choice selections of rolling prairie or valuable timber lands.

Many of the said lands are adjacent to railroad stations, and all are situated within convenient distances of completed railroads.

Said lands are offered for sale in small parcels to actual settlers on reasonable terms, or will be sold in a body, or by counties, at wholesale rates, on very accommodating terms The titles are perfect, and all conveyances will be made by warrantee deed.

Persons wishing to purchase any of the above named lands will please apply to the subscriber, by letter or otherwise, at Hillsboro, Montgomery County, Illinois.

Catalogues of said lands will be forwarded to persons who may request the same. JOHN S. HAYWARD

[OFFICIAL ANNOUNCEMENT]

Peruvian Guano—Price Reduced

NEW-YORK, Feb. 1st, 1858.

In consideration of the decline in the prices of Agricultural products and of the recent financial and commercial events in this country which will materially affect unfavorably the interests of Agriculturists and consumers of Peruvian Guano, the Peruvian Government has directed us to reduce "Ten dollars per ton from the actual prices of this fertilizer for the present season.

Notice is therefore hereby given to purchasers of Peruvian Guano, that sales will be made from this date at prices as viz:

From	1	to	5	Tons	$60	per ton of 2,240 lbs	payable cash
do	6	to	10	do	58	do	do	do
do	11	to	20	do	57	do	do	do
do	21	to	30	do	56	do	do	do
do	31	to	50	do	55	do	do	do
do	51	to	200	do	55	30 days from date of delivery		
do	201	to	1000	do	55	60 do	do	do
do	1,100	upwards			55	90 do	do	do

The guano slightly damaged by salt water or No. 2, will be sold at $48 per ton and time allowed for the payment according to the amount of purchase.

Deliveries will be made as heretofore in lots of 50 tons and upwards to large purchasers, time of payment to date from date of delivery. F. BARREDA & BROTHER—Agents.

PERUVIAN GUANO—BONE DUST—Superphosphate of Lime—Poudrette—Land Plaster—warranted of best quality. For Sale by R. L. ALLEN.
191 Water-St., New-York.

No. 1. Peruvian Guano.

GROUND BONE,
SUPERPHOSPHATE OF LIME,
LAND PLASTER, CHARCOAL DUST.
POUDRETTE, of the Lodi Manufacturing Co.

Send your orders early to the North River Agricultural Warehouse. GRIFFING BROTHER & CO.
60 Cortland St., New York City.

Fish Guano.—$35 Per Ton.

The attention of Farmers and others is called to the Fish Guano, Manufactured at the

LONG ISLAND FISH GUANO and OIL WORKS,

at Southold, Long Island. It is composed of the FLESH and BONES of Fish, after extracting the oil and water, and has been thoroughly tested in England and France, and from testimonials received, is found to be equal to Peruvian Guano, and other manures—is free from smell and not injurious to health,—Price in bags $35 per ton Pamphlets containing full particulars and testimonials may be had on application to

BRUNDRED & ROGERS, 60 Pine St., New-York.

FARMERS AND GARDENERS SENDing their P. O. Address to us will receive by mail *gratis* an Almanac for 1858, and information concerning the CELEBRATED MANURES made by "The Lodi Manufacturing Co., 60 Courtland St.. New-York."

Rothwell's English Patent Blood and Wool Manure.

This valuable fertilizer has been in use for the past 3 years, in England, having given general satisfaction in all kinds of crops The following results from experiments taken from the Mark Lane Express, Published in London. Jan. 11th, 1858.

1857.	Quantity of Manure. cwt.	Cost per acre. s. d.	Weight of Turnips per acre t. cwt. qr
Patent Wool Manure	6	45.0	18, 2 1.
Pantagonia Guano	8	45.0	14, 10, 2
Hottentott Guano	7	45.0	11, 1.
Peruvian Guano	4½	67.6	12 18, 0.
Falkland Island Guano	4½	45 0	19 20, 1.
Sup. Phos. of Lime (Berwick)	5½	45.0	13, 14. 1.
Sup. Phos. of Lime (Mr. O.)	5½	45.0	13, 10, 2.
Ammoniacal Superphosphate of Lime.	5½	55.0,	14, 3, 3.
Mixture of above	6	45.0	17, 18, 0.
Sawdust steeped in Chamber Lye, six weeks, good handful along the Hill			17, 8. 1

FOR SALE at all the Agricultural Warehouses.

PRICE $30 per ton.

Bone Manure.

SAWINGS, TURNINGS AND CRUSHED BONES FOR Sale by the Manufacturers in large or small quantities.

A. LISTER & CO.,
Tarrytown
Westchester Co., N

To Farmers and Gardeners.

THE LODI MANUFACTURING CO. offer 70,000 barrels of their new Improved Poudrette for sale the coming season. It is now well known as the best fertilizer in market for Indian Corn and kitchen gardens—is perfectly harmless when applied next to the plant, and yet quick and powerful in its effect. A pamphlet with instructions for its use, certificates, &c., will be forwarded, free of cost, to any person sending their address The L. M. Co. have a capital of $100,000 invested in this business, and a reputation of 17 years to keep up—this is some guarantee for a good article Price as usual, $1 50 per barrel for any quantity over 6 bbls.; 1 bbl. $2 00; 3 bbls $5 00; 6 bbls $9 50; free of cartage or other expense Address

THE LODI MANUFACTURING CO.,
60 Cortlandt-st., New-York.

Large Special Seed Premium.

We have been informed that the publishers of a professedly agricultural journal, got up as a covert advertising medium for a warehouse, have sent among a number of our subscribers, a private circular, offering a pound of Chinese Sugar Cane for a *two dollar* subscription. Now, though the *Agriculturist* has no outside business to support, or be supported by, we are determined not to be exceiled in anything "in our line of business," and we therefore offer, on and after this date (March 1st) a *full pound* of PURE CHINESE SUGAR CANE seed of the *best* quality, for each NEW *one dollar* subscription for 1858 (vol. XVII complete.) (This is in addition to the seeds offered in the January and February numbers, to *all* subscibers alike, which offers are still continued.) If anybody can give more for a dollar, we—we———....No previous subscriber can complain of this extra offer, called out by an extra occasion, since we have always given all we proposed to do, and perhaps a little more, if the continued improvements, expensive illustrations, &c., in the present volume be taken into account.

Special Note to Correspondents.

We beg pardon for any seeming negligence or inattention. With fifty thousand or more intelligent readers, and writers too, located in every part of the country—and beyond—our table has been so greatly *over*crowded with correspondence during the (to others) leisure Winter season, that after using all daylight hours, and much "midnight oil," and entrusting to our assistants all letters possible, we still find a very large number of them marked for "personal attention." These letters are all acceptable, and will be responded to as fast as *possible*.

Postage Only Six Cents.—How Estimated.

Not a week passes without complaints of Post Masters who, wise above what is written, and clothed with a little *brief* authority, insist upon charging double the legal postage on this journal. When pointed to what we have printed on the topic, they reply that "they do not go to Editors for their instructions, but to Washington." Well, we have humored them there. We sent a February number to Washington—all our paper is made of *uniform weight* with the copy sent. Here is an exact copy of the reply:

POST OFFICE DEPARTMENT—Appointment Office.
February 9, 1858.

SIR: In reply to yours of the 8th instant, I have to inform you that according to the sample which you transmit, the weight of the "*American Agriculturist*," *does not exceed three ounces*, and is to be rated with postage accordingly.

Very Respectfully &c.
HORATIO KING,
First Assistant P. M. General.

Mr. ORANGE JUDD,
189 Water-street, New-York, N. Y.

To a second letter, the same officer responded, under date of February 15th:

In reply to yours of the 12th instant, I inform you that the weight of newspapers is to be taken or determined when they are in a dry state, and the weight of the wrapper is not to be included.

Respectfully &c.
HORATIO KING, &c.

We have not been to the trouble to send for and publish the above on our own account, as we know the plain letter of the law on the subject, but to satisfy those who insist on having instructions direct from Head quarters. Our frequent difficulties on this point, result from the fact, that, though under the legal weight requiring double newspaper postage (over 3 ounces), yet it comes very nearly up to 3 ounces, and when weighed damp, or with the wrapper, or in "coffee scales" it will go over 3 ounces—especially if the said "coffee scales" are such as are in the habit of making any thing put into them *weigh a little more than they ought to do.*

We repeat the substance of the law: Periodicals sent to regular subscribers, and weighing not over *three ounces avordupois*, when dry and without wrapper, are to be charged one cent each; one half of which is to be deducted when the postage is paid quarterly in advance, at the office where received....The *Agriculturist* sheet weighs 2.817 ounces, that is 84½ lbs. to the ream of 480 sheets.

SUBSCRIPTION ON CREDIT—A FAIR PROPOSITION.—A farmer in Mississippi, writes that we "ought to send the *Agriculturist* out on credit—people don't like to pay for a thing before they get it." To which we reply—"it's a poor rule that don't work both ways." You have 50,000 bushels of corn, worth 50 cents a bushel. Suppose you advertise to send two bushels of it to each and every person who will write to you for it from any part of the country—to be paid for one year after reception. What a nice job in collecting.

Contents for March 1858.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

ORANGE JUDD, A. M., EDITOR AND PROPRIETOR. | ESTABLISHED IN 1842. | $1.00 PER ANNUM, IN ADVANCE. SINGLE NUMBERS 10 CENTS.

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☞Business Office at No. 189 Water-st.
☞For Contents, Terms, &c. see page 128.
☞For Business Notices, see page 128.
☞For Advertisements, see pages 124-7.

April.

"See! See! the shooting verdure spreads around!
Ye sons of men, with rapture view the scene!
On hill and dale, on meadow, field and grove,
Clothed in soft mingling shades from light to dark,
The wandering eye delighted roves untired.

DODSLEY.

It is a glad sight to see the springing grass again. The snow has vanished from hill and plain, and the green blades are appearing above the russet mat in which their roots have slumbered through the long Winter. For months the processes of vegetation have been suspended, and plants have had their rest—a neeessary law of vegetable life, in the realms of Winter, and in the lands, where endless Summer reigns. The rest is prolonged by the frost, not induced by it. And now the hybernation is over, the sun quickens that mysterious principle of life in every living thing. The grasses are among the first to feel his genial influences. On the very edge of the snow bank, the soft verdure steals, leaving no moment lost between the retreating Winter, and the exultant Spring. The warm showers descend, the song of birds again breaks on the ear, and man goes forth with joy again, to tread the softened furrows of his fields. Cold must be the heart that feels no glow of gratitude to the Creator, in this genial season.

THE GRASSES,

so common, that we hardly notice them, are among the most beautiful, and useful gifts of Providence. They embrace nearly a sixth part of all the vegetable products of the earth, and are the food, mainly, of those animals most useful to man. They are most profusely scattered in the temperate zone, where they are cropped in Summer by ruminant animals, and, dried as hay, form their Winter food. The meats that come to our tables, are but grass transmuted into fat and muscle, so that it is a literal, as well as a Scriptural truth, that "all flesh is grass."

Nothing can be more beautiful than these lowly plants in all stages of their growth, whether we examine them, one by one, or in masses; with the naked eye, or with the microscope. They are indispensable in producing the pleasing effects of the landscape gardener, or painter. It is the charm of the scene upon canvas, that the carpet of verdure spreads everywhere, girdling the lake, fringing the stream, bordering the woodland, and receiving the shadows of tree, shrub and flower, that lie nowhere so beautifully as upon the green grass. It forms too the charm of every rural home, is the appropriate ground work of emerald, in which ever a gem of the lawn or the garden is set. The most tasteful border for the walk, the carriage drive, or the flower bed, is the green turf. The last finishing stroke to the country residence, is the lawn or grass plot; if not closely shaven, at least always kept clean and wearing a Sunday air.

And these plants are as beautiful, examined in detail, as when seen upon the lawn or the meadow. They arrest attention in the early Spring, by their verdure, refreshing to the eye, after the long glare of Winter snow's and ice. They challenge our admiration, when they begin to send up their flower stalks, and their waving plumes and spikelets, in full bloom, change the hue of the landscape. Put these delicate flowerets under the glass, and the observer will find as much to charm the eye, as in the larger, and more showy occupants of the flower border. Hung with dew drops in the Summer morning, nothing can be finer than the waving plumes of Timothy, or the sparkling furze of red top. The mower has a feast for his eyes that the poet or the painter might envy. Worlds of glittering gems, flashing in the sunlight, go down before the sweep of his scythe, rivaling all that Golconda ever saw.

Over four thousand varieties of the grasses have been noticed, by naturalists, and it is not at all probable, that these embrace all that are in existence. Large parts of the earth have never been explored by man, capable of making correct observations of their vegetable and animal products. Dr. Livingstone, in his journey across the African continent, frequently mentions immense plains, and natural meadows covered with luxuriant vegetation. "The grass of the Barotse valley is such a densely matted mass, that when 'laid' the stalks bear each other up, so that one feels as if walking upon the sheaves of a haystack, and the leches nestle under it to bring forth their young." Again ascending the valley of the Leeba, he says "the grass, which had been burned off and was growing again after the rains, was short and green, and all the scenery so like that of a carefully-tended gentleman's park, that one is scarcely reminded that the surrounding region is in the hands of simple nature alone." It is not at all improbable, that the more thorough exploration of this region, which he is now to undertake, under the patronage of the British government, will bring to the knowledge of the civilized world new grasses quite as valuable as any now cultivated.

Indeed, this whole department of natural history is comparatively unexplored. Of the grasses known to naturalists, but a small part have ever been cultivated, or had their qualities tested as forage plants. A hundred and fifty years ago, Herd's grass was a wild plant on the banks of the Piscataway, without a name. Who knows but that many other grasses among these known to naturalists may yet prove as valuable as this? Something, over two hundred varieties have been eatalogued and cultivated in England alone. Hardly a tithe of that number even have been adequately tried in this country. A dozen sorts, probably, cover nineteen twentieths of all the cultivated meadow land from Maine to Texas. It can hardly be supposed, that so limited a number meets, in the best manner possible, all the wants of so great a variety of soil and climate. This is one of the pressing wants of our agriculture, experimental farms, where the value of new grasses, and kindred questions can be determined. A single new grass, that would add but an extra yield of a hundred pounds to the acre, would add millions of dollars annually, to the productive wealth of the nation.

The best cultivators are much divided in opinion, as to the best time of seeding land to grass. The old practice of Spring seeding, which prevailed almost universally fifty years ago, was brought from England by our fathers. It is, perhaps, the best season in that comparatively moist and cool climate. But in our hot, and sometimes dry Summers, it is found, that the seed, sown with oats and Spring wheat, does not catch well. It is choked by the grain in the early part of the season, and, if August and September happen to be dry, many of the plants die out. This fact has led many close observers to seed down their lands, in the latter part of August and September, and to give the seed, the full benefit of a first start. Sometimes it is sown with turnips, or with Winter grain. Where it is desirable to keep the land in grass, the sward is turned over with a Michigan plow, a dressing of manure is harrowed in, and the seed sown, and left to take care of itself. Even where no manure is applied it is found to pay to turn over the sod and re-seed.

But Spring seeding with grain is still the prevailing practice with the mass of our farmers. For clover, it is pretty generally conceded to be the best time, and for ground well prepared, deep, and moist, we have little doubt, that it is a time good enough for all the grasses, if they can have the field. The practice of taking a grain crop, after the soil has been prepared for grass, is a pernicious one, and is on the wane with all good farmers. The grasses want the full benefit of all the sun, and all the rain, from the first start, and are dependent upon these for their future luxuriance, and good quality. The ground will by no means be unproductive the first season. We cut very good herd's grass last July, from seed sown in April.

The economy of sowing a variety of grass seeds upon the same field, is now pretty well established. The clover and herd's grass are commonly sown

together, and some add the white clover, blue top and furze. For this practice it is claimed, that it is the course of nature, sometimes a dozen varieties of grass being found in a single square yard. In seeding with a single variety, it is nearly impossible to form a perfect sod, and the grass grows coarser, and is less nutritious. The appetite of animals craves a variety of food, and this longing is met, in a fodder made up of a half dozen varieties of grass, more perfectly mixed when grown upon the same field, than they can be, by any other process. Those who have thoroughly tried the experiment, claim that, other things being equal, a much larger burden of grass is produced, and the farmer gets the largest profit from his land.

Whatever variety is used, the selection of seed is a matter of great importance. It is best in all cases, where it is practicable, to raise one's own seed, or to procure it of a neighbor, whose habits for clean cultivation are well established. If this can not be done, procure the seed from responsible salesmen, who have a personal acquaintance with the parties who produce it. You want clean seed, and that of the last season's growth. Old seed will not all come up. The temptation to mix old seed with new is very great. Seed is sometimes mixed with Canada thistles and foul weeds, and these, when sown, are an irreparable injury and sorrow to every good cultivator.

Calendar of Operations for April 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making a little allowance for each degree of latitude, that is, later for the North, earlier for the South.]

EXPLANATIONS.—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus; *ff* or *mm* or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, indicates that the work may be done in either or in both periods indicated; thus, work marked *fm* indicates that it is to be attended to from the first to the middle of the month

FARM.

A busy month to the farmer is April. The favorable Winter for out-door operations has given him ample time to do all that pertains to Winter proper, and anticipate Spring, even. We will premise that grain is threshed, marketing nearly done, fencing material provided for, a year's stock of firewood cut, split and stored under cover, and a good supply of rich manure and compost manufactured at the stables, yards and hog pens. If leached by the Winter rains and drippings from the eaves, a large portion of its best properties may have found their way into the highway or upon a neighbor's premises. With a resolve to be wiser in future we will now look to those things needing especial attention this month, commencing with the

Bees, which should be arranged in their Summer quarters, ff, and the hives examined for moths. Kill all worms or cocoons now found and thus prevent increase. Clean off the bottom board and save the bees several days labor.

Buildings—This is house cleaning month for the women and it is presumed they need no directions. Let the men cleanse, and whitewash fences, and put everything in a neat attractive and healthy condition.

Cattle—Do not turn off too early. In this latitude they will require feeding nearly through this month if not longer. Keep from tramping up mowing grounds. Cows about calving need especial care and close watching. Oxen are now performing heavy work; feed them accordingly.

Cellars—Cleanse thoroughly, whitewashing the walls and carrying away all dirt and rubbish collected during Winter. Open the windows for ventilation.

Clover—If not sown with Winter grain last month, attend to it, ff Sow, ll, with Spring grain.

Corn—Manure and plow grounds for planting next month. Provide and test seed previous to use. See article on proving seed in the present number,

Door Yards—Clean up the Winter accumulations of chips and dirt, adding the latter to the manure heap. Paint or whitewash fences and make everything attractive and pleasant. A very little work of this kind will be felt all through the Summer

Drain grounds as opportunity offers, f, m, l.

Fences—Repair the old. ff, and make new ones of both wood and stone, f, m. This is a good season to plant hedges also. Employ rainy days in making gates, which are much more convenient than bars.

Grain—Sow Spring wheat and rye, f, to m, oats, barley and peas, m, to l. Allow no animals to feed upon the Winter grain fields.

Hedge Rows along fences should now be cleared up that the plow or mowing machine may make clean work.

Horses—Attend to mares with foal, giving them ample space at night. Have working teams of horses and mules in good condition for heavy labor.

Lucern—Sow, ll.

Manures—Cart and spread on lands no faster than they can be plowed in. Fork over, ff, heaps carted out during the Winter. Continue to make in all possible ways, mixing with them the wash water and "chamber lye."

Meadows—Keep fenced and free from cattle. Beat and scatter the little manure heaps dropped by cattle during the Winter. Pick the loose stones and cart away any heaps previously made, leaving nothing in the way of the mowing machine and horse rake. Sow grass seed on any bare spots. Read article on "Meadows and Mowing Lands" on a subsequent page.

"Plow deep while sluggards sleep"—and prepare the land for planting and sowing. If you own 50 acres of tillable land, make it 75 by going down one half deeper than formerly. The subsoil belongs to you, and you may as well have the benefit of it.

Potatoes—Plant early ones, m, l, selecting good market varieties not subject to rot. Try, say 10 bushels of coarse salt spread over an acre of land at planting time, and note the results. Read potato article elsewhere.

Poultry—Set hens, ff, for early chickens, and feed the young with care during the first few weeks. Feed cracked corn as soon as chickens can swallow it. Read the full chapters on poultry in the February and March numbers. Cleanse the houses thoroughly, using the manure for corn, or in the garden. Whitewash about the roosts and dust with plaster.

Root Crops—Prepare grounds for, manuring and plowing deep. Carrot seed may be sown, ll.

Sheep may, perhaps, now be dropping early lambs and need warm shelter at night. Keep separate from other stock and well fed.

Swine are also increasing in numbers, if proper care has been exercised. Keep charcoal and ashes accessible to them and give a little animal food which will frequently save the offspring from being eaten. The mother should have plenty of warm liquid food.

Timothy—Sow, ll, with Spring grain, and on bare spots of old meadows.

Tools for Summer use should all be made or procured at once. Throw away the old if you can do twice as much with a new implement. Let them have appropriate places under cover and be kept there when not in use.

Trees—Set out for shade and fruit along the roads and lanes and about the yards. A shade tree near the house may very properly be a well trained cherry tree which is ornamental at *two* seasons of the year.

ORCHARD AND NURSERY.

April is a busy month in both of these departments, especially so in the latter. A comparatively small amount of trees were sold last Fall, owing to the commercial crisis, and are the nurserymen already hard at work this Spring, filling orders which were kept over till now. To facilitate the labor as much as possible, collect from the nursery a quantity of each variety of trees, and heel them in where they can be handily drawn from. Any one intending to plant a new orchard this Spring should early visit the nursery, and make his selections, see the trees carefully taken up, and again reset on his own ground. Read "Selecting Trees for planting" on page 115.

Old trees that were cleared from rough bark and moss, and washed with soapsuds last month, now need something for the roots to feed upon, especially if the ground has been in sod for many years. Better plow it up after manuring heavily, and plant potatoes upon the ground that it may receive the benefit of a hoeing. Many of the old trees will be greatly improved by grafting, and the first days of this month are the apropriate season for this operation.

Apples.—Plant standards for orchards and stocks for future growth, ff, m, l. Graft old and young trees at the same time.

Apricots, Almonds, and Nectarines.—Plant, ff, m.

Cherries.—Complete grafting and planting, ff, m.

Currants and Gooseberries.—See Kitchen and Fruit Garden.

Dwarf Pears, Apples and Cherries.—Plant a few, ff, if you have not room for standards. Look well to the varieties, especially of pears. Graft, ff.

Figs.—Plant, layer and strike cuttings, f, m.

Grafting.—Perform, ff, m, commencing with the cherry. A stock or branch 1 to 1½ inches in diameter is the best size. Saw it off and pare smooth with a sharp knife Split it through the heart for two inches in length, using a thin blade, cutting the bark as smoothly as possible. Drive a small wedge in the center to hold the split open while the scion is fitted in place. Six inches in length is sufficient for the scion, containing, say two good buds. Pare to a wedge shape, making the scarf an inch long and a little the thickest upon one side. Insert it with the thickest edge upon the outside, *taking care that the inner barks of both scion and stock coincide with each other* This is absolutely necessary to insure growth. Having placed a scion upon each side, withdraw the wedge, and cover with grafting clay, or a wax made of two parts resin, and one of beeswax, adding tallow enough to soften it, so that it can be worked in the hand. Coat the end of the limb so that no water can run between the scions. Cover the slits at the sides in like manner, to exclude air.

Hedge Plants.—Sow seed for, ff, m. Head back plants which are to grow another year in the nursery.

Inarching may be done, fm, on deciduous, and ll, on evergreen trees. (See illustrated article on page 184, Vol. XVI.

Insects.—Search for borers among apple and peach trees, ff. Destroy all cocoons in the branches, or under the rough bark of old trees.

Mulch newly planted trees, especially in dry weather.

Packing trees.—See page 117.

Peaches.—Plant, ff, m.

Pears.—Plant and graft, ff, m, l. (See chapter IV of "Orchard Culture," page 114.)

Planting and Transplanting generally.—Commence as early in the season as the ground can be worked. Other things being equal, early planted *deciduous* trees and shrubs usually do much better than those set out later in the season.

Plow old orchards and among nursery rows, ff, m.

Plums.—Plant, ff, m. Cut away any warty excrescences or "black knot" at the same time.

Prune very lightly this month—Read the illustrated article on page 116.

Quinces—Set out, ff, m, l, both for standards and as stocks to work the pear upon. Let these last be the *Angers* variety.

Scions must be cut at once, if not already secured. The buds are already swelling.

Shrubs—Plant deciduous, ff, m.

Stocks—Plant out as early as possible, that they get a good hold before dry weather comes on.

Vines—Plant, ff, m, both roots and cuttings.

KITCHEN AND FRUIT GARDEN.

April is a busy month for the gardener. Already he has commenced spading, trenching, and plowing his grounds, and by thy close of the month will be putting in many of the early vegetables. Better leave working the ground until it is sufficiently dry, especially if inclined to clay. A sandy soil is sometimes rendered more compact by spading or plowing, when too moist. A good coating of clay is, however more liable to compact, and a covering of sand or peat will be of great benefit to clayey soils. Except for early use, or marketing, we do not advise haste in planting. It is better to let the ground get warm, and in condition to push the plants into rapid growth as soon as they are consigned to it.

Asparagus—Remove the covering of old beds; manure and fork over, ff; sow seed and plant a new bed, m, l.

Bean Poles and Pea Brush are supposed to be in readiness for use. If not procure at once.

Beets—Sow, ll, for an early crop. For winter use, leave till next month.

Blackberries—Plant out, ff, m.

Borecole, Broccoli and Kale—Sow, ll.

Cabbage and Cauliflower—If it appears like settled, warm weather, plant from hot-beds and cold frames, ll; sow more seed at the same time. Avoid hog manure for them.

Capsicum—Sow, ll.

Carrots do best sown early—say, m, l. Let the ground be deeply worked and well manured.

Celery—Sow, ll.

Cold Frames—Give abundance of air, and remove the most hardy plants.

Plant a portion, m, ll, for early use. Save space for successive plantings.

Cucumbers, Melons and Squashes—Plant, ll, if on warm, dry soils,

Currants and Gooseberries—Plant cuttings and rooted bushes, f, m, or as soon as the ground is in working order. See page 117.

Drain moist lands, ff, m. An investment for tile-drains in a wet garden soil, will pay a better per centage than in Bank Stocks.

Egg Plants—Sow seed, ll. Leave plants in hot-beds till next month.

Fences—Make, or repair any needing it, ff.

Figs—Uncover, f, m, any which have received Winter protection.

Fruit Trees—Set out as early as the season will admit

Garlic—Sow, m, l.

Grafting—Perform on fruit trees, ff, m.

Grapes—Plant vines and cuttings, f, m. Uncover, ff, any protected vines.

Herbs—Set out hyssop, thyme, rue, sage, savory, &c., l, m.

Hops—Plant roots, f, m,

Hot Beds—Closely water them, now that the plants are of some size, and the sun warm. Raise, or remove the sash each day. Some of the plants may be put out, ll, using the hand-glasses, described and illustrated on page 117, for protection. New beds may be made and sown. ff.

Horse-Radisn—Divide and reset roots, ff, m. See article elsewhere.

Kohl Rabi—Sow, m, l, for early use.

Leeks—Sow, f, m, l.

Lettuce—Sow as soon as the ground can be worked, and follow at intervals of two weeks, till August. Plant from hot-beds, ll.

Manure grounds thoroughly, if you wish full returns for your labor. Well rotted manure is desirable for gardens.

Mushroom Beds—Make, f, m, l. See page 262, of vol. XVI, for full directions.

Mustard—Sow at any time after the ground is open, and at intervals for a succession.

Nasturtiums—Sow, m, l.

Okra—Sow, ll.

Onions—Sow, m, l, and put out sets or bulbs at the same time See article on page 108.

Parsley—Sow, f, m, l.

Parsneps—Sow, f, m, l, on trenches or deeply-worked soil.

Peas—Sow, f, m, l, for succession, scalding previously to destroy the insects' eggs. Stick when a few inches high.

Radishes—Sow at any time after frost is out of the ground, and at intervals of a few weeks throughout the season. Scatter among beet seed, over the asparagus bed, and among vines. Pulled early, they will not interfere with other plants.

Raspberries—Uncover buried canes, f, m, heading back and staking up at once. Make plantations at the same time. See article on page 117.

Rhubarb—Remove covering, ff, and fork around the roots, working in a good quantity of manure. Set roots and sow seed, f, m,. Early planting is very desirable.

Salsafy—Sow, m, l, as directed elsewhere.

Sage—Divide roots, and sow seed, f, m, l.

Seeds—Test the goodness, by trying a few before sowing your whole garden. A day or two is sufficient to prove them, if kept near the stove, on moist cotton. Set out turnips, beets, carrots, parsneps, onions, cabbages, cauliflowers, parsley, leeks, salsafy and kohl rabi for seed. Keep the different varieties of the same species at a distance from each other, to prevent mixing.

Spinach—Sow at any time after the frost is out, and at short intervals, till Midsummer, to have a continual supply.

Strawberries—If not already done, remove the covering from old beds, ff. Plant out new ones, m, l.

Tomatoes, both the common kind and the strawberry variety, or Winter cherries—Sow seed, f, m, l. Plant from hot-beds, ll.

Trench garden soils, or subsoil before planting.

Turnips—Sow strap leaf and other quick-growing varieties, f, m, for early crop. Rutabagas, except for early use, should not be sown until May or June.

FLOWER GARDEN AND LAWN.

There is much to do here at this season, especially where the directions of last month have not been attended to. Read them anew and attend first to the operations there pointed out. Except on very warm borders, sowing of annuals and other seeds may be left till the last of the month, or even until May, but it is important that transplanting of deciduous trees, shrubs and flower roots, be done early. They will give better satisfaction every way.

Annuals may very properly be sown, m, ll, especially such hardy ones as asters, balsams, candytuft, coreopsis, clarkia, coxcomb, eschscholtzia. hibiscus, larkspur, lavatera, marygold, mignonette, nasturtium, phlox, portulaca. scabious, &c.

Biennials, and Perennials—Transplant, f, m, dividing the roots to increase the supply. Sow seed, m, ll. Among these are carnations, pinks, daisies, chrysanthemums, lilies, sweet williams, yuccas, peonies, eolumbines, hollyhocks &c.

Borders—Prepare, ff, m, for sowing and planting. Dig deep and manure well.

Box and Grass Edgings—Set new and repair old, f, m, l Trim the old evenly.

Bulbs—Hyacinths, tulips, crown imperials &c., are now growing rapidly, and will be blooming, m, ll. Put the beds in order and erect screens over the choice ones to prolong the period of bloom

Dahlias and Gladiolas—Place in boxes, m, ll, for starting. Expose during mild days, taking in during cool weather.

Dielytra—Plant out, m, l.

Drain all wet grounds if a good garden soil is expected. They may be worked much earlier, and are warmer for it.

Evergreens—They may be planted, m, ll, but better during the early part of May. If other work will prevent planting, do it the latter part of this month rather than not at all.

Frames and Pits—Transplant from them, m, ll, if the weather is sufficiently settled.

Gravel—Renew the old and make new walks, f, m,

Hedges—Set deciduous hedge plants, ff, m. and evergreen, m, ll, or later.

Hot Beds—See that they are carefully attended to, as directed under Kitchen Garden.

Labels for marking the flowers, and stakes and dahlia poles should all be procured at once.

Lawn—Put everything in a neat, attractive order, raking and rolling the turf, sowing seed on bare spots, or resodding. Sow new grounds, f, m, the earlier the better.

Prune, ff. any vines or shrubs neglected last month.

Petunias and Verbenas—Sow seed, m, l, and set or bed rooted plants, ll.

Roses—Plant, ff, m. Tie up pillar and climbing varieties.

Shade Trees—Plant deciduous kinds, ff, m.

Shrubs—Plant, ff, m, the althea, flowering almond, azalea, chionanthus, flowering currant, deutzia, euonymous, holly, Japan quince, laburnum, lilac, philadelphus, rose acacia, snowberry, snowball, spiræa, tree pœony, weigelia, &c.

Vines and Climbers—Plant, ff, m, bignonia, clematis, honeysuckle, ivy, trumpet flower, virginian creeper, wistaria, &c.

GREEN HOUSE.

Fire heat may be mostly suspended this month. The house should be well ventilated, opening it on all mild clear days as soon as the sun is well up, and only closing at sun down. Many of the plants are intended for the open border in May, and should now be undergoing the hardening-off process. Plants which are now growing rapidly will throw up weak shoots without this airing.

Bedding Plants—Have a good supply in process of cultivation. The stock of verbenas, petunias, geraniums, daisies, pansies, &c., may still be increased by dividing the roots, laycring, and by cuttings. Gradually harden them for out-door culture.

Bulbs—Many are still in bloom, while a portion have shed their flowers. Keep the former in an airy part of the house, well watered, and plant the latter in the open border to dry off.

Callas—Water freely now that they are in bud and flower. Cleanse the leaves often and turn toward the light.

Camellias are mostly out of bloom. Syringe freely, and insert cuttings of the well ripened wood.

Cuttings—A large proportion of the plants may still be increased in number by cuttings. Select well ripened wood, and having inserted them thickly in prepared soil plunge the pots in the bark bed for a bottom heat. A bell or other glass placed over them will facilitate their rooting.

Grapes—Vines are in different stages of forwardness according to the heat of the house. Disbud, train up shoots and syringe freely, mixing a little sulpher in the water to prevent mildew.

Head back and pinch in plants with ill shaped heads.

Inarching—Oranges, lemons, limes &c., may now be inarched. (See full description and illustration of the process, page 184, Vol. XVI.

Insects—Watch carefully for and destroy as previously recommended.

Mildew—Dust plants and flues with flour of sulphur, where there is any appearance of mildew.

Pot off annuals sown last month.

Seeds—Sow annuals early, for planting in the borders. Vegetables may be forwarded by sowing in pots in the green-house and afterward transplanting to the kitchen garden.

Shifting—Continue to re-pot all those whose rapid growth indicate a want of more room. Give fresh earth to others.

Water more freely as plants are growing more rapidly.

HOT-HOUSE AND CONSERVATORY.

The directions of last month are mainly applicable to this, save, that less heat will be necessary. During the cold, windy days, and frosty nights, however, the furnaces will need careful watching. A chill at this season would be very disastrous.

The houses will need more air as the weather grows warmer, and the stock of plants increase in size and number.

Cuttings—Make and treat as in Green-House.

Flowers in Pots—Bring in from the Green-House for blooming.

Fuchsias—Water more freely as they approach the blooming season. Increase the stock by cuttings.

Grapes—Thin bunches of the early forcing; rub off superfluous shoots, and confine branches to wires. Use sulphur to prevent mildew.

Insects increase rapidly this month, if not kept in check. Fumes of tobacco, syringing and hand-picking are the destroying agents.

Pines are now setting fruit—Maintain a natural tropical atmosphere by evaporations, to produce dews at night.

Seeds—Sow the different varieties of hot-house plants, to keep up the stock.

Shiftings—A large number of plants will need more room at this season. Shift to larger pots, ff.

Syringe freely towards evening, both to dislodge insects and promote a humid atmosphere.

Water—An increased supply will be necessary, as the plants are now growing rapidly. See that the drainage is perfect

THE APIARY IN APRIL

BY M. QUINBY.

During this month and next, more can be effected towards destroying the moth-worm than in all the rest of the season. All outsiders are now frozen to death; only a few eggs and larva that have been kept alive by the warmth of the bees inside the hive, are left, and these now commence operations. The bees drag them out of the combs, and drop them on the floor, where they may be found during the cool mornings, and destroyed. Search thoroughly, as every one that escapes may generate hundreds, or perhaps thousands, before the end of the season. ....If any stocks are weak, it is important to ascertain which they are, that they may be particularly guarded against robbers. It is much better to guard against the beginning of evil than to cure it afterwards. Close the entrance, allowing only one bee to pass at once. Keep a look out on every real warm day for the robbers to commence. Do not mistake a few fighting outside for evidence of pillaging; it is often a good sign, and indicates courage for defence. Visit them after sundown on such days. Sometimes the bees around a weak hive show unusual activity at the time; these are robbers, and if let alone, will appropriate every particle of honey, while the owners seem to look on with the utmost indifference, and make no effort to save themselves from famine. To break up this habit, it is hardly worth while to resort to many of the common methods recommended, particularly the one of moving the hive to different places, unless the distance be at least a mile. The least trouble is, to confine the bees in some way that will admit sufficient air into the hive, and carry it to some dark room, until two or three warm days have passed, when it may be returned to its stand, and watched as before....Graduate the entrance of all the hives to accommodate the bees that are to pass. ....Take advantage of the first stormy day, to get hives and boxes in readiness; scald, and scrape clean the inside of old hives, and they will answer to use again. If any are to be painted, it should be at once attended to, that they may be thoroughly dry, and lose the rank smell of the paint....Put up a small box near the hive for the wren to nest in. This bird is a great help in catching the worms....Erect a fence to break the force of the prevailing winds.....Let the sun strike the hive in all moderate weather.

Hints on Farm work for April.

(The following, and the hints on the preceding page were prepared by two different Editors residing 400 miles apart. They run somewhat in the same channel.)

Let the fences all be repaired as soon as possible, if any of that work is left over from last month.

Get out the manures and composts for the Spring and Summer crops. In this, better fertilize half the ground *well* than go over the whole with only a scant supply.

If the meadows have not been already top dressed with manure for the season, they had better be postponed till after haying, as the raw portions of the dung will remain, and be in the way of the scythe, and mowing machine. Besides this, the soil will be badly cut up by the teams, and wagon, or cart wheels, doing it more hurt than the dung will do it good. Let the loose stones be also picked off the mowing lots, and carried off altogether. Putting them in heaps, large, or small, only gives a harbor for mice, moles, and other vermin intent on mischief.

Clean up the door and wood yards of their

Winter litter. Put the chips under cover, if you have any, and pile up all stray and loose lumber. Rake and pitch together the litter of the barn-yards where it can rot down in to muck or compost. "Slick up" generally, so that the whole premises may look tidy and comfortable.

This is the month to set out shade and fruit trees. Dig large holes—"not as big as your hat," but three, four, five, or six feet in diameter, so as to give ample space, and more too—for the roots, which the trees now have, but for the young fibres that will strike from them in the next year or two.

Put in the plows for the coming crops. Plow *deep* not while sluggards sleep only, but plow deep *always*. Recollect you have a most excellent farm right *below* the one you now occupy and only about six or eight inches under it, where the roots of your previous crops have seldom penetrated. Only work into this *new* farm thoroughly, say three to six inches, and let it see daylight by throwing its fresh soil up to the sun, and the effects, after the first year or two will surprise you. Don't mind the "hard plowing." Put on an extra team or two; or if you have not that extra team of your own, change works with a neighbor, and you will be well compensated in the crops—next year, if not this. Don't be afraid of that "nasty yaller clay," or that "leachy gravel," or "poor, sandy stuff," if it does come up. If not quite as good the first year, it will be the second, and soon you will have a deep rich soil a foot deep where you only had from two to six inches before. When well plowed, and the surface dry, put on the harrow, the teeth sharp, and thick, and tear it up as finely as possible for the young seeds.

Plant early potatoes as soon as the ground is warm enough. Let the peas, barley, Spring wheat, and oats be in as soon as possible. One day of early Spring growth is worth a week of June or July in giving a thrifty stalk and well filled head.

Fix the ground for corn, and beans, the latter part of the month, and let it lie up to the sun to thoroughly warm, so as to be ready to plant in good season—the *right* time to plant you know better than we do, as we are ignorant of the exact place you live. Corn ought to come up quickly, and then grow right on, without stopping a day till it ripens. Stunted corn, be it either by cold in the ground after planting, or frost, or drouth after it comes up, never gets forward like that which has no pull-backs. And in a corn country like ours, where we rely largely on that crop to make our meats, as well as to sell, and eat, it should receive the very best part of our attention.

If the apple, and other orchard trees have not been pruned all they need—and which is not much, if they have been attended to as they ought to have been years before—take off the useless sprouts and limbs of the last year's growth. Cut out the broken branches, if there be any; put crutches under and straighten up the leaning trees; throw the head into shape, and let them go on rejoicing in the protection of a good master who appreciates their value.

Get the tools all into order, and keep them so. When the field is plowed bring the plow in, and put it under cover; so with the harrow, and other tools. Have a place for them, and let them be in their place, so you can put your hand upon them in the dark. The same with shovels, hoes, axes—indeed everything you work with on the farm, as sleds, wagons, carts, inclusive.

The cows are now bringing their calves. We have already told you how to manage them, as well as the sheep with their lambs. Look back to our March number, page 68, for the latter.

Young colts usually drop in this month, and May. Look well to the mares about this time. Don't work them hard for a few days before, and after dropping the foal. A *sweated* mare is more injured in the way of her milk for the young foal than is almost anything else. She may work constantly after the colt is a week old, but the work must be uniform, and not hurried. Her blood must be kept equable, and her feed generous. Chopped hay, or straw with meal of some kind is the best, being easy of digestion, and producing plenty of milk.

Let the cows be still stabled every night until the weather is warm enough for lying out. Cows are just as liable to catch cold by exposure as *folks* are, and as their coats are now coming off they are thinner haired than usual, for a month or more.

In short, look well to everything about the place. "Whatsoever your eye sees, or your hands find to do, do it with all your might, and in good time." "Eternal vigilance is the price of"—success in anything, except a windfall of good fortune; but as we "common folks" have no especial expectations in that line we must trust to our own stout hands and willing minds for the achievement of what good fortune is to attend us in life, and as "April fool's" day is now past, we hope the balance of the month is going to be appropriated to the getting of wisdom, and understanding, as well as the getting in of our future crops, on which our success for the whole year is to rely. April is, perhaps, the most important month in the whole season.

Sow Clover Seed Now.

We have found no more successful mode of sowing clover, or clover and timothy upon winter grain fields, than to choose a still morning, when the ground is a little frozen, and scatter the seed broadcast. It falls in the open frost-cracks, and when thawing takes place, is beautifully and uniformly covered near the surface, and is almost sure to germinate. A good crop of clover, thus sowed, acts partly as a mulch to the grain roots, yields a supply of Fall feed, and is most admirable to be turned under when "knee high" the next year, as one of the best manures that can be applied to any soil.

Early Plants—A First-rate Way to Start Them.

A very convenient method of starting early corn, sugar-cane, cabbage, tomatoes, cucumbers, and indeed almost any kind of plants, is the following:—Take an under sod (not too grassy,) or tenaceous muck and cut into cubes, say two inches each way. Insert one or more seeds in the center of each, and then pack the pieces closely together and firmly down upon a box of earth, to be kept moderately moist. This box can be set in the cellar on frosty days and nights, and be carried out into the sun at other times. When the seeds are up and transplanting out is admissible, take up the cubes and transplant them to the open ground. This can be done without disturbing the roots, or scarcely retarding the growth of the young plants.

Seeds of cucumbers, melons, tomatoes, &c., are sometimes planted in soil placed in old or cheap baskets, with rather open work. These are hung up out of the way of frost, being exposed to the sun during the day. At the proper time these baskets are simply imbedded in the hill even with the surface, and left there. The roots will find their way out into the soil through the open-work of the sides. A few hills thus started, with little trouble, will often produce a crop some weeks in advance of those sown at first in the open ground.

Seed Potatoes for New York Market.

To the Editor of the American Agriculturist.

As the time approaches for farmers to make selection of potatoes for planting, it is important that they should be acquainted with the kinds which will pay best, taking yield and market value into consideration. There is but one true standard for the value of a potato, viz., one that will yield a fair crop, be clear as possible from rot under ordinary circumstances, and command the highest price in market. The value put upon his potatoes by purchasers and consumers is of vastly more service to the farmer than the opinion of those having fancy varieties to dispose of. As a general rule it is better to raise those kinds for which there is already a market, rather than create a market for new varieties.

The great requirements of the New-York market which in ordinary times consumes or disposes of about 8000 *bushels per day*, are a large sized, smooth, white fleshed potatoes that will cook dry, mealy and white. The color of the skin is not of much consequence although a white or light colored one will generally command the highest price. The usual test is boiling, to serve up whole. In the mercer variety of potato the whiter the skin with the least purple color inside the better. Those raised on sandy soil will command a higher price than those from heavy or clayey loam, as they uniformly cook better. In shape, long or oval varieties are more saleable than round ones, other things being equal.

In preparing for market, too much care cannot be taken to sort out all the small ones, so as to make them a uniform size. The customary mode of selling potatoes in New-York, is by the barrel, taking an ordinary flat-hooped flour barrel holding two bushels and three pecks, for a model. The kinds coming to this market and those which are well known, with their *relative* value—taking good sized light colored mercers at $3 per barrel as a standard—are given below. Farmers should bear in mind in selecting seed that the cost of transportation and handling, is no more on potatoes worth $3 to $4 per barrel, than on those worth only $1,25 to $2, and the cost of raising is but little more.

Elgie, a small yellow-fleshed potato is the earliest variety. It was formerly much raised by the Long Islanders, but now nearly superseded by the

Dykeman, which is generally considered the best early variety. It is also known under the name of the Excelsior, is a good yielder, growing large, sound, and smooth, the skin slightly mottled with purple, and having a mottled eye, with white flesh. It wholesales readily at $2,50 per barrel. The Long Island and New-Jersey farmers raise them largely for an early crop.

Mountain or Early June.—A large sized, round, white-skinned and white-fleshed variety, resembling the Dykeman in all except the color of the skin and eye. It takes about a week longer to ripen, and sells generally at 25 to 50 cents per barrel less.

Mercer.—One of the old favorites, but which has been failing of late years. Those raised on Long Island and New-Jersey, from the whiteness of their skin and flesh, together with their smoothness, usually command and advance over those brought from other sections. They are the standard potatoes of this market, and, under favorable circumstances answer very well for a general crop.

Carter or Biscuit.—A roundish potato, with deep eyes, white skin and flesh, and with scarcely an exception, the best cooking potato we have; but, like all the fine old varieties, they are liable to the disease. They yield about two-thirds as much as mercers, but when raised on light soil will sell for more money, being worth $3,50 per barrel. They are liable to be mixed with Junes, very much impairing their value.

Kidneys.—The old fashioned Fox-eyed Kidney is a good potato, and one that sells well, but a poor yielder; has given way to the Long and Blue Pink.

The Long Pink is a long, white-skinned and white-fleshed potato with a pink eye—a good yielder, and a first rate potato. It sells at $3 to $3,25 per barrel. The Blue Pinks are a roundish, blue-skinned potato, with white flesh. They are good yielders and keep well—sell at $3 per barrel.

Peach Blow.—A good sized, white-fleshed potato, the skin parti-colored of red and white, one end being red, the other white. It is a first-rate potato, yields more than Mercers, keeps well, and on sandy loam, is free from disease, and is one of the very best new varieties, cooking dry, white, and mealy; worth $3,50 per barrel.

Prince Albert—A long kidney-shape, white-skin, and white-fleshed variety, free from disease, keeps well, fair yielder, but a poor potato to cook, boiling wet and soggy. This is a fancy sort little known as a market potato; its freedom from disease being its greatest merit. [We esteem it very highly.—Ed.]

Yellow Pink Eye and English White are round, white-skinned, yellow-fleshed potatoes, differing only in the color of the eye, which is pink in the one and white in the other. They are common varieties, but are in good repute as shipping potatoes as they stand a sea voyage better than any other kind. They yield much more than Mercers, and are mostly free from disease—worth about $2 per barrel.

Western Red.—The name given to all the round, red-skinned yellow-fleshed potatoes coming to this market. They are common, and are used mostly for mashing by the hotels. They are the kinds sent South for seed which were returned here in the Spring as "Bermuda potatoes"—the change of soil and climate making a great difference in the quality. The Reds are good yielders, and on dry soil generally escape the rot—worth $1,62 to $1,75 per barrel

Merinoes are old varieties and worthless in this market. They are replaced by the

Californias which are no better, being a coarse, rank potato, and not saleable in a well stocked market—worth $1, 25 per barrel.

Black Mercer.—A long, smooth, purple-skinned, white-fleshed variety—in shape long and flat, They are a good Spring potato, but unless planted on dry sandy loam are liable to rot. They are large yielders, and make a good solid, late Spring potato. Worth $2,50 per barrel.

Purple Mercer.—A variety not saleable on account of cooking black. They are a dry, mealy sort, mostly free from the dry rot—worth $1,50 per barrel.

White Mercers are large, long, white-skinned and white-fleshed potatoes, good yielders and good Spring potatoes—worth $2 75 per barrel.

Scotch Greys.—Round, blue-skinned, white-fleshed, slightly marked with purple. They are first-rate potatoes, cooking dry and yielding about the same as Mercers—worth $2 50 per barrel.

Michigan Whites, are long, white-skinned and white-fleshed, yielding well, but poor table potatoes, as they cook wet—worth $2 25 per barrel.

Rock Whites, or Rock Kidneys, are a medium white-fleshed potato, growing large and round. They yield well and are in good demand as a shipping potato—worth $2 25 per barrel.

There are several other varities, both of the fancy and common sorts, but of little value as market potatoes. Among these are the Mammoth Nutmegs, Early Sovereigns, Lady Fingers, Cowhorns, Cups, &c. B. Stephens.

New-York, March 1, 1858.

1 2 3

Fig. 1. *Improved Yellow Flat Onion*—(No. 53).
Fig. 2. *Improved Brown Globe Onion*—(No. 54).
Fig. 3. *Improved White Globe Onion*—(No. 55)

Onions, Peas, Carrots, &c.

Our Foreign Correspondents are from time to time forwarding such choice seeds as appear there. We recently received from them *eighteen* parcels, with which came some specimens of the three varieties of onions represented above. These are (March 22) still "sound as a bell," and we think they are worthy of a trial here. Accompanying them were parcels of seed which we shall offer in premiums, as noticed on a subsequent page. The White Globe Onion, fig. 3, is of the *form* most desirable. The Brown Globe, fig. 2, is nearly perfect, while the Yellow Flat, fig. 1, is an improvement upon the old flat varieties. If these flourish well here, as we think they will, they will be an acquisition.

Peas.—We have, also, five new varieties of Peas not yet introduced here, which come highly commended. They are thus described to us:

Mrs. O'Rourke (No. 56).—A new, early, dwarf, branching, blue Marrow Pea; hight 2½ feet.

Eugenie (No. 57).—The earliest white wrinkled Marrow Pea in cultivation, podding from the bottom of the haulm to the top, with fine, large pods.

Napoleon (No. 58)—The earliest blue wrinkled Marrow Pea in cultivation, podding from the bottom of the haulm to the top, with fine large pods.

The above two Peas were originally saved from one pod Mr. Harrison, the raiser, describes them as follows:—"Relative to my new Peas, the Wrinkled Blue and Wrinkled White, I beg to say that they are very superior to those I sold last year (meaning Climax and Alliance); they are stronger in habit, much truer and better filled in the pod—on an average two more Peas—also, better croppers; my average growth this year was nearly ten quarters per acre. The above range from 2½ to 4 feet.

King of Marrows (No. 59).—Undescribed, but commended

Blue Sickle Pea (No. 60).—Undescribed, but commended.

The other seeds are: 61, Waite's Bedfordshire Prize Cucumber—very long, slim, and much esteemed, growing freely in the open ground; 62, Waite's White Cos Lettuce; 63, London Particular Long Scarlet Radish; 64, Extra Red Round Turnip Radish; 65, Waite's Large Cabbage Savoy; 66, extra London Curled Parsley; 67, Intermediate Carrot, very fine flavor; 68, Purple-top Scotch or Bullock Turnip; 69, Green-top do.; 70, Waite's London Purple-top Swede Turnip.

Nos. 56, 57, 58, 59, 60, 61, 62 and 63 will all reproduce their seed the first year. We shall wait the result of this year's trial, and add to our next Annual Seed Distribution as many of the above varieties as prove valuable, particularly of Nos. 53, 54, 55, 64, 65, 66, 67, 68, 69 and 70, since these cannot be multiplied here this year. We hope that those obtaining these seeds in accordance with our proposition, will take particular note of them and let us know the results.

Culture of the Field Seeds Distributed.

The directions for Garden and Flower seeds are given on page 118.

White Sugar Beets, (1).—This and all other varieties of beets require a *deep,* rich soil. The seed may be sown as soon as the ground will work well, though the middle or latter part of May will do quite as well for this variety, when designed for Winter keeping. Put in rows about 2 feet apart and the seeds about 5 inches apart, to be thinned out alternately to 10 inches, if all the plants grow. Cover about ½ to 1 inch deep. A little bone dust (unburned), worked deeply in the soil below the drills, has a marked effect. This variety is mainly adapted to feeding, except where sugar is made from it, though they are frequently cooked for the table during Winter.

King Philip Corn (2)—This variety grows small but rapidly, maturing in 85 to 95 days under favorable circumstances. It is admirably adapted for short seasons, and for late planting, as, for example, when the larger varieties have been killed out from any cause. Cultivate like other varieties, only that the hills may be considerably nearer together, as the stalks are small and low, and do not shade the ground so much as the larger kinds. It ears well, and by closer planting will produce as much per acre as most of the other kinds—and even more of sound, *heavy* corn than many others.

Stowell's Sweet Corn (3).—Plant at the ordinary distance of field corn, and quite as early. It is a slow grower and ripens late. In addition to its good quality, and large ears and kernels, it is so slow in maturing as to give a fine succession of excellent green corn, and it has been erroneously called "Evergreen Corn." Owing to its hybridization with other varieties, and late ripening, it is often difficult to secure a supply of good, pure seed, in Northern localities. If planted by itself on a warm soil, the seed will mature well.

White Poland Oats (4).—This differs mainly from other varieties in its large kernel and great weight (38 to 42 pounds to the bushel). Sow in good soil as early as the ground will admit. If it is desired to make the most of the seed, put in drills, 8 or 10 inches asunder, the seeds 2 or 3 inches apart, and hoe once or twice.

Chinese Sugar Cane (5)—By all we can gather from last years' experience, we would say that this is very like Indian corn as respects soil, manuring and cultivating; but plant as soon as the soil is dry and warm; cover very lightly. We prefer drills, running north and south, 3½ to 4 feet apart, the seeds pretty thick, to be thinned out to 6 or 8 inches when well started. On a large scale it is perhaps better to put in hills, like corn, to admit of plowing or cultivating both ways. It comes up like grass or oats, and grows slowly at first, but pushes ahead rapidly in July and August. To be sure of ripening seed north of 40° it is well to start a quantity of seed in a box, and transplant when the weather and soil will admit. A convenient mode for this and other plants is described under the head of "How to Start Early Plants."

Ashcroft's Sweedish Turnips (6).

River's Sweedish Stubble Turnip (7).—Both of these are late varieties and may be sown as late as July, or nearly a month later than the common ruta-bagas. They may follow very early potatoes, cabbages or peas. We should advise planting generally after the middle of June. See notes of our experiments with them, on page 292, vo XVI.

Notes on Illinois Farming....III.

To the Editor of the American Agriculturist.

In speaking of Western farming, allusion has been had in general terms to the mode of opening a prairie farm, and in my second communication to fences. My next letter, as yet unpublished, [not received, Ed.] gave a short account of houses. Outbuildings need but a small space as they are in vogue with old "sucker" farmers, or but to small extent. A hastily constructed log stable, with a door about four feet high, rendering the animals' ingress and egress a very dangerous affair, open all around between the logs, half full of manure, and illy provided with racks or feeding boxes, is, in a majority of cases, all the outbuildings for animals, or rather horses, that can be found. Oxen, cows, calves, and sheep, also hogs, generally shelter themselves where they can, under the lee side of hay or straw stacks. Where an immigration of Yankees, Pennsylvanians, or Eastern farmers is found, better provision for sheltering stock is made. In many portions of the State, however, some steps are being taken towards improvement in outbuildings, &c. The Agricultural papers are doing much towards regenerating the the old habits of carelessness and and inattention to the wants and comforts of domestic animals; but great room for improvement still exists.

I will merely mention roads, and say that they are never attended to when it can be avoided, and good roads are scarce. The prairies when dry, make good roads without attention, and when wet, *very* bad ones. The story of the man who did not cover his house in wet weather because he could not work in the rain, and in dry weather, because it did not need it, applies here. Nothing, in my opinion, evinces a better mark of a flourishing agricultural community, than good roads, and fences.

The great staples of Illinois are wheat, corn, hogs and cattle.

Illinois raises enough grain to feed the United States, but is not very well paid for raising it. Wheat is raised on new land broken in May and June, and upon old land. The sod crop of this grain is generally considered the best, yielding from 20 to 30 bushels, sometimes more. I presume the average yield of Winter wheat in this State to be 15 bushels. If proper attention were paid to the culture of wheat, it would, in my in my opinion, yield much larger crops.

Spring wheat usually does well, and there has been some crops of 40 bushels to the acre, in this country the past season. Wheat is sown in such a careless manner, as a general thing, that the wonder is how any crop is made to pay. Some reap more cheat than wheat, and you can find thousands of sucker farmers who will positively assert that wheat turns to cheat. What a pity they can so *cheat* themselves. More grain is sown broadcast than by drill, but in five years it will be otherwise.

In connection with this subject I would remark that drills are sold too high to come into immediate general use, and this is a fault with almost every new and usefnl agricultural machine. Broadcast wheat is covered with the harrow or plow, as the owner may fancy; that sowed among standing corn being put in by the cultivator or with double shovel plows.

Pennock's drill seems to be the one most generally liked, though various others are used; my own crop was put in by one of Pennock's seven tired drills, which I like much, but can add an improvement to prevent clogging by rubbish. To use the drills effectually, stubble, weeds, &c., must be buried out of sight; this is not in accordance with Western farming, a few inches being deemed sufficient. Broadcast wheat this year looks as well as drilled wheat, so far; what Winter may do yet in his dying struggles remains to be seen, *and feared.* When I harvest my crop you shall have an account of it. It is my intention to roll my wheat in the Spring when the frost has gone. Wheat is generally cut by machines and thrashed by machines. Of this we must wait until another leisure moment gives time to write.

H. H.

Prairie Cottage, Christian Co.,
Ill., Feb. 9th., 1858.

Notes on Farming in S. E. Tennessee.

We recently received a visit from a subscriber in Marion Co., Tenn., Mr. A. Newberry, from whom we gleaned some interesting statements respecting a section of the county little known. Mr. N. came from England about eight years since, and three years ago purchased a tract of land in Marion County of 1,500 acres, paying therefor only *twelve hundred* dollars, though almost 50 acres were cleared up, and a thrifty orchard of 150 apple trees was planted—the majority of them the Limber Twig variety, which flourishes well there, and is much esteemed as a market fruit on account of its excellent keeping qualities. Marion County lies on the north side of the Tennessee river, in a valley between two spurs of the Cumberland mountains. Mr. N's farm lies on the top of "Walden's Ridge," from 2000 to 3000 feet above the bed of the Tennessee river, from which he is some nine miles distant. This elevated position gives a climate, in many respects, like that of New-York, though less cold in Winter, and less warm in Summer. A blanket covering is always needed in Summer nights, while sheep graze in the fields nearly all the Winter.

Throughout this section the hills or mountain spurs are not sharp and rugged, but so gently undulating as to furnish tillable fields upon their sides. The original trees are of tall growth, somewhat scattered, without much under-brush, except near beds of streams where there is an undergrowth of huckle-berries, "sour wood," (*nysser?*) black gum, &c. The soil ranges from sandy to rich sandy loam, with frequent clay sub-soils.

In the more open woodlands, the trees are often deadened by girdling, the soil "scratched" over with a bull-tongue plow, and corn or turnips planted from which a good crop is produced the first season. A wood lot of ten acres girdled in the Winter and planted with corn in the Spring, gave 300 bushels of shell corn.

Through the *Agriculturist's* Annual Distribution he received last year, some of Stowell & Darling's sweet corn, both of which grew very finely, and gave great satisfaction. *The Darling variety furnished corn for the table in eight weeks from planting*, and every stalk produced three well developed ears. This, with Stowell's, he thinks, will give them everything that could be desired in sweet corn, both for quality and a succession.

Mr. Newburry brought from England the attatchment to root culture there prevalent, and he finds turnips one of the best paying crops in his new location. He adopts the English method of leaving the roots in the ground to be fed off by sheep during Winter, which is a feasible mode in the milder climate of Tennessee. Potatoes grow particularly fine on these new lands, made rich by the deposits of leaf mold for centuries past. Last Summer he took out thirty barrels of seed potatoes from New-York, including Junes, Mercers, and Western Red, all of which did well, but he prefers the "Western Reds" on account of their later ripening, and therefor better adaptation to keeping.

Grasses of various kinds grow well, especially Timothy, Herds-grass, and the "Amsterdam blue-grass" which takes well on poor soil. The abundance of natural grasses makes this region well adapted to stock-raising. Several young men have gone there with from $1000 to $2000, which they have invested in live stock to be grazed for Southern markets, to which there is now easy access by the railroads, and have greatly bettered themselves by so doing.

We are somewhat surprised at the statements of Mr. Newberry, that even with the present market facilities, there is a large amount of land of fair quality which can still be purchased at prices ranging from 75 cents to $2 per acre. The great present want is good society. The scattered original settlers need an infusion of civilization. A colony of enterprising men with their families settling at any point in those regions would not only find farming profitable, but exert a benign influence upon a large circle around.

Reapers and Mowers. &c.....III.

FIELD TRIAL OF IMPLEMENTS BY THE UNITED STATES AGRICULTURAL SOCIETY, JULY, 1857

To the Editor of the American Agriculturist.

Since my last, I have read the articles in the *Rural New-Yorker* by Mr. Soper, showing the great injustice done to the Ketchum Machine in the Report of the Syracuse Trial; I have also seen Mr. Burrall's and Mr. Allen's respective Protests in regard to their machines. Such blunders—such errors—such omissions—such reasoning and such injustice do these gentlemen point out as abounding on nearly every page of the Syracuse Harvester Trial Report as to even surprize me, familiar as I supposed myself with the subject; and yet I presume there are several others among those who competed, that, if disposed, might add largely to this catalogue of delinquences, if they have not concluded, by this time, that the whole thing is pretty essentially *used up.* For my own part I can only say, in farmer parlance, that these gentlemen, in their severe though just protests, have cut me completely out of my *swarth,* and left little more to say. Trials of this kind hereafter will be a *by-word* and *reproach;* and the medals which the Society have awarded *can only be exhibited by their winners with disgrace.* Had I been so *unfortunate* as to have obtained one, the very first thing I should do would be to *melt* it down and then dispose of it as so much gross *bullion.*

But, to give the public an idea of the injustice these gentlemen complain of, I will quote one or two of the charges from each. Mr. Burrall states, among many other things:

"I entered two machines of entirely different construction. One as a Reaper only, for which I paid an entrance fee of $50. This machine had previously, at the New-York State Trial at Geneva, in 1852, been thoroughly tested in competition with McCormick's, Manny's, Seymour & Morgan's, Atkins' and others, and received the first premium, and has often since competed successfully with those and various others. It was on the ground from the beginning to the end of the trial, and until I was informed by Mr. Holmes that nothing further was required of it. The Committee were furnished, at their request, with a printed description of it, setting forth its distinctive features and claims o merit. It was examined, weighed and priced; was worked in three several fields, its draft tested on stubble and at work, and yet not a word in reference to all this appears in your book. [Meaning the Report of the Syracuse Trial,] I felt this omission deeply, inasmuch as from its former successes, and established claim to excellence, I deemed its

character a 'fixed fact.' I was prepared for a fair trial, but not to be thus silently but forcibly thrown aside."

What Mr. B. adds in regard to the favoritism shown the "Kirby" and "Wood Manny" machines is doubtless correct. The latter won the Second Prize by mere trick and favoritism; while the "Ball, Aultman & Co." machine won the First Prize through the *ignorance of practical and theoretical mechanics* of the Judges.

Mr. B. proposes that the United States Agricultural Society should return him his entrance fee of $50 for his unnoticed Reaper, or grant him a new trial. As to the first proposition I can assure him he will never see the first red cent of his money again; and as for the second, they would probably do him a greater injustice than before, which would only be adding *insult* to *injury*.

I learn that Mr. Allen entered a combined Mowing and Reaping Machine, for which he paid an entrance fee of $50. It worked on the first day's trial, but on the second day it was overlooked by the Judges and not called, although it drew its lot and was waiting all day in the field with its team and driver. Mr. Burrall will see from this that he does not stand alone in forgetfulness; for I do not find any notice in the Report of Mr. Allen's combined machine. I presume the entrance fee is kept all the same, however, as if it were ever so elaborately reported.

H. L.

Syracuse, N. Y., March 17, 1858.

[Owing to the crowded state of our columns by the unusually large amount of advertisements of this season, we were obliged to divide the letter of H. L., leaving the larger portion of it over for future publication.—Ed.]

Meadow, or Mowing Lands.

Now that Mowing Machines are so rapidly coming into use, those farmers who work them are compelled to bring their meadows in a better *surface* condition than when the scythe only was used; as, on a *good bottom* depends greatly the success, or the want of it, of the machine. Some mowing lands are frosty, as it is termed; that is, a heaving up, by the winter frost, of the spongy soil which overlies the hard pan beneath; and when the frost is wholly out of the ground, it settles unevenly, or hummocky, and requires the aid of a heavy roller to crush it back to an equal surface. Other lands have more or less small surface stone which are thrown upwards by the frost, and when the ground settles they remain there in the way of either scythe or machine. Others, again, have been top-dressed during the previous autumn, and the coarser parts of the manure lie loose on the surface, and will not sufficiently decompose before the hay harvest. All these require the roller, as soon as the frost leaves the ground in the Spring, and a heavy roller, too, to bring all the hummocky turfs, and small stones, down to an even surface.

The meadows should be gone thoroughly over, too, to cut and take out all rooty grubs or bushes that may have sprung up since the last haying. Where roots are left in the ground, they frequently send up thrifty shoots late in the season, which, if left uncut, will be sure to break or cripple the machine in passing over them. All these shoots, and the grubs from which they spring, are best taken out by the roots, at once, by the grubbing hoe, or ax.

It is now a good time, also, to examine and see whether any bare spots are in the meadows; and if so, sow them with the proper grass seeds, raking them thoroughly in with a sharp iron-tooth rake; or if the barren spots are large, with a sharp-toothed harrow. Let the meadow be covered with grass in every part: all low places drained off, that the young grass be not drowned, or foul stuff come in, and this should be among the first labors of the opening season.

A Double Beech Tree.

Mr. Editor: I have on my farm, standing in a thick wood, a Beech tree which I think quite a curiosity. Above I give a correct pencil sketch of it. As you will see, it is a tree with two trunks, each upon separate roots. The roots stand about 10 feet apart, and the full hight of the tree is about 20 feet. The strait body is about 3 inches in diameter, and the leaning one, 3½. Can you tell how such a tree was ever produced. It is evident that it must have sprung from two separate nuts or seeds, but the junction is so smooth, regular, and free from knots, that one can hardly believe that they could have been thrust together by accident. Yet I am confident that man had no hand in joining them.

D. L. Adair.

Hawesville, Ky., Feb. 13th., 1858.

Whence comes the Cut Worm?

To the Editor of the American Agriculturist:

I will answer the query of your Connecticut subscriber in the January *Agriculturist* by saying that the Cut Worm comes from an egg laid by an ash colored miller, moth or butterfly, whichever you please to call it. This miller is about an inch in length with wings expanding from one-and-a half to two inches, and legs about five-eights of an inch long. The whole appearance of the insect is much like a magnified musquito without his proboscis.

The eggs are deposited to the amount of six or eight each, in a velvet cone among the grass roots close to the ground, where they are not affected by frosts or wet. The warm breezes of Spring hatch them, and they at once commence their destructive work, rapidly increasing in size. They attain their full size about the end of May and then undergo a change, leaving their worm dress standing perpendicular in the earth with a hole in the top, whence the butterfly has escaped, and is now flying about a harmless insect, except depositing its eggs for a future progeny.

Now, to the direct question why "subscriber's" crop was so injured where the land was plowed the second time. Early plowing turns the eggs down beyond the influence of the sun, and the action of early frosts upon fresh plowed grounds has a tendency to close all openings between the furrows. The harrowing spoken of by your correspondent performed the same office. In this situation many of the eggs were not hatched at all, and others were so late as to do little damage. On the part that was plowed the second time, the eggs were turned up to the influence of light and heat, and a large proportion of them hatched, to the great injury of "subscriber"

Wm. Shinn, Jr.

Sidney, Shelby Co., O.

The Huckleberry.

Yes, *huck*leberrics. We have always called them so; and so every body else calls them; although, in the books they are *spelled whort*-leberry. But, never mind the name, every-one knows what they are—the most delicious, palatable, healthful fruit of the season. And in such varieties too, from the little black and blue things, not biger than a garden currant, up to the great, plump, glistening, jet black, and delightfully bloomed blue globules, nearly as large as a common pie-cherry! They were the first wild fruit we ever picked. Sweet-ferns, and huckleberries covered the rocky pastures in the neighborhood of our birth-place, and the woods, hill-sides, and mountain tops were full of them; and the higher the land, the more rocky and worthless it was for any kind of pasturage, the better were the huckleberries. Cultivated, we never yet saw them. Indeed, we doubt whether they can be cultivated to advantage, either in profit or improvement in size or flavor, although we hear of attempts being made. We have had no opportunity for a trial, having no garden land poor enough for them. We are not sure, however, but we may try it, and see how they will work. Were we a young man, and had cash enough, we might buy a mountain, or part of one for the express purpose of growing huckleberries as a source of profit: for we have no doubt there are thousands of acres of land, which, in its natural condition is more profitably adapted to the growth of huckleberries than it could be, with the expense of drainage and taking the stone from its surface added, to any other agricultural purpose.

Poor land—that is to say, thin land—cold, frosty, spongy, heavy, sandy loam, rocky, and cobble stony, bears the best berries we ever saw They come into our city in their season, from the poor hills and plains of Jersey and Long-Island, from up the North-river, along on the mountain sides, and back in the country—all about, in fact—giving employment and revenue to thousands of girls, boys, and poor people who probably give little, or nothing for the privilege of picking them. We should really like to see the huckleberry statistics of New-York, for a single year, as a matter of curiosity, and know what a sum of money is paid out for this innocent luxury to its consumers, and how many people to whom, while picking them, could do little else to earn an honest shilling, they are a source of support and profit.

We would like also to learn from some of the owners of huckleberry lands whether they derive any actual profit from the fruit itself, other than what is incidental to the gathering and marketing of the fruit. That is, whether they can sell the crops on the land to the pickers, and what it is worth per acre. When New-York gets to be as populous as London, the consumption of huckleberries will be enormous, compared to what it is now, even, and it may be that on hill, and mountain, and plain, lands yielding them may be like the Highlands of Scotland, now annually let out in districts for deer-stalking, grouse-shooting, and other items of country sports, may be better set apart for huckleberry growing than anything else.

We know wide patches of land which give a more profitable annual yield in blackberries and elderberries, than for any cultivated family crops, and can readily believe that large tracts, almost worthless for any other purpose, may be profitably devoted to huckleberries.

Agricultural Humbug at Washington..III.

WHAT IS TO BE DONE.

That something should be done to bring our Government Department of Agriculture into a respectable position, or abolish it altogether, seems to be the opinion of a large majority of the intelligent farmers of the country. Since starting the subject afresh, in our February number, we have continued to hear responses from all parts of the country.

At the last meeting of the Massachusetts Horticultural Society—a full one—the subject was freely discussed, and as the sense of that society, a committee of five was appointed to memorialize Congress to stop the abuses in the Agricultural Department of the Patent Office, especially the importation of old, worthless trash in the shape of seeds, disseminated all over the country as varieties of the most approved descriptions.

The same subject will come before the next meeting of the Pennsylvania Horticultural Society.

Various propositions have been offered. Several intelligent gentlemen suggest that the most effectual and immediate remedy is to petition Congress to entirely withhold the Agricultural Appropriation. In this we should heartily concur, did we despair of improvement in the present mode of conducting the agricultural operations of the Patent Office, for we are well convinced, as are the mass of farmers, that the $75,000 appropriated professedly to benefit agriculture is worse than wasted. It is a sugar plum held out to "pacify" farmers and keep them from rising up in their might to demand that the leading industrial pursuit of our country should receive a degree of attention commensurate with its importance. The pittance (of only one dollar in every thousand expended by our Government) devoted to fostering and improving that occupation upon which the prosperity of our country mainly depends, is bad enough, but when that small sum is misapplied, in part to the employment of ignorant, inefficient clerks and payment of their pleasure tours to Europe, and in part to buying up old, impure and worthless seeds—cast off by European dealers and of no account here, except to lumber up the mails and occupy the time of farmers in experiments, all through a season, to find out that they have been gulled—we say, when this is the case, it is high time the whole thing was wiped out, to make way far something better, if no change can be effected in the present mode of operations.

Potatoes—What made them Rot?

Here is one example like thousands of others. Last Spring a friend of ours planted on his farm at Flatbush, L. I., six varieties of potatoes, all the same day, on the same soil, and manured and treated every way alike. The varieties were Mercers, Carters, Pinkeyes, Dykemans, a new variety from Claverack, N. Y., and another from Ireland. Of these, the Mercers, Pinkeyes and Dykemans all rotted, while the other three were not affected. The experiment was on a large scale, and the seed of some varieties was obtained from several distinct localities. Now what made these three varieties alone rot. In other similar experiments the rot has been found in the varieties not affected in this instance.

We are constantly asked how we explain the "potato rot." *Ans.*—We can not explain it at all.

An animal in high order in December, may be considered as half Wintered

Farm Buildings.

NUMBER II.

Having surmounted necessity, as a beginner on a new farm—"beginning poor and low, and growing great and high," as Parker said of Daniel Webster—we now pass into the second series of dwelling, (see next page) extended from its original, on the same plan of the cottage given in our last number, (page 73) only of larger dimensions, into a respectable and commodious farm house, for a proprietor of one, two, or three hundred acres. The original of this, in its cottage size was 26x18 feet, with a lean-to 14 ft. wide, and an extension, as now shown, of 16 ft. in length on the main part, and on the lean-to, of 20 ft., and an upright hight of 16, instead of 12 ft., with the roof running down over it, at a quarter pitch. The hight of the lower rooms, in the main body, is 9 ft., and of the lean-to rooms, the same; or they may be reduced to 8 ft.; and in case the pitch of the roof will not admit of that high in the rear lean-to posts, the ceiling over head in the rear, can follow the rafters until the proper hight is reached, and then pass on a level to the partition, making a good finish, and sufficiently well looking for the humble purposes to which these rear rooms are used. Or, which, by the way, we would prefer, the house roof may be made one third pitch in front, and a quarter pitch in rear, which will not at all deform it, and give 1½ feet higher elevation to the peak, or ridge of the roof—that is to say: 6 ft. instead of 4½ ft. pitch, as in the cottage heretofore described. All this is a matter of calculation which the builder can readily solve, and adopt.

Here, let it be understood that we design but *one* front to this house, with a principal *end* view, and that the other end, and rear, are the garden, or back yard sides, covered in with trees, and therefore out of sight only to the occupants of the house and farm. The roof, throughout, is a plain one, which we adopt as the very best, absolutely, which can be constructed for the farm house—the only break in it being in that short and narrow part coming over the front of the outer kitchen, or lean-to extension shown in the draft of the elevation. Consequently no leakage by joints or intersertion can be admitted, excepting from bad or negligent work in that one item, and on the rear, which will be readily understood by studying the plan and examining the elevation.

INTERIOR ACCOMMODATION.

(See Ground Plan, next page.)

This will be readily understood. On the front is a verandah 40x8 ft., the whole upright part of the house being 42 ft. long. The entrance hall is 9x6 feet, leading on the left to a commodious parlor 18 ft. square; on the right is a smaller sitting room 18x13 ft. Between these rooms is a chimney with two flues, admitting a stove pipe from each, and as a closet for each one is between. To save room, the chimney is placed nearer to the parlor, and the pipe from the sitting room can pass through a part of its closet. In rear of the parlor is a family bed-room 14x12 ft., adjoining the inner, or Winter kitchen, which is 20x14 ft., having a closet next the parlor of 6x4 ft. Between the sitting room and inner kitchen is the stairway, commencing to lead *up* at the inner end, with a cellar door, and stairs to go *down*, at the outer, or right hand extremity. Next the kitchen, on the right, is a buttery, or provision and dish closet, which, if necessary, can be partitioned into two separate ones, now being 12x10 ft., and lighted on the rear. A passage of 4 ft. wide between this closet and the stairway, leads into an outer, or Summer kitchen 18x14 ft., entered in front from the verandah, which is 19x6 ft. In the *inner* kitchen on the rear, between the windows, is a chimney, with stove flue, fire-place, and oven, if all three of them are wanted; or, this chimney may be dispensed with, which we would prefer, and a main chimney built where the 6x4 closet stands, having a broad, old fashioned fire-place, and oven in it, and connected with the other front room flues above, so as to have but a single chimney stack through the ridge of the roof, as in fig. 4. We do love an ample, open fire place in the farm house kitchen, especially in a wooded country; and if coal be used, we equally like an open fire place, and grate. It is a great, and most genial dispenser of warmth, and comfort, and nothing so much promotes good fellowship in a Winter evening as a cheerful fire-side. The cook-stove may have its place also, and be thrown back between the windows on the rear, so as to be out of the way of all intrusion by the family, other than those who have to use it.

The outer kitchen—marked O. K.—is "a place of all work," Summer, or Winter. It serves as an entry for the every-day use of the house; for cooking in Summer; store house in Winter; and thoroughfare, always.

At the end next to the wood house is a chimney, with arch, and kettle, a pipe flue, or more, a fireplace, if needed, or any other heating use required. Adjoining it, runs off to the rear, a wood house, with half its gable end projecting to the right, forming an open entrance. Immediately in rear of the kitchen is a closet, or Summer buttery for milk, or other purposes, partitioned off from a part of the wood house. This wood house is 16 ft. in width, and may be extended to any depth back required, and may there join into a workshop, carriage-house, or any other building needed, or of which we may hereafter give a plan. Our present object is simply to give that indispensable appendage, the wood-house, in its proper place.

CHAMBER ROOM.

(See next page.)

The chamber plan is simple. A narrow hall leads from the head of the stairway to three chambers in the main, or upright part, and three low closets taken off from the highest part of the lean-to, if needed, while all the rest is thrown into a low garret, of not much use, any way, except to tuck away trifling things seldom used. The windows and doors are all shown in the plan, and need no further remark than to say, that they may be of such size and pattern as the owner may choose, only that he observe a due proportion as to size and appearance.

This house may be built of wood, and finished in a plain manner, complete, for $1,000, to $1,500, according to the cost of material in the part of the country where it is situated. The larger sum will be ample to do it very well.

GENERAL REMARKS.

We have thrown the broad, or hanging roof over this house, and its appendages, for the same reasons given in the previously described cottage, and would have it project over the walls of the main body 24 to 30 inches, and 18 or 20 inches over the wing, and woodhouse. We have also given it a full front verandah in both house and wing. We believe in verandahs—as much so as in any room inside of the house itself. In the first place, they don't cost much; secondly, they afford shelter, shade, and protection; and thirdly, they are the very pleasantest parts of the dwelling to sit in during the warm season of the year, and enjoy the social intercourse of family, and friends. The good housewife, too, here finds ample space, and protection, to spread her fruits of apple, pear

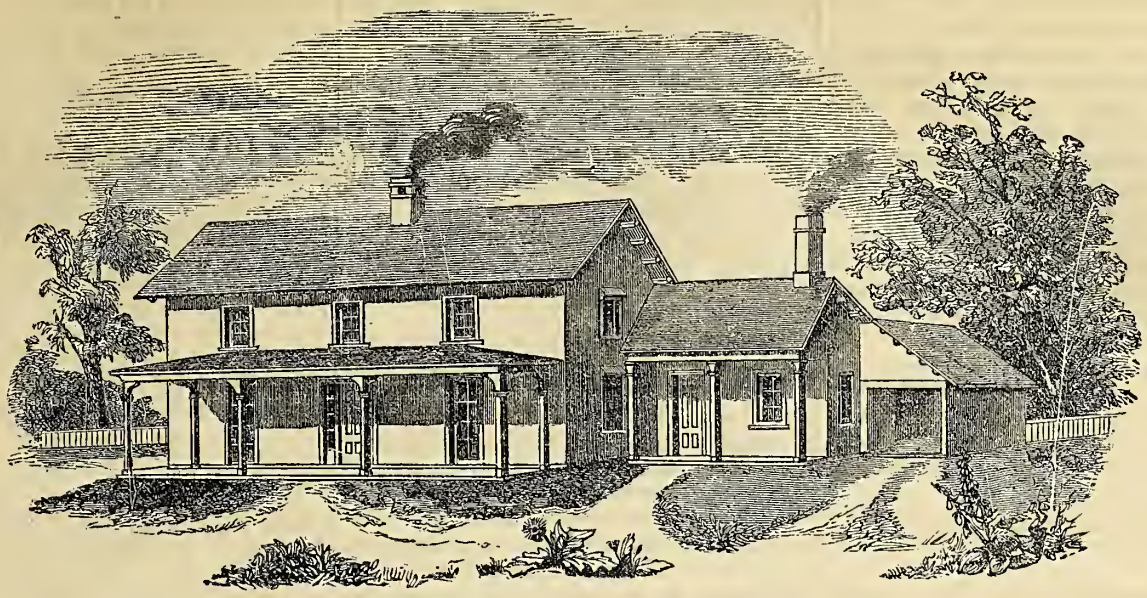


Fig 4—AN EXTENDED FARM HOUSE.

peach, cherries, plums, and berries, to dry, and cure them; set an evening tea-table there, even. The family, after being accustomed to a veranda, would not know what to do without it. *We* would not build a house, and call it "complete" without the verandah. It beautifies the house, also, giving it an air of comfort and repose which no other feature can do, and is every way indispensable in making an architectural finish to a country home.

There should be a cellar, at least under the main body of the house. The cellar wall should rise 2 feet above the ground level, with a window of one light deep, and three or four wide, in each end, hung by butts, so as to swing up in Summer, and ventilate and light it always.

If the soil be compact, or not thoroughly dry of itself, a drain should lead from it to keep it so. It is better to lay a cellar wall of stone in good lime mortar; or, hard burnt brick may be substituted; or even a dry wall of stone will answer, if well laid, and pointed inside; let the wall above ground be laid in mortar, always.

Now, here, (with some alterations in the size, or proportions of the inside room, if you prefer,) is an honest, plain, comfortable farm-house, costing little, and capable of holding numberless comforts to any family whose pride does not outrun its ability; and where, if they only choose to think so, they can be more happy than in a pretentious thing which cost five times the money. The columns of the verandah may be covered with roses, or other climbing plants; a beautiful door yard may be planted with shrubbery, flowers and trees; and with the trifling labor which may be spared out of leisure time (given by many people, young and old, to frivolous nonsense,) to the cultivation of these out-door ornaments, the place may look a little paradise! In building your farm structures, pay no attention to the popular fashion of the day. Build to suit your own convenience, and your own means, regardless of other people's eyes, or opinions. Let your home be, in every sense, a home for yourself, and your family; and no fear but all those whose good opinion you care to secure, will appreciate your good sense, and the true taste of your architecture, as well as partake of your in-door hospitality as often as you choose to bestow it.

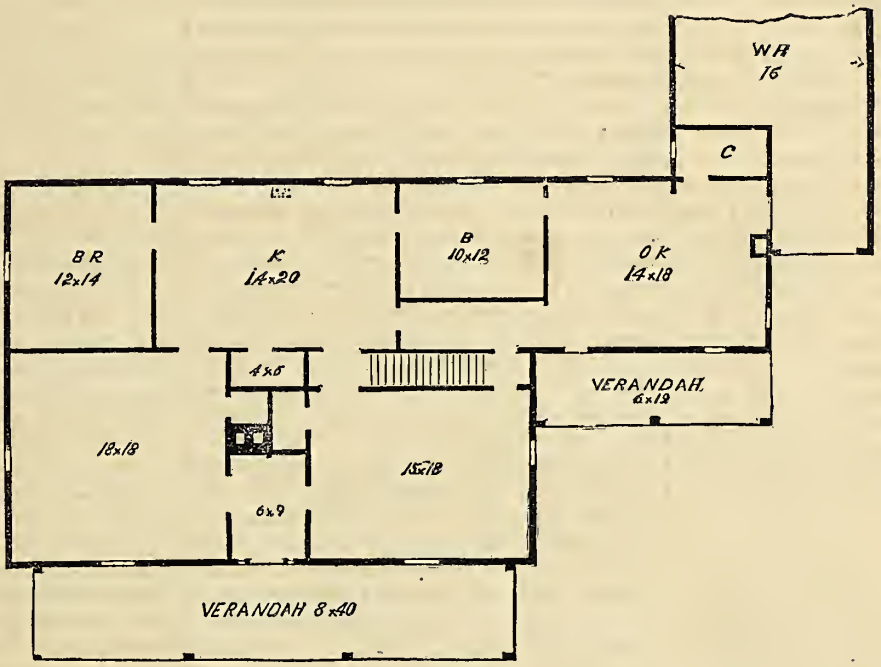


Fig. 5—GROUND PLAN.

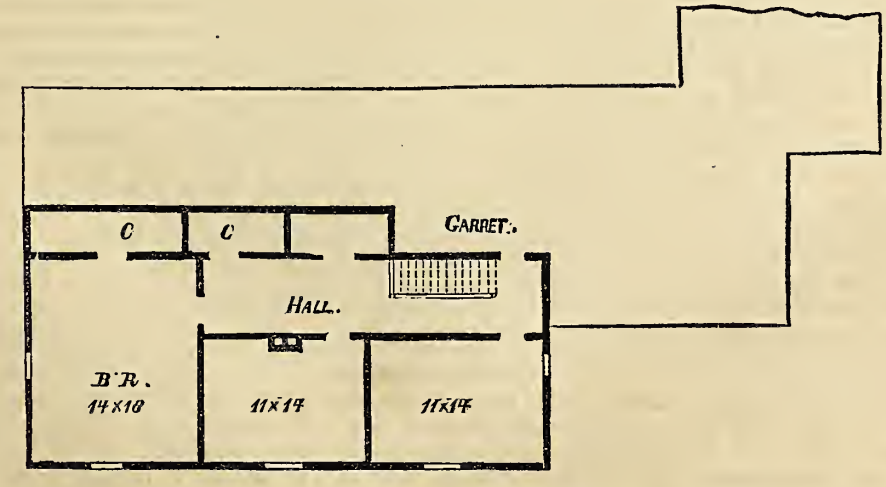


Fig. 6—CHAMBER PLAN.

Cheap Inside Finish for Houses.

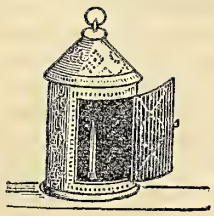
To the Editor of the American Agriculturist.

The following is, perhaps, mainly applicable to the cheaper sort of wooden houses made of vertical boards, &c., but will answer also for all others.

Cover the inside of the rooms, &c., with cheap muslin stretched horizontally and well tacked with leather-headed tacks, and then *paper* on the muslin. If well done, this makes a snug and cheap finish, impervious to air, will last a long time, and one great advantage is that any one can put it on—no waiting for the slow notions of others—and the house may be occupied immediately.

I have finished more than one house in this way, and lived in them too, and found them comfortable. *This finish would be just the thing for the cheap buildings described in the Agriculturist for March.* E. F. Zevely.

Cumberland, Maryland.



Blinks from a Lantern.

BY DIOGENES (REDIVIVUS).

I find that my lantern is likely to be in great demand, and that I shall have all the help I want in searching for a farmer. The next day after its light began to shine, I had a call from a man who farmed five hundred acres. He seemed to be greatly astonished that an inquiry had been made for a farmer. They were plenty in his region, and if I would call over, I could see one man at least, that understood his business. He had a very slim opinion of gardens and these seven by nine farms. He liked to do up business on a generous scale. The man talked so fluently, and was so courteous that I immediately lighted my lantern, and went to see

A LARGE FARM.

On my way I pictured to myself a very splendid mansion, large barns, good substantial stone fences, smooth meadows, large herds of cattle, a sty full of sleek porkers, yards full of fowls, and all the surroundings of a man of wealth. I found, instead, a two story dwelling house, that, but for its size, might have been mistaken for a packing box, and all the surroundings of a large owner of real estate, and a very poor cultivator. The barn was built to accommodate about twenty cows, and the pig-sty was simply a rail fence with a hovel in one corner used for three months in a year when the pigs were put up to fatten. He had carts, sleds, waggons, harrows, cultivators, sleighs, carriages, but no particular place for any of them except the carriage. That had a house built for it, and it was usually left there, but it was oftentimes hard crowded with plows, rakes, chains ox-yokes, and with the mowing machine which had just made its advent, and was the special pride of its owner. There was no particular place for anything, and just as we drove up, the colored boy was in a peck of trouble, about the pin to the cart-tongue. That useful article, it seems was made to do double service upon the tongue of the sled, the cart and the ox wagon, and in the change from the sledding to the carting it had been *mislaid*, as the owner said, though I was not able to see how a thing could be mislaid, when there was no particular place assigned to lay it. The cart was under the shed and the oxen yoked, ready to be put on. The sled was under the apple tree, turned up side of the wall, where it had been left in the last snow. The ox cart was at the lower end of the wood pile under the big "Ellum tree," as they loved to call a gigantic elm, that was a real glory to the place, but which the owner did not seem to value much.

"What's the oxen stannin here for all the morning Jo ?"

"Can't find the cart pin Massa ?"

"Where have you looked for't ?"

"I'se looked for him ebbery where Massa, in de sled, in de cart, in de carriage house, and in de corn crib. I'se looked for him all de morning, and no find him. Guy, Massa, make me tink, for all de world, of de song Aunt Sally sing so much."

"Goosey Goosey Gander
Where do you Wander."

"I recken he's lost."

"Lost! you blockhead, I saw you crackin nuts with it, last week in the horse stable."

"Whew, Massa, nebber thought of dat. Dis child rek'lects."

Jo stirred himself, diligently, upon this refreshing of his memory, and the lost pin was found, where it was last used, on top of a pile of walnut shells. The team was put upon the cart-tongue, and Jo went off to his work at ten o'clock in the morning.

This little incident, very unimportant in itself, shed a flood of light upon the management of this farm. It had no efficient head, indeed I could see by the hang of Jo, and the other hired men, that I fell in with, that the owner did not exactly know, whether he was the head of the establishment, or Jo, or big Mike, who had lived several years upon the farm, and knew all about the business, unless he was mistaken. It required no lantern to see, that things went easy with the hands, and that nobody felt conscience stricken, if he was not in the field by seven in the morning. The need of a ten hour system was not felt here, for the relief of oppressed labor.

This five hundred acre farm was inherited, and the owner had been five years in possession. He also inherited some thousands of dollars in bank stock, and had sufficient capital to make every acre of it pay him handsome dividends. It was naturally good land, and with a judicious expenditure of money and labor, it could be made a handsome fortune. I looked over the farm, lantern in hand, and found as stock, four horses, six oxen, thirty cows, and a few young cattle, and sheep. There were a hundred acres in mowing, fifty in grain and potatoes, fifty in woodland, and three hundred in pasture. The meadows cut but a trifle over a ton of hay to the acre, and the yield of corn was rarely more than thirty five bushels to the acre. The root crops were not cultivated with the exception of a few potatoes, and turnips for the table. The labor employed was in keeping with the crops. The owner himself did not work much in the field, and had no competent overseer to manage the help. It was left pretty much to the inspiration of Jo, and the wisdom of big Mike, who staid through the whole year, while the other five hands only worked through the Summer and Fall. I endeavored to show the light of the lantern upon

THE BAD ARITHMETIC

of the owner. His present number of stock, and much more could be supported in good condition upon two hundred and fifty acres. One half of his farm, at least, was lying idle. It was like his cart pin when Jo could not find it, of no use to any body. He did not use it, or get any returns from it, because a few cattle roamed over it and grazed the scanty herbage. If the whole farm was worth ten thousand dollars, there were five thousand dollars of dead capital, for which he received no returns. On the contrary, he had to pay taxes on it just as heavy as upon the part of the farm that he used. It was actually a bill of expense to him. But he could not understand this, at first, because he was very sanguine in the belief, that he did use the whole surface of his farm. But I showed him, that there were two ways, at least, of dividing a farm, perpendicularly, and horizontally. A farm has depth, as well as area, and he who only uses the first four inches of the upper crust of his farm as really loses the other half below, as if he cut off one half of its superficies. This was a new sum in Arithmetic to him, and he confessed himself convinced.

A PEEP AT THE BANK STOCK.

This large farmer, as he loved to call himself, had his five thousand dollars in bank-stock, paying him, on an average seven per cent. His farming capital, as he managed it, did not pay him three per cent. Yet his neighbor, with only a hundred acres of land, not a whit better, makes his farming capital pay him ten per cent. He has no bank stock, but always keeps a few hundreds in the bank on deposit, ready to make a good bargain, when he wants to buy stock, or anything else cheap for cash. He says he can manage his own capital better than any body else can for him. He plows deep, manures high, drains, and sees to his business in person. He uses as much labor as the man with five hundred acres, and actually cuts more grass, and gets more grain, using it all upon the farm, and sometimes buying. There is nothing to hinder the large landholder from applying all his capital to his business, and getting like returns for its use. The present account of his capital stands thus; $5,000 in the surface of his farm, half used, three per cent; $5,000 in the unused subsoil, minus one per cent for taxes and other draw-baeks; $5,000 in bank stock, seven per cent. The new account which he will open, when he opens his eyes wide enough, will stand thus; 15,000 dollars all invested in his business, and paying ten per cent, with no failure of dividends, by reason of defaulting cashiers, and presidents. Diogenes knows of men, who get twelve per cent for their farming capital, wholly employed in the legitimate business of tilling the soil, and selling its animal and vegetable products, and is still in doubt whether they come up to the true standard of farming.

As to this large farm, which is the type of at least one half the farming in the older States, it vanishes under the light of the lantern. It is no farm at all, but a half cultivated waste; an ingenious contrivance to cheat men of fair dividends. Shall I ever find a farmer?

Dioscorea at a Discount....Free!

The following letter speaks for itself. "The Chinese Potato" don't seem to be valued at "$1 per dozen" in Illinois, or else our old subscriber, Mr. Squires, exhibits a liberal public spirit not common among us more Eastern men.—Ed.

To the Editor of the American Agriculturist.

I have cultivated the Dioscorea for two years, and I now offer my entire stock (with the exception of 100 seed tubers) amounting to 500 large roots, and as many seed tubers, free, to any of your subscribers or others who will be to the expense of getting them, or any part of them. The large roots are from 1 to 2½ feet long, and from ½ to 1½ inches in diameter.

Geo. L. Squires, Galesburg, Knox Co., Ill.

Fig. 13—Drone (magnified.)

Fig. 14—Queen (magnified.)

Fig. 15—Worker (magnified.)

Wonders of the Bee-Hive.

Number X.

We have already spoken of the three different orders into which a family of bees is divided, and have given "portraits of the size of life," of a drone, a mother-bee, and a worker. We now reproduce these individuals on a scale considerably magnified which brings their peculiarities more distinctly to view, and makes the contrast the more marked. What we have to say, however, in this present paper has to do chiefly with the queen or mother-bee.

Among the wonders of the bee-hive not yet enumerated is the method of supplying the place of the queen in case of her accidental loss, or her departure with a swarm. There is no necessity for having more than one perfect queen in a hive at any time, but yet, as no stock can long flourish without one, it is an interesting inquiry how her place is to be made good. The absence of a queen from the hive even for a short time causes a great commotion, and if she were taken away from the bees when they were without the requisite means for procuring a substitute, they would give way to despair, and would soon run out. If on the other hand after her loss they have good reason to believe that her place will be filled, their excitement subsides, and they pursue their labors as cheerfully as if she were actually present. So that, although she exercises no authority and makes no laws, or judicial decisions, the prosperity of the hive depends upon her presence. It is often true in kingdoms that persons are called kings and queens, who are so restrained by ministers of state, as to have hardly any more real authority than the queen-bee, and such monarchs are less free to come and go, and do what they have a mind to, than their own subjects.

By referring to page 41, in the February number of the *Agriculturist*, our readers will see in Fig. 9, the form and size of the royal cells, and in Fig. 8, *a*, *b* and *n*, show how they are connected with other parts of the comb. It is still an open question whether the queen ever lays an egg in a cell where preparations have been already begun for royalty. No one supposes that she ever lays one in a royal cell that has once been used, or in one which has been carried anywhere near to completion. Some have thought that instinct led her to make some provision for a successor, and to lay a number of eggs of the right kind in cells particularly adapted to the purpose. Others suppose that this depends entirely upon the instinct of the workers, and that they have the knack of so nursing the young worms as to produce any number of queens that may be necessary to guard against accidental loss.

We have reason to believe that the ordinary worker is but an imperfectly developed mother-bee, which on account of the limited quarters in which it was born, the coarser food given it, and the general management of things, has failed to become what it might have been under another system of management. Strange as this statement may seem to some, it is well supported by careful experiment and observation, and even by microscopic investigations. And it is a fact settled beyond all controversy that from ordinary brood comb and the eggs laid in common cells, the workers can produce perfect queens in about two weeks after the loss of the mother-bee is discovered. We have found the interval to vary from twelve days and a half to seventeen. It would seem then, that whenever the workers realize the necessity of making this provision, they adopt the method of nursing which is adapted to the full development of the powers and instincts of the perfect female bee.

If this is undertaken while the workers have a healthy, productive queen, and when the population promises to be overcrowded before long, these acorn-like cells may be found on the edges of the sheet of comb, as represented at *a* and *b*, in Fig. 8. But when the queen is lost, the outer cells containing neither brood nor eggs, a cell must be taken rearer the middle. The cells are represented as pendent generally, a position that Mr. Langstroth supposes to be chosen as a mere matter of convenience and economy of room, since he has cut them out and laid them horizontally without interfering with the growth of the larvæ.

In the observing hive, the gradual progress of the work is easily noted. First is seen the enlargement of a cell containing an egg, or a very young worm, at the expense of the cells immediately surrounding it; then it grows rapidly for several days, bending downwards by degrees, and being incessantly visited by the worker bees who bring the "royal jelly" to the occupant, and seem to feel great responsibility concerning it. After it has been sealed over they continue to work upon its outside walls. When the emergency arises that requires such preparations as this, the bees usually take the precaution to start several royal cells, that if one fails they may fall back on another. Sometimes they do not carry all to completion, but destroy the worm and use the cell for honey.

If these arrangements are carried out while the stock have a mother-bee in vigorous condition, and the hive is densely populated, it is supposed that the new queens are kept within their cells until she has taken her departure with a colony and left her place vacant for her successor. Sometimes, also, a new hatched queen finds that she has younger sisters ready to come out from their cells and take her place; and then it becomes a question for the bees to settle, whether she shall be allowed to attack them in their cradles or fight a duel with them, or shall be compelled to leave the hive herself in search of other quarters.

A case is described in Jardine's Entomology, where a young queen was matured while the old one still remained in the hive, but her enjoyment of life and liberty was very short. "She was instantly surrounded by a mass of bees, who hemmed her in so closely that but a small part of her body was visible. She made many painful and unavailing struggles to escape, and emitted every minute a plaintive sound. All the while the reigning queen occupied herself in laying eggs, often within an inch or two of the prisoner, going about her avocations with as much of unconcern as if she knew her subjects would of themselves soon effectually rid her of her puny rival. In two hours from her birth, accordingly, the body of the young queen dropped lifeless from the dense mass of her inexorable guards." This description may be compared with the account given on page 249 of the last volume, showing the reception given to a strange queen when introduced into a hive already supplied with one of her peers.

The queen thus nurtured, on escaping from her cradle, is very different from the insects matured in the adjacent cells, not only in shape and appearance, but also in instincts, and habits. As a queen she will probably never leave the hive except to meet the drones, unless she goes with a large colony to establish a new home. As a worker, she would go out every pleasant day for honey, or busy herself with wax-making and care of the brood, for which as a queen she has no concern. The worker is short lived and is not likely to survive for a twelvemonth. The mother-bee continues from three to four years. The queen engages in a fight with another queen, and never is known to use her sting except against a royal rival. If held in the hand she will bite but not sting. The common worker however defends itself with its sting against ordinary enemies, but bites a strange queen or suffocates her. The difference of form in the two is illustrated by our engravings. The ability of the worker-bees to rear a queen in this manner is one of the most remarkable facts in natural history, and the knowledge of it is of no little importance in bee-culture.

Fig. 16. MOTHER-BEE, (natural size.)

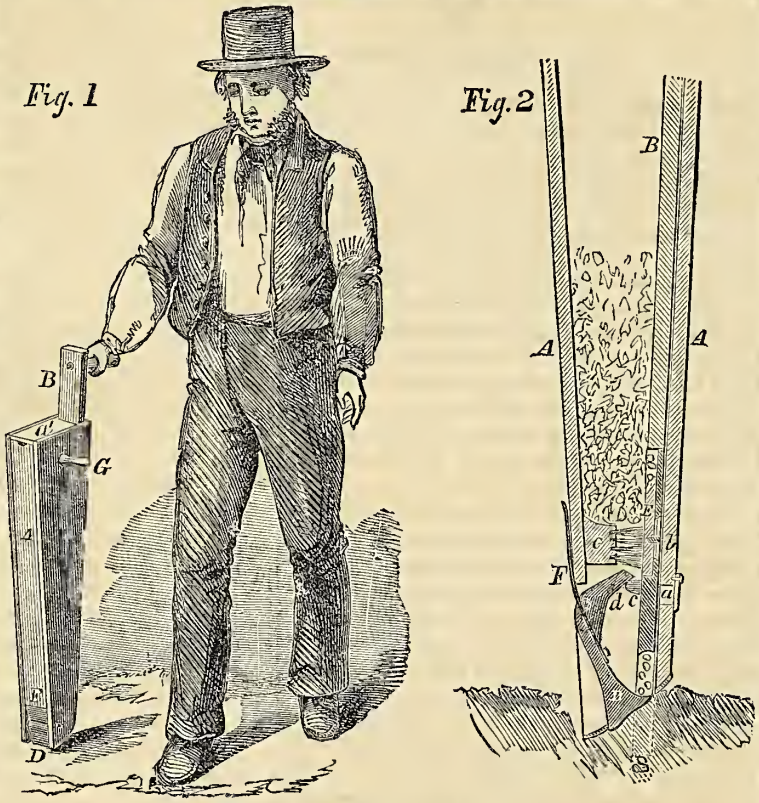
Occasional instances have been known where worker bees, (perhaps those matured in the immediate vicinity of queen cells,) have proved to be fertile and have laid eggs, but only drone eggs; and students of natural history are now discussing the fact announced first by Dzierzon and confirmed by Von Liebold in Germany, as well as by Langstroth and Prof. Leidy, in this country, that the unimpregnated queen-bee is capable of laying drone eggs. This is a curious fact, though similar to what has been noticed in the *aphides*, or green lice, and is called *Parthenogenesis*.

Mr. Langstroth describes an unsuccessful attempt of some bees, which had no worker eggs, to rear a queen from drone eggs. "Two of the royal cells were, in a short time, discontinued and were found to be empty, while a third contained a worm which was sealed over the usual way, to undergo its changes to a perfect queen," On

opening this cell, however, it was found to contain instead of a queen, only a *dead drone!* "At the base of this cell was an unusual quantity of the peculiar jelly or paste which is fed to the young that are to be developed as queens. One might almost imagine that the poor bees in their desperation had dosed the unfortunate drone to death; as though they expected by such liberal feeding, to produce some hopeful change in his sexual organization."

Planting Corn with Machines.

We have examined most of the Corn Planters that have been brought forward, but thus far we have commended no one of them, for the reasons that there seemed to be radical imperfections in their construction. The main defects have been in their not dropping the corn uniformly, and especially in not covering it evenly. We still think that for so much ground as we could plant with our own hands we would prefer the old fashioned mode of "marking out," dropping by hand, and covering with a hoe. And we would say the same of planting even the largest surfaces, provided, always, that we could secure enough of just the right kind of help at just the time the ground was in the best condition for planting. This is, however, very often impracticable, so that on the whole we think there are several patent planters which will do the work better in unskillful hands than to trust it to the judgment or caprice of the ordinary run of hired men. The kernels should be dropped in the hill considerably separated, and all be covered at a uniform depth with finely pulverized soil. But very few hired laborers will do this, even though working side by side with their employer. In perhaps a majority of corn-fields, there is a loss of ten per *cent*, that is, one kernel in every ten comes up late from deep planting, or does not come at all from the same cause, or for want of covering.



Boeklen & Bossert's Corn Planter.

In regard to the best Planting Machine, we are inclined to consider that, for a hand implement, the one here shown, is the cheapest, and all things considered, the best we have seen. (The retail price is $3 50). Its chief superiority over those previously proposed is in the arrangement for covering the seed. We tried this one in a mass of *wet* sand, so compact that it required considerable effort to thrust even a walking stick into it, and yet in each trial we found the corn well covered and always 4 or 5 kernels in a hill. An examination of the accompanying figures will illustrate its mode of operation.

Fig. 1 shows the operator at work. Fig. 2 is a section of the inside apparatus. In the upright piece *B*, there is a groove at *E*, which can be made larger or smaller at pleasure. As *B*, is pushed downward by the hand, the stiff brush *C*, scrapes off the surplus kernels and say 4 or 5 kernels drop into the space *d c*. At the same time the lower end of *B*, which is hollowed out, catches the charge of seed previously dropped, and pushing aside the hinged shoe *D*, deposits the corn in the soil. As *B*, is drawn up, this shoe, *D*, is thrown back to its place by the spring *F*, and in returning it draws the soil over the corn. The operator, then simply sets down the implement where a hill is wanted, pushes down *B*, and withdraws it, and goes to the next hill. By taking two implements, one in each hand, two rows can be planted at the same time. When two are used it would be well to nail a lath or small strip of wood in front of them, to keep them always at the same distance apart, say 3 or 4½ feet, according to the width of rows desired.

Practical Hints on Raising Onions.

[The following article is very acceptable and valuable, as it is from one who speaks from large experience.—Ed.]

To the Editor of the American Agriculturist:

I know of no crop which requires the cultivator to be more persevering and to attend to his duties more punctually than that of Onions. From the time the seed is in the ground until they are in the market, there is no period when they can be left without receiving his attention. If this be given, perhaps there is no crop which pays better for the labor than this. Many of your readers may not be aware of the quantities sent to our markets. As one item on this account, I will say that the towns of Southport and Westport, Fairfield Co., Conn., sold last year one hundred and fifty thousand bushels or more.

The soil best suited for the onion is a clay loam; if gravelly they will dry up before they mature, and if too wet they can not be sown early enough in the Spring. The longer the ground has been under cultivation the better, as they will not bottom on a new soil or where it is very light or sandy. Many put the manure on the ground in Autumn and plow it in, then harrow down in the Spring without re-plowing. The manure should be stacked and turned over once or twice and well heated in order to have it fine and free from weeds. Long manure, besides being in the way during cultivation, is apt to make the ground too light.

Most people prefer Fall plowing, as the soil is apt to be lumpy if plowed in the Spring, and will not be fit for sowing as early as if previously plowed. If Fall plowed, it should be well harrowed with an iron tooth harrow in the Spring, followed by the bush harrow until made as level as possible. I have found the best mode of making a bush-harrow for this purpose is to take a plank eight feet long, eight inches wide, and two thick, bore holes in it and put in fine brush. Then fasten the chain so it will draw from the top, and it will keep a ridge of dirt in front of it which will fill all holes and leave the ground nearly smooth. It should then be raked over by the hand rake—I think a wooden one is the best—and all small stones removed.

A machine costing about three dollars, and drawn by hand, makes two drills at a time, one foot apart, and drops the seed at the rate of about four pounds to the acre. This is covered by shoving a hoe, or drawing a rake lengthwise the drills. The time for sowing is as soon as the ground is dry enough, which, with us, is from the first to the middle of April.

As soon as they are up enough to see the rows in the morning—they can be seen at that time much sooner than at any other—they should be gone through carefully with a hoe about eight inches wide and only one and a half deep. A hoe like this lets the dirt slide over it, leaves the ground level, and is light to handle. As soon as the weeds which are cut up by the hoe are dead, the weeder should crawl over each row using a hoe about two inches wide and three-fourths of an inch deep with a handle about eight inches long, cutting up what he can draw with the hoe and pulling the remainder. For this part of the work trusty boys are better than men. About this time a coat of patience and perseverance is generally necessary to insure a good crop. From this time they should be kept perfectly clear from weeds, for if they once get over-run your crop is ruined. They generally require to be gone over four times. When the tops are nearly dead, which is generally in August, they are fit to pull. If they do well, the tops will fall down before they dry up. As the onions are pulled the weeds should be all hoed up and raked into piles, to prevent them from going to seed. Leave the onions spread on the ground a few days. Some people pile them up, putting three or four bushels in each heap and let them stand in this way for two or three weeks. This gives them time to sweat before housing them. They should never be put in when damp as they will grow more and more so, turn black and rot. The best place to keep them until cold weather, is under cover where they will have plenty of air and can be kept perfectly dry. They should never be more than three feet thick on the floor. If required to be kept through the Winter, they should be put in a tight place and well covered to keep the air from them. Moderate freezing will not spoil them if allowed to remain covered and unmoved until they thaw. A common cellar is generally too warm and damp to keep them well. If the roots begin to start they should be moved and dried. From four to six hundred bushels per acre is a common crop. The best time to sell is when they bring a high price. An average price for the last ten years has been about fifty cents a bushel.

David H. Sherwood.

Southport, Ct., March, 1858.

Root Crops for Stock.—The other Side.

To the Editor of the American Agriculturist.

There has been a great deal of *theory* expressed in our country about the profit of roots for stock feeding, together with some little *practice*; and thus far, the theorists have had the best of it; that is to say, they proved by *Englishmen*, that the turnip culture is indispensable for stock feeding "at home;" and thus recommend the root culture *here*, on English evidence of the results *there*. Now let us reason together, and see what *practice* has amounted to in America.

Turnips, beets, even carrots, are uncertain crops here, for our Summer climate. Scarcely one year in three do we get a good crop of either. The carrot and beet are far surer than the turnip or ruta-baga, which is liable to be early destroyed by the fly, and, if not so destroyed, stunted by drouth afterwards. Such has been my experience for twenty years, and upwards, no matter how much the *occasional* crop may be, *a full crop is the exception, not the rule*, in America. The great crops we hear of—the short ones we know nothing about, in the papers. These crops are not reliable for a yearly supply of stock food, even in case they were altogether desirable. I have seen, both in the fields of others, and in my own, excellent crops of sugar beet, carrot, mangold-wurtzel, and ruta-baga. I have also seen in the same fields, in other years, the same kinds of crop, cultivated with equal skill, and good husbandry, yields that were hardly worth the pulling.

In England, the turnip crop (ruta-baga) is a "preparatory" crop for wheat or barley. It is largely fed to stock, with straw—the turnip to give sustenance and fat; the straw to fill up the stomach, and distend the intestines of the animal, with the additional object of increasing the manure. The climate of England is mild—scarcely colder in any part of the Winter than our November or March; the turnips lie out in the fields all Winter, unfrozen, and constitute a green food for the stock. Hay is little used there in common stock feeding.

Here, during cold weather, the turnip, beet or carrot, unhoused, is frozen stiff, and must be buried in pits, earth covered, or put in cellars to keep at all.

Fed in cold weather, except in moderate quantities to milch cows, they give no extra flesh, and from their cold, watery nature, scour young calves, and lambs. This I *know*, from several years trial, until obliged to abandon it, having adopted it from theory drawn from *English* practice. For early lambing ewes, moderately fed, they are useful; also for early calving cows. But one quarter the quantity of soaked oats is better; or one eighth the amount of Indian meal. All this I know from *thorough trial*. I once put up in the stable, a thrifty four year old steer, grass fat in October, and began feeding him on ruta-bagas, and sugar beets. I had a fine crop, which my English herdsman had raised the previous Summer, and as he had all along boasted of their great excellence in "fattening bullocks," I determined to give him a fair trial. The steer was fed twenty-five pounds of good timothy hay daily, and began by eating half a bushel of roots. The latter were increased day by day, until he consumed four, five, six bushels a day, and one day, when a trial was made to see how many he would take, he swallowed eight well measured bushels! The "dung" was enormous, to be sure, but neither the flesh, nor the tallow increased so much as a peck of Indian meal would have made; and after so keeping him, in perfect health and condition for two months, the steer was slaughtered, not having gained so much flesh and tallow as ten bushels of corn meal would have made

I met, the other day, one of the best Scotch farmers in the United States. He owns a large farm, on which he has lived many years, got rich by farming alone, and has annually fed, for many years past through the Winter, large numbers of cattle and sheep for market. He feeds hay, straw, oil cake and Indian meal to the cattle, and unground corn to the sheep. I asked him if he ever fed roots? "Never," said he. "Roots would scour and freeze them to death. I tried them, and condemned them years ago. They'll do in Scotland, England and Ireland, but not in this country."

Such, then, is my story. It may strike many with surprise, after the repeated recommendations in all the agricultural papers of the value of "root crops" for stock. I may be charged with revolutionizing "backward." I can't help that; but such is my deliberate opinion, based on many years observation, and practice. L. F. A.

Erie Co., N. Y., March 1858.

Importation of Merino Sheep into the United States.....II.

The communication of G., in our March issue, page 71, has called out two responses, one from H. H. S., Sullivan Co, N. H.. the other from C., Dutchess Co., N. Y. They both send us the extract below. The point at issue will be readily seen by comparing the following with the statement of G. in our last.

Extract from an Essay on Sheep by Robert R. Livingston, published in the year 1809, by T. & J. Swords, New-York, 1,000 copies of which were ordered by the State Legislature, for its own use, and 500 additional copies by the Society for the Promotion of Useful Arts.

On page 7 of the Preface, Mr. Livingston says: "Knowing the United States to be peculiarly adapted to short wooled sheep, I was eager to put them in possession of this invaluable stock. And I shall not envy the glory of the Argonauts (which consisted in bringing the fine wooled Mingrelian sheep into Greece) if I can successfully plant the Merinoes of Spain in my native land.

It unfortunately so happened that during a greater part of my mission, a number of my fellow citizens were suitors at Paris for debts unjustly withheld; for relief from embarrasments into which the perplexed and varying laws of trade, and in too many instances, their own imprudence involved them. As few days past in which I had not, either justice or favors to ask for others, I thought it improper to ask the latter for myself, but hoped to attain my objects (more gradually indeed,) by selecting two pair of the finest Merinoes I could find, and sending them over under the care of one of my own servants; believing that so small a shipment would not be noticed, and intending to follow them by others. They arrived in safety in the Spring of 1802, and was, I believe the *first couples ever imported into the United States*. I became the less anxious on the subject, because I had the satisfaction to learn that Col. Humphrey had succeeded, some time *afterwards*, in introducing a much greater number, direct from Spain, so that I believed a foundation was laid for their perfect establishment. After my return from Italy, being no longer an officer, I obtained permission to ship others that Mr. Chaptal allowed me to select from the best bred flock in France. I was astonished when I found upon my return in 1805, that the introduction of Merino Sheep had excited little attention, as that, although the Legislature of Connecticut had very properly noticed the patriotic exertions of Col. Humphreys, none of his sheep had been sold in this State. I had also the mortification to find that, notwithstanding my injunction, mine had been less extended than I expected. Nay, I learned with surprize that a flock of near one hundred of half and three-fourths breed Merinoes from a ram sent out by Mons. Delessort, to his farm at Rosendale, near Kingston, had been sold at Vendue, at a price inferior to that of common sheep, and that above half of them had perished from neglect the following Winter.

I knew the importance of the object, and I resolved to leave no means unessayed to convince my fellow citizens of it. I began by purchasing all I could find of the scattered remnants of Mons. Delessort's flock. I picked up twenty-four ewes, and the price I paid for them attracted the notice of those who had seen and neglected them."

Smoking Chickens—How a Dollar was Saved.

An old subscriber, now in Norristown, Pa., writes that having moved into a place where ground is reckoned by *feet* instead of *acres*, and retrenchment being the order of the day, he allowed his subscription to run out...." But our old friend the *Agriculturist* was much missed, and wife often regretted that I did not renew. I allowed it to pass on, however, until recently a trifling circumstance occurred which has stimulated the enclosed remittance. Some time since I purchased four pullets and placed them in a coop to be fattened. In a few days one was taken with roup, and recollecting to have read in the *Agriculturist*, that some one recommended corn cob smoke as a remedy, I turned to the article, at page 169, vol. 14 with an editorial remark, that, "he did not tell how often to smoke 'em." The four pullets were confined in a coop, with a floor one foot from the ground, and half of this floor of slats. I did not separate the fowls, but made the smoke underneath, once a day, keeping it there about half ar hour each time. The sick bird commenced to improve from the first smokings and the others fattened kindly. Now as the four pullets cost one dollar, and I would likely have lost them all without some remedy, and I knew of none, I calculate that this information saved me the dollar, and I accordingly invest this dollar in the *Agriculturist*, trusting that it will make a return in a similar way." B.

[The article referred to in Vol. XIV, states that in keeping 600 to 1,500 fowls together, the writer found the roup to prevail badly, until he adopted the plan of collecting all his fowls in a hen-house, and building a corn-cob fire which produced a smoke so dense that only objects in a direct line with the window could be seen. The poultry seemed to enjoy the smoke exceedingly; the cocks crowed and the hens sung more than at other times. The smoke cured the chickens.... The writer further stated that he had himself been troubled with a throat affection (chronic laryngitis) for fifteen years, but this was cured by being much in the smoke with his poultry.—Ed.]

Poultry Profitable in Cities.

To the Editor of the American Agriculturist:

The query in your January number "will poultry pay," induces me to send you my small experience. I have for the past three years kept, in an iron yard of this city, about an average of ten hens, mostly of the common breeds. I have been obliged to buy all their feed at retail prices, *i. e.*, by the bushel. I have kept a debit and credit, rating the eggs at retail store price. The balance on the 1st. inst., stood in favor of the biddies $23 68—If poultry with nothing but iron to scratch amongst will pay at this rate, what should it do in the broad fields? It must be noted that this calculation is simply of the feed and eggs.

A Rock Islander described a disease from which I have lost two old and two young fowls the past Fall, it proving fatal in every case thus far—The fifth subject attacked was a young pullet. I gave her from two to three Homeopathic pillets of Belladonna daily for four or five days; for the first day or two the contest was sharp, after which she rapidly recovered. This was my last case.

N. W. S.

New-York, 1858.

Shall we use Horses or Oxen?

The question is often asked, which of the two, horses or oxen, is most profitable for farm work? We do not propose attempting to settle the point, but simply to state some of the pros and cons, leaving our readers to strike the balance.

The advocates of oxen say that the first cost of a yoke of oxen is not more than half that of a span of good working horses. And then, the wagons, harness and other rigging necessary for horses is twice as expensive as the outfit needful for oxen. The expense of keeping oxen is much less than of horses; less by one-third, say some. One can hardly enumerate the accidents to which horses are subject; the diseases which prey upon them are about as numerous as those which afflict the human family, and have to be continually provided against and treated with medicine. If they are young or spirited, none but a trusty teamster can manage them. The owner must be constantly on the watch, or they will be taxed beyond their strength or driven beyond their natural speed. And then the wear and tear of harnesses, wagons, shoes and other rigging, is considerably greater with horses than with oxen. As to the work done by oxen, there is hardly anything which they can not do as well as horses; and some kinds they will do better. Heavy work, such as hauling out manure, logs and rocks, and plowing stony lands, and breaking up stiff fallows, all work which requires a strong and steady pull, they do better than horses. Some persons complain of their slowness in work, and their lack of endurance; but it is claimed that such farmers stint their cattle in good fodder, and in other respects treat them with neglect. Give them warm, clean and well aired stables, and plenty of generous feed, so as to keep them in good flesh, and it is believed that they will do as much work, annually, as horses.

In this enumeration, it should not be forgotten that the manure of oxen is more valuable than horse dung; that oxen increase, in value until they are twelve years old, and after that may be fattened for the butcher. When horses are twelve years old, they depreciate in value rapidly, and soon become a burden.

The advocates of the horse claim, on the other hand, that while the first cost of an ox-team is considerably less, the expense of keeping is about the same, if both are well fed; and, that the horse will do more work, and on the whole, more satisfactorily, than oxen. A good pair of working oxen will weigh 3,000 pounds, and a good span of working horses, 2,000 pounds; is it, then, reasonable to suppose that it will cost any more to support the 2,000 pounds of flesh than the 3,000?

As to drawing heavy loads, there are, indeed, cases in which ox-strength is the most serviceable; but ordinarily, a span of heavy, well-trained horses will do every thing required on a farm. It is generally conceded that in very warm weather, the horse has greatest power of endurance. A yoke of oxen can not be divided in working, but a span of horses can. One can work, while the other is resting; one can be rode or driven away on errands, while the other is plowing out the corn; or two teams can be made of one span, for raking hay, &c., &c. It can not be denied that horses will plow a field quicker than oxen. It is also proved by experience that a yoke of oxen can not be worked hard and fed high for more than two years in succession. The third Summer, they will lose their appetite and strength, and must be turned out to pasture.

Every farmer, too, wishes often to ride with his family to town, to church on the Sabbath, and throughout all the neighborhood on business or pleasure; but Buck & Bright would hardly answer this purpose. A good span of horses is one of the greatest delights of the farmer's sons; without this source of enjoyment there would be far fewer attractions in a life of agriculture than there are at present.

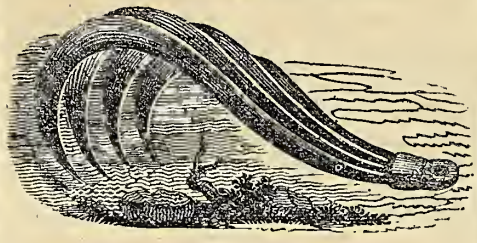


Fig. 1.

Making Bush and Root Pullers.

The publication of the above engraving in the January *Agriculturist*, page 13, has called out several enquiries from distant Western subscribers for specific information as to the dimensions of the parts of the implement. In order to answer these questions we have made the following diagram in outline, and give the figures from actual measurement of one before us.

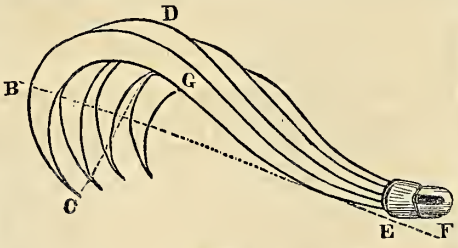


Fig. 2.

The hooks (*G*,) are first made separately, from a bar of iron, say 1¼ inches wide and ⅜ inch in thickness. Neither of the above engravings give the exact form of the hooks—they are now made of uniform size throughout their entire length, saving that at *C*, they are hammered out to a blunt point. Three or four or more of them are placed side by side at *E*, but bent so as to spread apart about 6 inches at *D*, and about 3 inches at the points. At *E*, the flat ends are partially welded and flattened on the side to a wedge. The wedge end is embraced by a half ring or staple, *F*, of 1 or 1¼ inch iron, round. This is placed upon the ends of the bars, the whole encircled with a strong band say 2½ inches wide, and the band staple and bar ends are then welded solid, leaving the ring on *F*, for attaching the chain. The outside length of the bars from the band *E*, to the point *C*, is 32 to 34 inches. Distance from *B*, to *F*, 25 inches. From *B*, to *E*, 20 inches. From *C*, to *D*, 14 inches, outside measure. From *C*, to *E*, direct, 16 inches. From *F*, to *E*, that is from outside of staple to inside of band, 5 inches.

Mad Itch in Cattle.

To the Editor of the American Agriculturist:

Will some one give the farmers in this region of country some information through the *Agriculturist* concerning a peculiar disease among cattle, known here by the name of Mad Itch. This fatal disease made its appearance among our cattle on the 17th of September, and in two weeks destroyed nine head, worth between $200 and $300. It is a very uncommon disease here, and there is a great diversity of opinion respecting it. The general belief is that it is caused by allowing the cattle to eat the chewed wads which the hogs leave after feeding on green corn stalks. Our cattle had been running with the hogs thus fed—a universal practice in this country—but whether that produced the disease or not I am unable to say. If it did, why did it never kill them before, or why are not others' cattle killed that were fed in like manner?

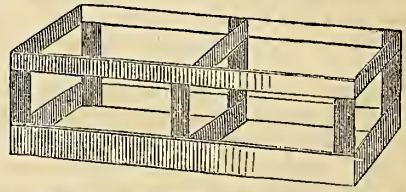
The symptoms of this disease are very strange. It commences with a slight spasmodic jerking of the under jaw, so slight at first that it would hardly be noticed. The animals commence rubbing the side of the head at the same time, gently at first, but it soon becomes more frequent and violent. They now refuse to eat, froth at the mouth, the eyes become wild and glassy, and they appear to suffer much, walking continually when not rubbing their heads. The jerking now is so violent, as to almost throw them off ther feet, and they rub their heads against every stone, stump, or tree they meet, pressing with all their strength and rubbing until they bellow with agony. They continue thus until the side of the head, nose, and joints are a mass of blood and jelly to the bone. The head and jaws generally swell to a great size. They finally become exhausted, lay down and die in about 36 hours from the time they were taken. If some of your correspondents can give us an insight into the cause and remedy, you will greatly oblige, with many others, your humble correspondent and subscriber. JOHN W. ENGLISH.

Auglaize Co., O.

Another Feeding Rack

To the Editor of the American Agriculturist:

I suppose the reason our reading farmers communicate so little of their experience, is because they consider many things connected with their own operations too simple or trifling to be published, and did I follow this first prompting, I should not now write. [We are glad you did not and hope others will not.—ED.]. I have seen several kinds of "Feeding Racks" in the *Agriculturist*, and I here give a rude sketch of the kind I use.



The six upright posts are 4 or 4½ feet high. The board running around the bottom is 16 inches wide; the two side pieces 12 feet long, and the end pieces 6 feet long, which makes the rack or box 12 by 6 feet, and 4 or 4½ feet high, with two divisions made by the cross pieces in the middle. The board running around the top is 12 inches wide. The whole nailed together, as seen in the sketch, makes a strong affair. The top boards prevent the underlings from being driven headlong into it and breaking it to pieces, as occurs occasionally with those previously recommended. The cattle being obliged to thrust their heads in to feed, there is no hay or fodder wasted whatever. Besides, the top board makes an excellent rubber for beef cattle while in the yard. I have, of course, rubbing posts, but for the top of the neck this is admirable. It may also be roofed and bottomed if thought desirable, in a very simple manner, and still not destroy its portability. GEO. HILL.

Lycoming Co., Pa., Feb. 19, 1858.

A CHARMING COUNTRY.—A large portion of the swamps of Florida are said to be capable of producing 500 bushels of frogs to the acre, with *alligators enough for fencing.*

Current Notes from American Green and Hot Houses.

RARE AND NEW GREEN HOUSE PLANTS.

PIMELIA *spectabilis.*

A beautiful Thymelaceous plant, a native of New-Holland. It is a low shrub of slender growth with small linear leaves, and large heads of light rose colored flowers, which are produced in great profusion from the ends of the shoots or branches. It is one of our finest green-house and exhibition plants, but is, as yet by no means in common cultivation, being rather difficult to propagate by cuttings, and on this account, not as well known as it should be. It, however, seeds very freely when a few years old, and will no doubt soon be more generally introduced. It grows rapidly, and the ends of the shoots should be pinched two or three times during the season to give it a bushy form. It requires careful treatment during the hot weather, and will not bear exposure to the direct rays of the sun, but should be kept under glass and shaded. It will grow freely in a light sandy loam with a good portion of leaf mold added, and should not be repotted during the Summer; early in the Spring, or in the Fall is the best and safest time for the operation.

CHOROZEMA *elegans.*

This is a variety of *Chorozema varium*, but is more dwarf in habit, and with leaves nearly round. The flower spikes are not so large, and of a paler color. It is a good variety, and makes a neat plant. The "chorozema's" are a very showy and useful class of plants, producing their bright crimson flowers through the entire Winter and till late in the Summer, when they should be closely pruned, and as soon as the young shoots begin to grow they should be repotted in a light loam, with a free drainage. When large plants are desired, for blooming in the Winter for a supply of cut flowers, one year old plants should be selected, and by the end of August, shifted into an eight inch pot, and they will soon begin to grow vigorously. They should then have the young shoots stopped once or twice, which will greatly increase the number of the flower spikes, and as the Autumn is drawing to a close, they should be placed in a part of the green-house where they will receive the full influence of the sun.

AZALIA *murrayana.*—This is a very distinct and valuable variety, large and good shaped flower; may well be in every collection.

Az. Narcissiflora.—A new Chinese species, very distinct; of dwarf bushy habit; slow growth and profuse bloomer; remains a great length of time in flower; color, white; double. When the flower has been expanded a few days the center becomes bright green; fine for Winter flowering, and forces readily.

Az. Bealii.—This has somewhat the habit of "*Beauty de Europe*," but not of so free growth; rather delicate; the flower is beautifully marked, blotched and striped very regularly with cerise on white ground; very extra.

Az. amœna.—Another new Chinese species; very distinct; bushy habit; bright, glossy, round foliage; small flowers, each appearing like two *corollas*, one within the other, or hose in hose; color, bright rosy purple; good Winter flowerer.

Az. obtusa.—This is one of the finest scarlet; a Chinese species, distinct; glossy foliage, and good habit of growth; flowers very abundantly.

Az. Vittata rosea.—A very free and strong growing upright species from China, and the freest for Winter flowering; color, clear white ground, striped and spotted with rose. There are several varieties of this species, but this is the best; the others are very liable to come false in their colors.

Az. Ramentacca.—A new Chinese species of low bushy habit; light pale green, and very smooth foliage; pure white flowers, small, but produced in the greatest profusion; very distinct.

Az. Rhododendroides, or hybrida.—This is a *hybrid* between the *Azalia* and *Rhododendron.* The strong wood and large glaucous foliage of the *Rhododendron* is very marked in the habit of the plant, as also in the flowers, which are in very large trusses, erect, and of great substance; color, pale rose.

Az. Rosalie.—A variety of slender, upright habit, and very narrow leaves; color, transparent salmon, richly spotted with a very dark, novel color; good.

Az. Beauty of Europe.—This is one of the very best; small foliage; medium size bush; compact habit; color, pink, striped with carmine, blotched white; very distinct; late bloomer, and a fine exhibition variety.

Az. Crispiflora.—A very distinct and novel variety; large flower, with the petal heavily crimped; color, rich rosy lake; very robust habit; dense foliage.

Az. Duke of Devonshire.—A strong growing variety, with large, bold flowers of good substance; one of the best scarlet selfs.

Az. Empress Eugenie.—This is a dwarf growing variety of the "variegata" section, and quite new last year; it is of exquisite form; color, transparent rose, and well spotted.

Az. Eulalie Van Geert.—Another new variety of last year; medium growth; color, very large blush pink; intensely rich spotted flower of great substance, extra fine.

Az. Gem.—A richly spotted variety; fine form and substance; very extra; medium habit.

Az. Gledstanesii.—A medium sized bush; small foliage; color, white, striped with red; good form, and one of the best striped varieties.

Az. Glory of Sunning Hill.—This is a fine double flowering variety, of free growth; color, rose; very extra and scarce.

Az. Impcratrice Josephine.—A dwarf growing new variety of last year, of excellent habit; extra formed flower; color, bright cerise.

Az. Iveryana.—A free growing variety; color, pure white, well striped with red; a very elegant flower.

Az. *ovata.*—A new Chinese species, with large round glaucous leaves and stiff habit. It is very distinct and partakes of the character of the "Kalmia," especially in the form of the flower, which is salver shaped, produced in flat clusters at the end of the shoots. It has not as yet bloomed very freely. The color of the flower is rosy lilac, with very small black spots.

Az. *violacea superba.*—Fine rich purple violet color; one of the best purple colored flowers; strong grower.

Az. *Beauty of Reigate.*—Very dwarf bushy habit, symmetrical grower; color, white, striped with rose; fine formed, and distinct flower.

Az. *Perryana.*—A medium grower, and an excellent shaped flower; color, orange scarlet; fine and distinct variety.

NEW HOT HOUSE OR STOVE PLANTS.

GARDENDIA *devoniana.*

This is one of the finest of the African Gardenias, and it is related to "*G. Stanleyana*," but much superior to that species. It is a strong growing shrub of erect habit. Leaves large and thin; when young, pale green, but when full grown, a dark blue green. The splendid flowers are solitary; corolla with a slender cylindrical tube eight to ten inches long, pure white at first, but gradually changed to a pale yellow. It is from Sierra Leone, and needs plenty of heat and moisture while making its growth; after which, it requires to be watered more sparingly, and also a cooler and drier atmosphere.

GARDENIA *nitida.*

Another new species from Sierra Leone; very distinct; large, bright shining leaves; a rather dwarf habit. The flowers have a leafy calyx, are pure white, and very fragrant, more than twice the size of the common "Cape Jasmine." It is valuable on account of its flowering in the Autumn, as do all the African species. It produces its flowers very freely, and if grown in stove heat will keep in bloom until mid-Winter.

CLERODENDRON *splendens.*

One of the very best and most showy of stove climbing plants, when treated properly. It is a native of Africa, where it grows among low shrubs, with its roots completely shaded from the sun. Under these circumstances it attains the hight of ten or twelve feet. When fully exposed to the sun it becomes stinted in growth and not more than three feet high, flowering sparcely. It grows best in a rather stiff loam, not over-potted, but the pot completely shaded from the sun; moisture in abundance is required, both over head and at the root in the growing season. When its growth is completed and the wood ripened it requires at least four months rest, with very little water at the root, after which it will produce throughout the Winter its long spikes of brilliant scarlet blossoms. There are three varieties of this species—differing only in the color of their flowers.

DIPLADENIA *crassinoda.*

This is a pretty little climbing plant, belonging to "Asclepiads" and well adapted for training over ornamental wire-work. It is of slender growth, and produces from every joint large clusters of delicate rosy pink flowers. It requires a rich loamy soil and plenty of moisture during the growing season, and when done flowering it should be allowed a period of rest, by gradually withholding moisture and placing it in a cool part of the stove or in the green-house, until the following Spring. The plants should then be fresh potted, cut back freely, and placed in the stove until the flowers begin to expand. If removed into the green-house, they will remain in bloom throughout the Summer. The flowers are as large as the Ipomæa, or Morning Glory.

ESCHYNANTHUS *miniatus.*

This species, a native of Java, is readily distinguished by its very short, dish-shaped calyx, with scarcely any distinct marginal lobes, and its very broad and dense foliage. It produces vermilion colored flowers with a yellow star in the throat. It has a trailing habit, and delights in a moist atmosphere, thriving in any light porous soil, suspended in a pot or on a block of wood.

CENTRADENIA *rosea.*

A neat and showy little plant, with copper colored foliage and stems, and white flowers tinged with lilac which are produced in masses over the whole plant from January, until late in the Spring. It is very easily cultivated, but requires to be placed in a light, airy part of the house to flower freely. Cuttings rooted in February make nice flowering plants for the following Winter. They should be grown in a light sandy soil, and by the end of June they should receive their last potting for the season, when they will soon become bushy plants. If allowed to become somewhat pot-bound, they will flower more abundantly.

Fig. 1—PINUS PINASTER, OR CLUSTER PINE.*

Plant Evergreens

In every place, in all combinations, in belts and in groups; as single trees and in masses; for Hedges and for Avenues; at the entrance and upon the Lawn; for the Prairie and on the rocky steep; in the deep dark Glen and on the Mountain top: for protection from Wintry winds and from Summer's heat; to guard the Nursery of tender plants, and the Cattle sheds; to screen the Cottage door or to clamber over the grey Church wall; everywhere the *tasteful hand* may appropriately introduce some plant whose leaves die not when the Summer is gone.

The great diversity of habit, color, size and form, affords a wide range for our choice, enabling us to find some evergreen plant fitted for each place and purpose. The gigantic Pines, almost coeval with the world itself, the graceful feathery Hemlock, the unique Firs with narrow needle-like leaves; the Laurels, Rhododendrons and Magnolias of the broad-leaved tribe; the Shrubs and Creepers, Trailers and Climbers, down to the never-to-be-despised Mosses. What resources are at our command!

Yes, plant evergreens—but beware! If you are destitute of good taste you will wofully expose your destitution here. If you are careless or ignorant you can perhaps trifle with other plants, but will find yourself rebuked when you plant an evergreen. Whether you have a single tree to plant in the door-yard of a Cottage, or thousands upon grand Lawns it is well to know what you wish to do and how to do it.

Regard should always be had, to the habit of the tree you are to plant, the hight it will probably attain, and the character of the foliage. To plant a White Pine, which in its native habitat grows 100 to 180 feet high, directly under the windows of a small house, on a village lot of 25 feet; or two stiff and formal Spruces to stand Summer and Winter, as black, spectral sentinels at the door; are errors so common that every street affords us examples.

In our last volume, page 108 (May No. 1857), we gave a list of the best evergreens with brief descriptions, usual prices, &c. As a majority of our readers have that number, and new subscribers specially desiring it can get at small cost (10c. post-paid) we will not take space here to repeat that list, but give some further descriptions and illustrations of valuable or beautiful trees. The month of May, in this latitude, we consider the *best* season for transplanting evergreen trees.

THE PINASTER, OR CLUSTER PINE.

This is named (*pin-aster*) from the star-shaped arrangement of the cones upon the stem, it is also known by the common name of the Cluster Pine. It is a native of Southern and Middle Europe, but is much cultivated for useful purposes in France, and even in England and Ireland. Resin, tar and lamp-black are extensively manufactured from this tree which is grown for this purpose upon sandy lands unfit for other plants. In this country it has been found hardy, and is being extensively introduced for ornamental planting. Of this tree Loudon says, "As an ornamental Pine, the Pinaster holds the first rank; and no plantation where Pines are admissable should be without it," Its usual hight when full grown is from fifty to sixty feet; it grows rapidly and has a fine luxuriant clustered foliage of light green. It loves a sandy soil or a deep loam being disposed to strike its roots deeply. Wet or clayey lands will not grow this beautiful tree successfully. Where it is planted in groups with other trees it should be placed on the outside of the group, for its light green color and strongly marked foliage give the appearance of comparative nearness to the spectator. Trees of a darker color and more delicate foliage planted as a back ground will aid the perspective by the appearance of receding from the eye. Vast wastes of shifting sands, in various parts of France and elsewhere, have been planted with the Cluster Pine, and they now yield a large amount of fuel, resins, as well as of lumber—the last of course inferior in quality.

THE PINUS SYLVESTRIS, OR SCOTCH PINE.

This is found in great abundance throughout Europe from the Mediterranean to Norway. In favorable situations it attains the hight of from 80 to 100 feet. The branches are disposed in whorls and have an upward curve; but in old trees become somewhat pendant. The color of the foliage is a dark sombre green, though in Summer the young shoots give the tree a lively hue. The leaves are glaucous and in pairs; in young trees they are from two to three inches long. The extensive forests of Scotch Pine in Europe have afforded the most valuable timber for civil and naval architecture from the time of the Greeks and Romans to the present. A single forest in Scotland is estimated to have produced 1,250,000 trees. This tree has been extensively cultivated in Great Britain to supply the place of the natural forests now becoming exhausted. The Laplanders and Fins grind the inner bark of this Pine, mixed with oatmeal for the purpose of making bread. The tall trunks of this tree are considered the best timber for ship masts. It loves a dry soil, will bear exposed situations, and in ornamental planting is best adapted to large groups having a forest or park like character.

Fig. 2—PINUS SYLVESTRIS, OR SCOTCH PINE.

* The use of a portion of the engravings in this and future articles on this subject, were purchased from the publisher of a new work on Evergreens described on another page of this number

Fig. 3—ABIES ALBA, OR WHITE SPRUCE FIR.

This is a native of Canada, and the Northern portions of the United States. Its usual hight is from 40 to 50 feet, is of a light tapering growth, having a pale bluish green foliage. In artificial plantations it will rarely exceed 30 feet in hight, and may be advantageously used in smaller groups, or as a single tree in the nome grounds. It closely resembles the *Abies nigra* of the Northern States in its growth, although it does not attain the hight of the latter. In our figure the artist has failed to represent accurately the fine foliage of this evergreen, he has given it too much the appearance of a broad-leaved deciduous tree.

PICEA PECTINATA.

(European Silver Fir.)

Remarkable for the regularity and symmetry of its form, being always pyramidal, except in very old trees, such as represented in our cut. It sometimes attains a hight of 180 feet with a straight stem and regular horizontal branches. The leaves are very dark green above, with silvery lines beneath. When young it is liable to lose its leading shoot in the Winter, but with a slight protection it soon becomes a hardy and beautiful tree. The cones are very large, cylindrical in form, and rather bluntly pointed at each end. They are some six inches long and two inches in diameter. The tree is of rapid growth, for a fir, and with its horizontal branches heavily laden with conspicuous cones, forms a striking object for the lawn. It is a native of both Europe and Asia. It is one of the most desirable for ornamental planting, but should not be brought too close to the house, as it will not bear the reflected heat of a building. Our engraving does not accurately represent the cone-like form and *regularity of branches* shown in younger trees. As grown in the nursery they are quite attractive, the dark green foliage contrasting finely with the lighter tints of other evergreens. It succeeds best on a moist soil; in dry situations it is usually short-lived. Like most evergreens it is raised from seed sown in early Spring on rather a sandy loam, or a peaty soil. Cover the seeds lightly and shade from the hot sun.

Fig. 4—PICEA PECTINATA, OR EUROPEAN SILVER FIR.

Fig. 5—PICEA BALSAMEA, BALM OF GILEAD, OR BALSAM FIR.

This is the Balm of Gilead or American Silver Fir; a native of America. It attains a hight of 30 to 40 feet. When standing alone it forms a regular pyramid having a profusion of cone covered branches. Its growth when young, is more rapid than that of the European variety but is of much shorter duration, arriving at maturity in 20 or 25 years, soon after which it gives symptoms of decay. From this tree is obtained the Balm of Gilead or Canada Balsam extensively used by the apothecary. The illustration on the right was re-engraved from Loudon's work, but however accurate a representation it may be of trees grown in England, it certainly does not do justice to the Balsam Fir as grown here. We have seen numerous collected specimens which were almost perfect cones, and even in the wild state the majority of trees grow much more uniform, both in branches and cone shape, than the specimen copied in fig. 5. In our next number we will continue the illustrations of evergreens giving some directions for their transplanting pruning and cultivation. The trees we are here describing are preferable on many accounts to the wild kinds found in many parts of the country, yet when the choicer trees cannot be obtained conveniently, we would say get the best you can. The roughest Pine, with its green foliage during the bleak winter, is far preferable to no such object. Begin then now to cast about for some one or more trees to be removed in May.

Shade Tree Planting.

As soon as the frost is out of the ground, holes should be dug for the Spring planting of trees, and as soon as the ground becomes settled they should be set out. The sap then is only moderately active. Take them up carefully, with all the root you can get. Pare off the wounded parts with a sharp knife; trim out and shorten the tops, heading them back, that strong thrifty shoots may put out for Summer growth. They make a much better, and earlier top than when left with long branches with a sluggish circulation which frequently die the first, or second Summer, and never make a satisfactory or well formed top. If the natural root of the tree be fibrous, or compact in its rootlets like the horse-chestnut, or maple, if they be cut short, and properly pruned of their longer leaders it will be no damage to their future growth if properly set, and covered in at planting.

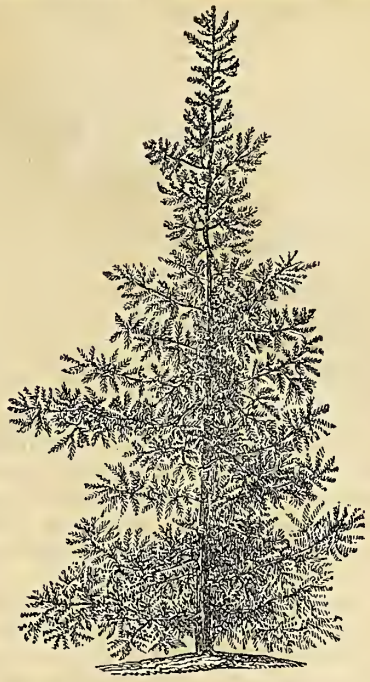


Fig. 5—PICEA BALSAMEA, OR BALSAM FIR.

When planted, if at all exposed to injury from animals, or outside influences, they should be well guarded by stakes. Don't select large shade trees—over three inches at the base of the stem—nor take them out of tall, close, woods. If they be taken from a natural forest growth, let them be from the skirts of the wood; or, better than either, from a nursery. Forest trees are now much grown in nurseries, and they are far the best. Elms, Horse-chestnuts, and Maples are generally the best, making the thriftiest trees and the finest shades, and the effect is more imposing where they are all used in rotation. Elms (*Ulmus Americana*)—the true white Elm of the forest—have such diversity of shape, that even if no others were intermixed, they afford great variety. The Horse-chestnut is compact and uniform in appearance; while the different varieties of Maple, in wood, bud, leaf, color of foliage, and habit of branch, are the most varied of all our forest trees. Oaks, Beeches, Hickories, and Nut-woods generally, are hard, and prongy in root, and mostly refractory livers and growers in transplanting—scarcely one in twenty succeeding, unless taken from nurseries or open grounds. We do not recommend them, only as specimens, or to fill up a wide variety. The Tulip, or White Wood taken from the forest, is refractory also; and the Bass-wood, or Linden, although a fine tree, invites caterpillars, and other destructive insects. Throw in an evergreen now and then, and with your Elms, Maples, and Horse-chestnuts, your shade trees are complete.

The poorer half of one who believes in "woman's right's," says that, instead of himself and wife being *one* they are *ten*, for she is 1 and he is 0.

The Orchard..... IV.

[*Continued from page* 84.]

PEARS.

Unlike the Apple, the Pear is not a *universal* fruit of the temperate zones. It is fitful in its seleetions of soil, and climate. In quite extensive tracts of country it will flourish more or less —caprieious in these, however, always—and over other wide belts of country it refuses to grow almost altogether. The pear of any kind, has ever been a scaree fruit in market; and *good* pears, the scareest of all. As they have ever been, they probably ever will be; and we shall, before we get through, give some of the reasons. There appear to be some soils, and some countries peculiar to the pear—Normandy, and a part of Belgium, in Europe, for example. There are some loealities in the United States where they flourish with tolerable suecess. Therc are some other localities where many individual trees of large growth, and advanced age are found, but they are widely scattered, and not abundant.

The reasons why so few pear trees are found in this country are, mainly, two: the uneongeniality of the soil, and the various diseases to which they are liable. Of the first, we need not go into an analysis, even were we able, as an experimental trial can be the only satisfactory solution. Of the second, "blight," in its various character and phase, is the prineipal; and may be sudivided into "fire," "bark," and "leaf" blight —all fatal in their effeets, coming from eauses not yet ascertained, nor understood, and for which no effeetual cure has been discovered. Here some enthusiastie pear-growing nurseryman may ask: "Why, sir, how do you know all this? Have not millions of pear trees been grown within the past dozen or fifteen years, and distributed broad-cast all over the United States, and thousands of pear-orchards established?" To whieh we answer: Very true; and so have pear trees been grown and distributed throughout the country for three hundred years. Any number of pear orchards have been set out, nursed, cultivated, and—died. But show us the *very first* pear *orchard* containing one hundred sound, healthy trees of fifty years growth, as apple orchards exist, and grow, standing uniform and regular in their rows, and you will show us what, with long years of observation, and partieular examination for a thing of the kind, we have not yet found, and we will then eonfess our error.

Pear orchards *have* been planted—long years ago—side by side with apple orchards, which, with now and then a seattered tree still remaining stalwart and vigorous, giving annual crops of fruit, testify to a eongeniality of the soil, and a friendly elimate to those individual trees; yet, testifying also, that disease and death have long ago borne down the bulk of their companions, while the apple orchard, planted at the same time, is still full in numbers, as well as vigorous and fruitful, with a promise of long remaining so. Sueh are the *facts* whieh support our first assertion that the pear is a precarious and eapricious fruit in the United States, and perhaps, with few and far between exceptions, will ever so remain.

Yet, we are not going to talk about the pear simply to discourage the orehardist from growing it. By no means. We would eneourage its plantation by every man, especially where experience has shown that it will flourish; and a trial of it where that experience is wanting. No fruit tree grows so vigorously, or withstands so well the vicissitudes of climate, or bears up so sturdily under neglcet and maltreatment, or lives to so great an age, or yields such bountiful and continuous crops, as the pear *when* it finds a congenial soil and climate, and remains untouehed by disease; that is to say; the tree in its best estate. This faet is abundantly demonstrated by thousands of individual trees which can be found in various parts of our country; and from these isolated examples, and the great value, and delieious flavor of the fruit, we are encouraged to propagate, plant, and cultivate them wherever we can do so sueeessfully. The knowledge that they have grown, do grow, and in all probability will continue to grow, with the apprceiation of their exeellence as a luxury for the table, should eneourage us to continue them, doubtful as may be the result, where past trials have not thoroughly demonstrated that they will not grow and thrive. Thus, then, we proeeed to discuss their proper soils, and eultivation.

SOIL AND POSITION.

The pear thrives in various loealities north of the eotton growing line, up to 45 deg. east of the Mississippi in the United States, and the Canadas. It inhabits various soils, from a light sandy, or gravelly loam, to a deep, unetuous elay. It thrives on nearly a level with the sea, and on mountain elevations, a thousand feet above, on a dry bottom, apparently unaffeeted by altitude or depression. and bears the choieest fruit in eaeh extreme, as well as in intermediate positions, showing a deeided vitality if in congenial soils, temperature, and aspeets. Yet, it evidently has a choice in these, and although it will root, and grow almost universally for a time, latent qualities or defieieneies in the soil, or atmosphere, oftentimes prove fatal to its eontinuanee.

The best soil, from all the observations we have been able to make, however, is clayey loam, with a dry bottom. The most vigorous and aged trees we have seen, stand upon such soils. They have stood there a hundred and fifty to two hundred years, aecording to tradition, and are apparently good for a century to come, still sound, thrifty, and in full bearing. The most prominent of these were probably planted from seeds brought out by the Freneh Jesuits, who, at an early day, established a line of trading posts, and missions along through the Canadas, and what were then the far Western regions of Ameriea, extending from Montreal, along the borders of the great lakes and rivers, to the Mississippi, below the mouth of the Missouri. Here is one of them: "Henry Ward Beecher tells of a pear tree in Illinois, about ten miles from Vineennes, Ind., that bore 184 bushels of pears in 1834, and 140 bushels in 1840, of large sized pears. One foot above the ground, it girths ten feet, and nine feet above, six and a half feet, and its branehes spread over a spaee sixty-nine feet wide. It is said to be about fifty years old."

The seeds from whieh they sprung were probably brought from Normandy, and the trees are of the original wildling stock, without graft, or inoculation. Their fruit is fair in size, and appearance, but inferior in flavor, and only fit for drying, and cooking—not eatable in its natural state, as eompared to the improved standard varieties. There are also many aged trees seattered throughout all the Atlantic States, from Maine to Virginia, still hale, and vigorous, but not equal in size to those of Freneh aneestry, owing, probably to a less fertile soil and congenial position.

These individual cases, then, establish the fact that the pear can be grown on American soil, and that we have localities both congenial to their existence, and bearing, and where they may flourish to the most prolonged period of their natural longevity. We have girted some individual trees which were nine feet in circumference two feet above the ground, sixty feet high, and whose annual crops are fifty to eighty bushels—extraordinary exceptions to be sure, but their companion trees mostly measured full two feet in diameter, or six feet in girt, are forty to fifty feet high, and give annual crops of twenty-five to fifty bushels of well grown fruit. But the question of such size, and extreme long life are unimportant compared with the fact that they will live long enough to pay the orehardist in the production of their erops for his investment, *to a certainty*. Here, we coneeive to be the whole pith and marrow of our inquiries. *Will pear orchards pay?* And for a solution of the question he must rely on his own observation and experienee, enlarged as it may be by the observation and experienee of others having better opportunities than ourselves to judge.

Thus, then, we find that a partieular description of soil, as to whether it be light, or heavy, is not the controlling point in determining whether the pear will flourish, and endure; nor is the locality, or partieular temperature of the climate to invite or forbid the trial. If one designs to embrace pear culture at all, and prospeets look favorable, he must determine within himself the ehanees of suceess, and address his energies to its execution. We would advise him, however, not to invest a pear orchard in any loeality whieh has already proved unsuecessful; and where untried, to move with caution, and to a limited extent, at first, in his operations. We know neighborhoods where for thirty or forty years the pear flourished, and then, by a sort of sudden fatality, almost every tree within a few years died out; and although repeated replantings have been made, the last soon died out as did the others. Again, some loealities have been refractory from the start, and disaster has followed every attempt at a permanent orehard. Others there are, where from the first they have measurably flourished, and still yield their fruit on many trees which have survived the original plantation, in full sueeess and vigor.

On the whole, therefore, we may conelude, although the pear is uneertain and contingent *in the mass* of its plantations in the orehards, yet where the soil, climate, and atmospherc suits it, a portion of the trees will survive, to an extent, both in numbers, and bearing, to riehly repay the planter, or proprietor. The main question is, then, to determine the point where the orchard is to be made, and that sueeeeding, the question of suecess is solved, and the uneertainties, or ehanees of this, eaeh one must take upon, or judge for himself.

PREPARATION AND CULTIVATION OF THE SOIL.

These must be treated mainly, as with the apple orehard. Twenty-five, to thirty feet apart is the proper distanee, and the manner of planting the same, and for the detail of this, we refer to the books.

TREE STOCKS.

The finer varieties of pear, (as in what we have remarked in relation to the apple,) usually having a delieate, less hardy, and less vigorous wood than the seedling, we would grow in the same way, with a seedling stock, and work it branch high, relying on the faet that we have seldom known a large tree grown from the root, with a refined wood; while in every large and aged tree that has come within our knowledge, the trunk was a wildling. In adopting this method, the orehardist is certainly on the safe ground, while by taking the opposite course, his prospects are, to say the least, uncertain.

VARIETIES.

These are legion in number; and out of the many hundreds which have been introduced from abroad into American soil, it is but truth to say

that scarce fifty of these have proved uniformly and successfully good. Many celebrated varieties in the land of their origin, have proved altogether refractory with us; others have succeeded but tolerably; while a few have been altogether successful. It is not expected that we shall enumerate any of these, for we find from the proceedings and reports of the fruit conventions, and fruit cultivators that a difference of opinion prevails in relation to them; and avoiding disputed points, we shall leave the choice to individual judgment and taste. From the experience our country has had, however, it is safe to say, that the majority of the most lauded foreign pears have illy sustained their European reputation; and it is better to rely only on those which are unimpeachable in their growth, and bearing—a sufficient number of which we have for all our purposes—and hold fast to the varieties, which, by a long course of cultivation have proved successful beyond dispute.

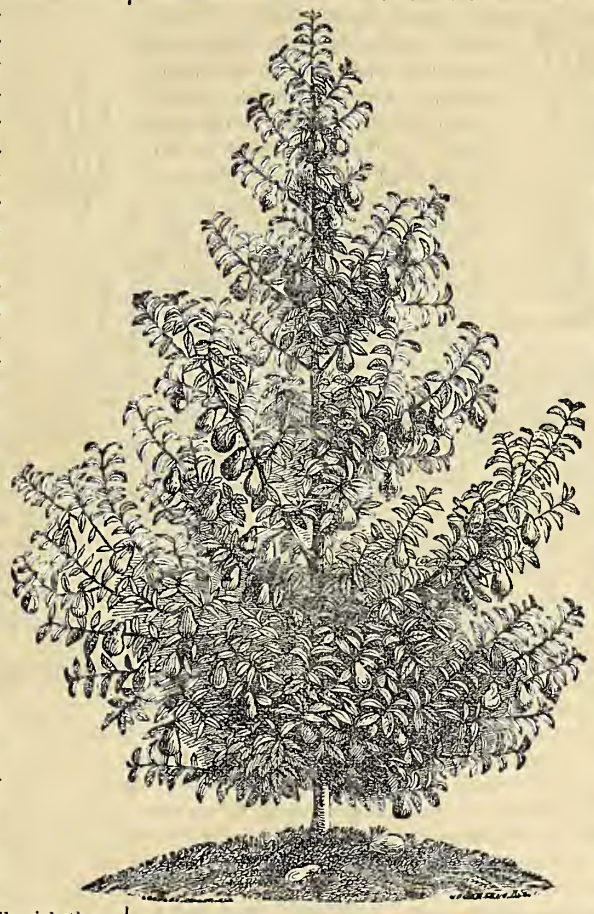
How to Select Trees for Planting?

If you want to get trees that will never bear fruit, buy of some professed nursery agent, who comes along without any certificate of character. No matter what you order, you will stand the best chance in the world to get trees that will die the first season, or if they survive, they will do so poorly that you will wish them dead every year that they linger with you. We have a few of such, six years on hand, and good for nothing. Their days are numbered.

If you want to get half your money's worth send your order to irresponsible nurserymen, or those not of known integrity, and take such trees as they will send you, the bark covered with scale bugs, unthrifty, and the roots badly mutilated. Did it never occur to you, that sharp men who plant trees, for the sake of getting shade and fruit, attend to the business in person, and that it is such trees as *they leave*, that are taken by too many nurserymen to fill the orders of innocent people, who suppose that a nursery is a perfect machine, turning off its living products with as much uniformity as the loom or the anvil? Apple trees are sold at twenty-five cents each. Some of them are worth that money; others are only worth what fuel they will make. There is nearly as much difference, in every tree sent out from the nurseries. The choice of an intelligent purchaser is worth more than one hundred per cent on the amount of the purchase.

If you want trees that are trees, go to the nursery and make the selection yourself, and see them taken up and packed, unless you have a competent agent to attend to it. In making your choice take thrifty trees rather than large ones, and those with well formed heads. You can judge of thrift by the last year's growth, and by the smoothness of the bark. Eschew all trees that are troubled with insects, as you would a pestilence. A fine ought to be imposed upon nurserymen, who will suffer trees covered with insects, to go out of their hands.

The next that demands our attention is the roots. If badly mutilated, reject the tree, no matter how thrifty. If you find numerous small fibrous roots well distributed on all the larges ones, it shows proper handling in the nursery. The tree has been root pruned, and cultivated for the sake of its future owner, rather than to sell. Such a tree will not disappoint you. Buy it, if you pay double price.



Form of a Pear Tree.

To the Editor of the American Agriculturist:

I perceive by a former number of your paper that the Convention of Fruit Growers held at Rochester, N. Y., in discussing the best *form* for a standard Pear tree, decided in favor of the *pyramid*, allowing the trees to branch near the ground. Now I always *allow* all trees to branch near the ground, but I cannot succeed in *making* them do so to my satisfaction. If some practical person would favor your readers with the true method of culture in order to obtain that form in the best and most perfect manner, he will confer a favor on many of your subscribers, and oblige yours, W. F. Cox.

Vergennes, Vt.

REMARKS.

Above we give a model Pear Tree, either standard or dwarf. This form cannot be obtained from a tree which has been pruned to a strait trunk of four or five feet in the nursery. We must begin at least the second year from the bud or graft, and prune back as in the cut opposite, to check the upward tendency of the sap, and throw it into the lateral branches. During the Summer's growth it may be necessary to pinch in the leading shoots for the same reason. If an open space occurs on one side of the tree, which it is desirable to fill, head back the shoots on the adjacent branches to strong buds facing the vacant space. These terminal buds will now receive a large portion of sap, and soon fill the openings with new limbs. Almost any required direction can be given to a shoot by pruning or heading back to a bud upon that side of the branch where an offset is desired.

Bearing year of Apple Trees.

The bearing of Apple Orchards in alternate years is so general, in all the older States, that it has come to be considered a necessity. With some trees, the habit is so inveterate that not a solitary apple can be found upon the branches in the unfruitful year. The whole energies of the tree, and the resources of the soil seem to be exhausted in the fruitful years, so that it takes two seasons of hybernation and rest to recuperate. This habit is a great draw-back upon the profits of fruit growing. In the abundant years, apples are cheap, and the farmer gets but a fair return for his labor. In the scarce year when prices are high, he has no fruit to sell.

Some facts have come under our observation, that lead us to suppose that this habit can be overcome, and that the skillful fruit grower can rely upon a crop of apples every year with as much certainty, as upon any of the root or grain crops. In the front yard of the old homestead, there stood an old apple tree in a deep rich loam. It was kept in grass and bore a large crop of early apples in alternate years, yielding nothing in the interval. By way of experiment, the green sward was broken up, and the whole yard manured and planted as a garden. To the great disappointment of all the skeptics in the region, the old tree changed its habits, and bore very full crops two years in succession. The yard was seeded down and it relapsed, but continued to bear in the years, which would have been barren in the old order.

When a young orchard is put out upon a piece of recently cleared woodland, where there is abundance of vegetable matter in the soil, it bears with much more uniformity every year, than an old orchard under common treatment in the same vicinity. Orchards planted in the new settlements are much more productive than those in the older States for the same reason. The trees find aliment enough in the virgin soil to mature good crops every year.

There has lately been discovered in the Historical Society library at Hartford, Ct., a curious old document, the account book of Henry Wolcott, one of the first settlers of that State. It was kept in short hand, and contains among other things a record of the yield of his apple orchard, at Windsor, for a few years after it first commenced bearing. In 1651 it bore 496 bushels, in 1652, 452 bushels, and in the two following years, 1127 and 1288 bushels, showing no tendency to the alternate bearing, which now marks all the orchards in that region. It is interesting to find among the names of the apples then cultivated, Summer Pippin, Holland Pippin, Pearmain and Bellybond or Belle et bonne, varieties still popular with the fruit growers of our own times.

Nothing pays better for care and attention than the apple. A single acre in this fruit, kept in good heart, by manuring and cultivation, will yield more profit than ten acres, neglected in the ordinary way. The only secret in having apples abundant every year is in keeping the trees clean, and in feeding them. He who has plenty of muck or peat, lime or ashes, and stable manure, need not go off of his own premises to find plant food for his orchard. The breaking up of the turf in an old orchard, and the application of a compost of these materials, will work wonders. Nothing but root crops should ever be attempted in an orchard The fruit and the grain want similar constituents. We have seen apple trees put back for years by a rye crop. The present month is a good time to begin the work of renovating old orchards, and reforming their bearing habits." "Dig about and dung the barren trees," before you decide to "cut them down as cumberers of the ground."

For the American Agriculturist.

Suggestions on Pruning.....III.

BY A. O. MOORE, NEW-YORK.

[*Continued from page 84.*]

The first direction to the pruner will be, *obtain a definite and correct idea of what you wish to do before you touch the tree.* A general vague conviction that fruit trees need pruning or thinning out to keep an open head, by removing weak and conflicting branches constitutes the whole stock of information with which most persons commence the yearly attack upon the orchard. There is no careful study of the habits and peculiarities of each species of tree; no thought of what each individual tree has done in the past, or is expected to do in the future, whether it is prematurely forming fruit buds, or running to wood too luxuriantly; no special care for a weak but important shoot which is receiving too little nourishment because a gourmand above it is monopolizing all the sap and sunlight; no calculation for future years, that the foundation now laid shall be the basis of a sufficient number of branches, filling advantageously every part of the tree while none shall crowd or interfere with its neighbors. Generally, young trees are left to themselves, and when half grown the top is found to be a thicket of brush. Then the tree is said to need pruning and the attack is made. The saw and ax are brought, and in a single hour one third of the top is cut out. A tree should never in this sense *need pruning*. The difficulty should be avoided, rather than remedied; so that instead of felling great branches, the finger and thumb, or at most the pruning knife will be sufficient to *direct* the growth of stalwart limbs.

First then, fix in your mind the general form of a perfect tree of the variety you are about to operate upon; and to this ideal as nearly as possible train your subject, not of course arbitrarily, or in one year, but by patiently studying the peculiarities of your tree, bring it gradually to the desired form. In respect to their shape, fruit trees may be classified into: *globular* or round headed trees, like the apple; *semi-globular* or goblet shaped, as the peach; and the *pyramidal*, or conical, like the pear and the cherry. It is important that while we divert nature from her wonted course to fulfill our especial ends, we do no violence to her *principles*. Faults there are to be corrected, deficiencies to be supplied, but always obediently to the guidance of nature. There is a typical form, then, for each variety of tree, which should be regarded from the commencement.

In the January number of the *Agriculturist*, (page 24,) was given a drawing of a badly shaped tree to which I may be excused for referring the reader, as it will render the subsequent remarks more easily understood, to have the faults there pointed out fresh in the mind, and by comparing that tree with Fig. 1, on the left, the advantages of the latter form will be readily seen. I have here endeavored to represent a well pruned tree of the round headed class. Though full grown the hight of the tree is not more than 20 feet; the lower branches start at 4 or 5 feet from the ground, nearly at right angles with the main stem. (A "*Fork*" caused by two nearly equal branches diverging at an acute angle should always be prevented.) The branches are comparatively short and thick, filling up well the middle and lower parts of the tree; while the upper branches are not dense enough to intercept the light and air required by the lower ones.

Fig. 2, represents a tree of the pyramidal shape. The attempt to compel a tree having a natural tendency to either of these forms to assume the other, would be attended with much unavailing trouble and probably with positive injury.

But how is this form to be secured? The great difficulty is to make the lower branches grow thrifty and in due proportion to the upper ones. The whole secret lies in *the management of the buds*. Every shoot and branch commences life as a bud, and it is in infancy that their proper number and position must be determined. Leave no more buds upon a shoot whose growth you wish to increase than can be maintained in perfect vigor. This will generally be about one third of the number of buds produced, so that of those shoots designed to receive the largest development two-thirds of the last year's growth must be cut off. These should be shortened in before they start in the Spring. If still the upper branches grow too strong, Summer *pinching* will furnish the requisite discipline for them, of which more anon. This system of pruning must be commenced in the first or second year of the nursery plant.

Fig. 2—A Tree of the Pyramidal form.

As the selection of well formed trees from the nursery is of the utmost importance to us, I would give in Figs. 3, 4, 5 and 6, various forms of trees about the age usually obtained from the

Fig. 3. Fig. 4. Fig. 5. Fig. 6.
(Showing the different forms of Nursery Trees.)

nursery. It will not be difficult to decide that Fig. 3 is a poor specimen, having been grown in a crowded nursery row, and the lower part of the stem, in consequence, is unfurnished with branches. No treatment can make this a satisfactory tree, and if a better one is obtainable the most economical disposition of this tree is to add it to the wood pile. Fig. 4 is better, and may, by severe shortening-in, be made to produce a well shaped head from the branches now upon the stem, but below these it will be difficult to develop a symmetrical growth. Fig. 5 is quite as good as the average of nursery trees, and by proper pruning may be made a well shaped tree, but Fig. 6 is a perfect form, and has been properly cared for from the first year. It is of far more importance to have a properly shaped tree than one of large growth or great age.

The difference in the early pruning of the round headed and the pyramidal tree, is, that in the latter one central shoot should always be left as a leader and no rival allowed to grow perpendicularly; the other branches, growing laterally, the lowest being the longest; while in the round shape, three or four shoots of equal vigor and importance are encouraged, all attempts to preserve a leader abandoned after the "head" is of the proper hight.

As a summary of the points to be especially regarded in pruning, I would give the following rules:

1st. Study the requirements of the tree as to shape and relative vigor of the branches.

2nd. Leave upon the shoots no more buds than can be maintained with the requisite vigor.

3d. The position of the remaining buds should be such, that when the branches are all grown with their future ramifications they will not interfere with each other.

4th. To increase the growth of a weak branch, prune it close at the Winter or Spring pruning, and preserve all the Summer shoots without pinching.

5th. To diminish an over luxuriant branch, leave a greater number of buds upon it, by pruning less

severely in the dormant season, and pinch back, during the Summer, the young shoots.

6th. Encourage a horizontal growth of branches except with the leader; this is assisted by having the last bud on the shoot an outside bud, which will grow from the center of the tree.

7th. Let the highest bud on the leader be on opposite sides each successive year to prevent it from growing to one side.

Taking Up and Packing Trees and Plants.

Millions of trees are annually transported from one place to another, of which a large number are injured more or less for want of proper taking up and packing. To pack well is an art requiring no little skill or experience, and in the long run, other things being equal, those nurserymen will succeed far the best who have in their employ the best packer. The great end in taking up and packing all trees and plants should be to retain as many of the fine rootlets as possible, and to pack them in such a way that they will not be mutilated or exposed to air or heat. As a general rule, no roots should be exposed an hour to the sun or wind, either between the time of lifting and packing, or unpacking and putting into the ground. We do not write to instruct experienced nurserymen, who are supposed to understand their business—whether they practice what they know or not—but we will give a few hints for the benefit of those who may have occasion to send from their own private grounds or forests a few evergreens, or other trees or plants, to a distant relative or friend.

The accompanying engraving gives a convenient and neat form of a bundle after it is made up. This may contain a single large tree or a number of smaller trees or shrubs. To make up such a bundle, before lifting the trees from the ground, provide: some straight straw; a good quantity of moss; gunny bags, that is coarse salt or coffee bags; some very large strings or twine, say one-eighth to one-fourth of an inch in diameter—or what is better, tarred rope-yarn; also, strong twine and a needle to carry it; a wide leather strap with buckle upon one end; and labels 1 to 1½ inches wide and 6 to 8 inches long, made smooth upon one side—they are better if covered with a thin coat of white paint, so as to hold and show well the pencil marks.

To make the bundle, begin by placing the trees or shrubs together in a round package, taking care to place both roots and limbs smoothly, so that there will be as little crossing or chaffing as possible. Put plenty of damp moss between the roots. Draw the mass closely together by buckling the leather strap near the roots, and then tie firmly with a *straw* band. Put on two or three other straw bands to complete the form of the bundle. Next, cover the whole with straw, and bind on temporary with straw bands. Let the heads of the layer next the root lop over the buts of the next layer above, and so on to the top, if more than two lengths of straw are required. Now, begin at the roots and bind the straw firmly on with a strong cord, crossing it as seen in the engraving. The whole should be done so neatly that no loose straw ends will be left hanging from any point.

For the roots, lay down the canvass upon the ground, cover it with straw, upon this put some moss, set on the bundle and bring up the bag and sew it with the needle and twine firmly over the but end of the package, as shown in the cut. If to be carried far, especial care should he taken to surround the entire roots with plenty of moss, well packed in.

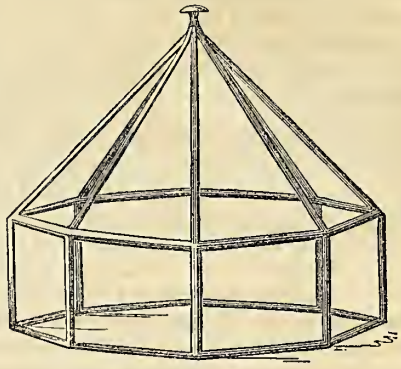
Many recommend dipping the roots of trees and plants in a "puddle" made by mixing any good tenaceous soil with water to a thin paste. This may be advisable where trees are to be long on a journey.

The Garden Raspberry.

There are many varieties of this delicious fruit, each of which have their advocates. They vary in flavor, hardihood and prolific bearing; yet most of them are good, but some varieties much better than others. There is, however, one quality in the raspberry which is first in the inquiry of every one who grows them for market, viz.: will they bear transportation without mashing? and to this we promptly answer, No. *We never yet saw a raspberry* that will go to market as blackberries, strawberries, currants and other small, pulpy fruits will, unless packed in *single layers*, or in such very small quantities in one dish, or box, as to make the carriage very troublesome and expensive. The difficulty lies solely in the shape of the berry itself. It is a thimble-shaped fruit—a hollow cone, with soft, pulpy sides. Of course, when ripe—and it is good for nothing if not ripe—the slightest pressure will pack it into a solid mass of jam, the juice running out, and the fruit spoiled for the table. There is no help for this, only in the light mode of packing in single layers, or cutting off the fruit with scissors, leaving the stem *on*, and the core *in* the fruit, requiring them to be cored by the consumer.

We say that a raspberry is good for nothing unless ripe—we mean *dead* ripe, so that it will almost fall from the stem at the touch. Then they are delicious, healthy and nourishing—no berry sweeter. Thus, then, every one should grow their own raspberries, who have garden room to do so. The common wild black-cap is the *hardest* raspberry we know of for marketing; but it is full of hard seeds, and every body who eats them has to pick their teeth for half an hour afterwards. Yet the people who depend on market raspberries buy them, because they *are* hard, and look well. They are a good berry too, but not to be compared with some of the cultivated kinds for fresh use. They dry well, because they have so many seeds, they suffer the pulps to shrink less than the better kinds.

We know a person who manufactures largely of wines, jams, preserves, cordials, and such like, from the small fruits of all kinds. They buy tons of raspberries, in their season, every year. On inquiry, they informed us that they can afford to pay thirty to fifty per cent more, by the pound, for the garden raspberries than the wild ones, so superior are they in quality for their purposes. Such facts, we presume, settle the question of flavor, and consistency in pulp of the fruit. We can not, then, do our readers a better service than to commend all who have the garden room, and opportunity, to cultivate the raspberry of some approved kind. We prefer those which are *hardy*, without covering, if of good flavor, of which we believe there are some few; but if such can not be obtained, take the others.



Hand Glasses.

Above we present a sketch of a very convenient and useful apparatus for starting and protecting early vegetables in the garden. They are of various forms and sizes. The one here shown is an octagon with frame-work of lead, and glass sides and roof. Those of this kind are on sale at the Agricultural and seed stores. They run in numbers from 1 to 12 and upward. No. 1 is about 5 inches in diameter and costs some 62 cents, while No. 12 is, say 15 inches in diameter, and costs about $2. With lead frames these are quite strong. Bell glasses answer a similar end. A simple square frame with glass sides and top will also do comparatively well, though not as good as the above form.

These Hand Glasses, though costly at first, last for many years, and serve for many useful purposes. They are good covering for diminutive hot beds when placed over bottom heat produced by fermenting manures; and they also serve to protect plants springing up early, but in danger of being touched by frost. Supplied with these glasses the gardener can take plants from the regular hot-bed as fast as they begin to crowd and set them into the open ground, and harden them with the hand glasses, by covering at night and removing while the sun is up. When this is done before hard freezing is over, it will be hardly necessary to keep the ground underneath warm by fermenting manure. It is important to remove or raise them during the warm days, as the plants will be suffocated or scalded.

Seeds of cabbages, cucumbers, melons, tomatoes, egg plants, &c., may be early sown under these glasses, either thinly for remaining, or thickly for after transplanting.

Currant Bushes.

Now is the time to cut currant slips for planting. Many cultivators recommend cutting off all *buds* below the part inserted in the ground, which prevents sprouts coming up from below, and thus making a minature *tree* of it, instead of a *bush*—which is its natural habit. The currant we have found to be liable to the depredations of a small grub, or worm, which breeds from the deposit of an egg near the root, where it works upward into the pith, or heart of the wood, for a foot or two, and then emerges out—probably then taking the moth, or winged formation, and leav-

ing the wood altogether. At the point or escape the wood is cut partially off, and usually breaks, when in the tree, or single stem form, and, of course destroys the plant. Aside from this, the weight of the head compels the staking of the plant, and a close pruning, to answer any good purpose in bearing fruit. On the contrary, planting the slip with buds below the ground, although suckers will grow up, if properly pruned and attended to, the fruit is equally good, and the shrub grows large, and lasts many years. We decidedly prefer the *natural* way of growing it.

In planting currants, we object to the common way of staking them thickly under fences, walls, and such like, and prefer to grow them out in open ground, quite six feet apart, and giving them full and free cultivation, which induces a full crop of well grown, well ripened, and excellent fruit; while on the fence method, the fruit is small, liable to be chocked by weeds, grass, and other foul stuff, and furnishing a harbor to all sorts of garden vermin.

As to varieties, although the nurseryman advertise, and praise a number of new sorts, the old Red, and White Dutch are altogether the best for household purposes, and by far the best bearers that we have tried. With good cultivation they grow large, with full stems, and perfect berries. Everybody who has garden room ought to grow currants in abundance. They are good, when green, for tarts, and pies, and when fully ripe, well sugared, are a delicious appendant to the tea-table—healthful and nutritious, besides making a capital jelly. The black English currant is excellent for jelly, which is a most grateful drink, diluted in water, for febrile diseases.

Horse Radish.

Most people appear to think that a thing which will "grow any where," with neglect, or by accident, is not worth cultivation, though ever so useful, or be they ever so fond of it. Thus it is that the horse-radish—though one of the most highly-prized Spring condiments—receives little or no attention, and is usually found in most gardens to be seen in the vicinity of a sink-spout, at the end of a drain, under the fence, in a shady, worthless corner of the garden, or other neglected places, out of sight and mind—only when it is wanted in early Spring for the table. Then a few meagre, stringy, forlorn, little, pithy, or hollow roots are dug up, the tops cut off and thrown away, and the plants "not worth digging" are left in the ground, neglected and unthought of, until another Spring revives the appetite for a repeated digging of the esculent. Such is the usual "cultivation" which the abused horse-radish gets at the hands of its benefactors!

Now, horse-radish is as much better for good culture as any other plant; and it is so little trouble, that we will narrate our own method of treating it for many years past, by which *we know* that the article is improved, at least a hundred per cent in value and flavor. We plant in a row, or rows, as we would currant bushes; taking a place in the garden, where we do not wish to plow or dig across it, and where it can stand permanently. We then strike out a place, not under a fence, unless it be on the easterly or southerly side of it; nor under the shade of trees—but right out in the warm, open, exposed part of the garden, where the sun, rain and air can hit it fairly, as if it were a beet or onion bed. Staked out, we then threw on to it, a heavy coat of strong, fat, barn-yard dung, spread even over it. We then plow or spade it in, deep as we can, and pulverize the ground thoroughly. Then, with crow-bar, or iron-shod hole puncher (dibble)—which every gardener should have about him—we sink a line of holes in the ground, a foot or eighteen inches deep. When that is done we fill them up with the finest of the soil, well mixed up with manure, to within six inches of the surface. Then we take the green tops of the plant, with about an inch of the root attached—if the tops be large, they may be split with a knife into three or four parts; or if whole, no matter how small—and drop them into the hole, one root in each—top up, of course—and cover them in with the soil. The bed is thus complete, and ready for growing. Keep them clean by the hoe, like any other crop. The next Spring you can dig from the thriftiest, and best grown plants, all you want for family use, still putting back the top, as when first planted, if you take it all out. If you leave a root or two in the place from which you take it, that will furnish increasing roots for the next year.

If you grow for market, let them stand till two years old, as they will be larger, and then you can dig and plant at pleasure.

Culture of Garden Seeds offered in our Distribution.

Peas.—Nos. 8 9 10 and 11. These all require similar planting, except the Dan. O'Rourke, which is a lower growing variety and may be sown in rows nearer together, say 2½ feet apart. The others need 3 feet to 3½ feet between the rows. A moderately dry, rich sandy loam suits them best. Cover one half inch deep. For early use, sow about the midddle of April, and so on at intervals of two weeks until the middle of June to keep up a succession. The four kinds sown at the same time will come in one after the other, the Dan. O'Rourke—the earliest pea known—first, and the Hairs' Dwarf Mammoth—the best, we think—is the latest.

Kohl Rabi—No. 12. Sow and treat in all respects like rutabagas. This yields a turnip, or cabbage turnip above ground, which is cooked while green the same as a turnip. (See illustration and description in our last volume, page 209.)

Enfield Market Cabbage and Alma Cauliflower.—Nos. 13 and 14. These may be classed together in culture. They *head* better, either as early or late vegetables. The hot weather of mid-Summer is not a good season for heading. Hot-bed plants, or those started in the house are better for early use; and the fore part of May a suitable period for sowing seed for late planting. Avoid the use of hog manure as it forms knotty roots. Ashes are a good fertilizer, if there be plenty of organic moisture, such as black earth in the soil already. If not, rotten leaves or well rotted manure may well be added.

Lettuce.—Mammoth Cabbage, and curled Silesia, Nos. 15, and 15 (*b*), are cultivated allke. Sow in the open ground from the first of April to the first of May, and at intervals afterwards for a succession. Lettuce is of most easy culture, requiring only covering and weeding, in ordinary soil, to thrive well, and may often be sown among vines or other vegetables. Its quick growth allows its early removal. If left too thickly in the row it does not form a large head.

Long Orange Carrot and Saisafy, Nos. 16 and 20.—These are both parsnep rooted plants, requiring the soil to be dug deeply—trenched if possible. Sow early, say the middle of April to the middle of May in drills one foot apart, and cover with half an inch of fine soil. Thin the salsafy to three inches, and carrots to six inches apart.

Red Strap Leaf Turnip, No. 17.—Sow middle of April and later for early Summer turnips. Rows fifteen inches apart, and thin to six or ten inches according as they are to be used young or mature their growth. Keep well hoed. New soil is much better than an old garden for them.

Patience Dock, No. 18.—Sow at any time after the frost is out of the ground in rows eighteen inches apart and leave one foot distant in the row. They should be picked from only lightly the first year. The root being perennial will furnish abundance of early greens the subsequent year. Let the bed be in a portion of the garden, where it will be out of the way in plowing.

Round Spinach, No. 19.—Of very easy culture and may be sown in the Fall or Spring. Put in at intervals of a week or two commencing as soon as the ground is settled in Spring. Rows one foot apart. Thin out for use, leaving a little standing through the season for seed, as it is an annual.

Winter Cherry, No. 21.—Sow thin, and treat in every respect as tomatoes. A few early plants from a hot-bed will give fruit much sooner than when sown in the open ground. The seed should be in by the first of May. (See directions last month, page 85.)

Marrow Squash, No. 22.—Plant May first on well manured ground in hills five or six feet apart, and leave two plants in each hill *after* the bugs have had their portion. In the planting dig out a large deep hill and enrich with hog or other manure. Dust young plants with flour and black pepper to keep away bugs.

Flower Seeds.

These were all described and a portion of them illustrated on pages 20 and 21 of the January *Agriculturist*. In giving directions for their culture it is not neeessary to enumerate them, singly, as several varieties need similar soil, require planting at the same time and at equal distances from each other and the same management afterwards.

A portion of them are climbers, and require something to train them upon; others make large, bushy plants and need ample space as single specimens, while still others may be grown more compactly, or even in masses.

Most Flower Seeds require only a light covering, especially those having a broad, thin husk.

None of them should be covered with more than half an inch of fine soil.

CLIMBING PLANTS—ANNUALS.

Beginning with the Climbing Cypress vine, 33, and Morning Glory, 47—each of which will run 15 or 20 feet when properly trained—we may plant them hy the side of fences, buildings, arbors, or No. 33 may be planted in a circle 4 to 6 feet in diameter, around a central stake some 10 or 12 feet in hight, with strings running to the vines in the circle. From the 10th to the 15th of May is early enough for sowing seed in this latitude. Soak them in warm water for a few hours previous to sowing. No. 47 is very hardy and may be sown at any time after the frost is out of the ground. It often springs up from seed dropped the previous season.

SUB-CLIMBERS—ANNUALS.

Nasturtiums, 25, and Sweet Peas, 45, are semi-running or climbing plants. Nasturtiums require a space of several feet to ramble over and are sometimes planted by the side of fences or walls, over which they clamber and bloom profusely The seed capsules, or bulbs make a beautiful pickle. Sweet Peas grow from 4 to 6 feet in hight, and may be bushed with rustic cedar or trained upon twine beside a building. Both are hardy and may be sown the latter part of April or first of May

BUSHY PLANTS FOR SINGLE SPECIMENS—ANNUALS.

Mignonette, 23; Cockscomh, 27; Balsam, 29; Bartonia, 36; Zinnia, 37; Marvel of Peru, 39; Schizanthus, 50. These grow somewhat large and do best as single plants or in rows about two feet apart and one foot distant in the row. They are all hardy annuals and may be sown the latter part of April, or as soon as the ground is dry and warm in the Spring. The seed may be sown where the plants are to remain, or elosely together in a bed to be transplanted afterward. None of them mix or hybridize, and they may be mingled together to give variety. The descriptions on page 21 will enable any one to arrange them to the best advantage.

BIENNIAL AND PERENNIAL PLANTS.

Sweet William, 38, is a beautiful flower of variously mixed shades of color. It is a perennial and blooms for many years, beginning with the second year from planting. Fox Glove, 42, is biennial, blooming the second year (not the first), and sometimes the third year and longer. Both of these may be sown somewhat thickly as soon as the ground is dry and warm, and fterward transplant to about one foot apart during the season, or early the following Spring.

GROUPING OR SEMI-GROUPING ANNUALS.

Larkspur, 28; Chinese Pink, 30; Tassel Flower, 31; Asters, 34, 35; Eschscholtzia, 40; Clarkia, 41; Lavateras, 43, 44; Lupins, 46; Flos Adonis, 48. Each of thesc are usually grown in groups, though they may stand as single specimens or be interspersed with the other classes. They are all hardy annuals of moderate size, and may be sown from the last of April to the middle of May in this latitude. It is usually best to sow the seed where the plants are to remain. Put them in rows about one foot apart, and if to grow singly, thin out to about six inches from plant to plant in the row.

MASSING OR BEDDING ANNUALS.

Nemophilla, 26; Portulacca, 32; Candytuft, 49; Phlox Drummondii, 51. These four are dwarfs in size and are adapted to growing in clusters or masses. The seeds sent out by us are of various colored flowers mixed. The four kinds, or two or three of them, mixed and sown somewhat thickly, form beautiful groups. When seed is to be saved the plants should be grown separately.

A Good Seed Bed.

Almost as much depends upon this, in rearing plants, as upon having milk, for the young of the mammalia. The products of the garden are better than those of the field, mainly, because of the greater attention paid to the seed bed. It is made deeper, rieher and finer, three prime qualities in good cultivation. Where the soil is made very fine by a long toothed garden rake, the plant food is evenly distributed through the whole mass. The first root that puts forth from the germinating seed comes into immediate contact with its appropriate aliment, in a diluted state. It is fed on milk, and not on strong meat, as is too often the case in field culture, where unbroken lumps of manure come in eontact with the seed, and destroy it. The fineness and looseness of the bed too, faeilitates rapid growth. There is no energy of the plant wasted in pushing its roots through hard clods. The roots run out rapidly in all directions, making new mouths, and drinking in constantly larger supplies of food as they go. Nothing pays better, in field or garden culture than labor bestowed upon the seed bed. The harowing and the cultivating after the plowing pay as well as the plowing. We want more disintegration of the soil.

Gardening for the Ladies.

We wish to say a few words, this month, to our lady readers about gardening. As we have looked into your houses the past Winter, we have noticed your attempts to make home eheerful by cultivating a few house-plants. Some of you have had the skill and good fortune to make a'fine show; others have succeeded but indifferently. The verbenas *would* dry up, or damp off; The geraniums would drop their yellow leaves and look scrawny; the roses were covered with insects, and would not bloom. You have almost begun to lose faith in gardening. But we will say nothing more at present on that point, except to refer you to some suggestions on the care of house-plants, in another column. Spring is now opening, and you will undoubtedly succeed better in out-door operations. Light, air, moisture and temperature are better regulated by nature than we ean manage them.

Our little sermon to you, now, is suggested by the sight of the early bulbs just pecping up in the warm border on the south side of our dwelling. The snowdrop and erocus are beginning to show their blossom buds; and the daffodils, hyacinths, and tulips are coming up, ready to flower in their turn. And yet, not far away are snow banks. Why should not this sheltered spot be, as it is, one of our family pets? Here Spring shows herself first, and here Autumn lingers latest. We therefore advise you to seek out a warm corner like this, under a high, tight fence, or a wall, or the protected side of your house, and make a bed there for early bulbs. In this neighborhood, also, it might be well to put a few early shrubs, such as Mezereon, Japan Quince, and Flowering Almond; and these might be planted now. It is too late, however, to set out bulbs for Spring flowering; but now, while your mind is upon it, secure the spot for planting in the Fall. Such a spot as this is an excellent one, also, for setting out late flowering plants, which would be injured by the frosts of Autumn, if growing in the open garden. Last Fall, we had Chinese Chrysanthemums flowering in our border, after nearly every plant in other situations had been killed by the cold.

Now is the time, also, to prepare for improvements in your grounds at large. Have you a front yard? Trim up those lilacs, prune out the dead branches of those rose-bushes, and tie up the remainder to neat stakes. Persuade husband or brother to hoe out the weeds from the walks, and to dig up all thistles and foul-stuffs from the grass-plat. A little pure grass-seed and white clover scattered over the ground will do no harm, especially if a light dressing of old eompost is added, and the whole is raked off smooth and neat. Of course, you want some flowers in your front-yard. But we would not advise you to set out herbaceous perennials there, or to sow annuals. The latter are a long while coming into bloom, and the former, as soon as they have flowered, begin to die down and to look shabby. Set this kind of flowers in a garden by themselves, a little aside from your front lawn. But prepare a border by the side of your walks, in the front of the house, for such plants as bloom all the season, and whose foliage is always fresh. Or, in place of a formal border, eut out eircular heds (or those of any fanciful shape), in the grass near the walks, and fill them with the plants last mentioned. Of these, the best are verbenas, petunias, scarlet geraniums, heliotropes, lantanas, pyrethrum, &c. Any or all of these can be got at low rates, of the florists in your neighborhod. Their perpetual bloom will repay well all their cost. You can exercise much skill and taste in arranging colors. Blue contrasts finely with white: orange with purple; white with pink, scarlet, &c., &c. But why should we attempt to teach ladies anything about the arrangement of colors! They will, however, let us advise them to keep the grass of the lawn shaven smooth all Summer, in order to get the full beauty of this style of gardening.

American Pomological Society.

The seventh session of this Society will be held in New-York City, opening on the 14th day of Septemher next. From the central location of the meeting and the increased interest in the objects this society aims to promote, the next session is likely to be the most largely attended, and the most interesting of any yet held.

IN DOOR WORK.

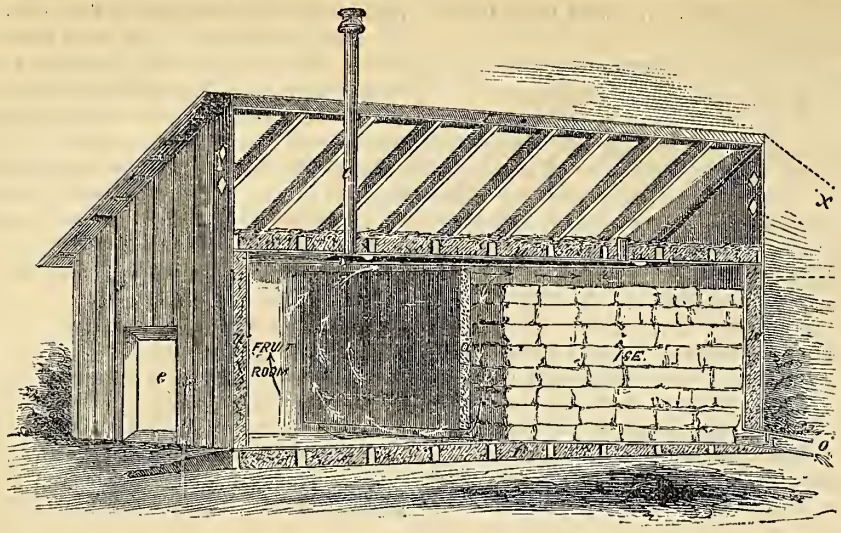
Care of House Plants.

Sometimes house plants are cared for too much. They are nursed to death by over-watering, over-heating, and over-handling. Plants housed only to keep them over Winter, need little light, heat or water. They want to sleep after the activity of the preceding Summer. All they need is to be kept in a dormant state, just above the freezing point. Plants housed for flowering in Winter must have plenty of light, fresh air, water at the root and on the leaf, and a proper degree of heat. Their condition should be made as near as possible like their state in Summer It is of fundamental importance that, in potting them, they should have good drainage—say one-fifth the contents of the pot. Then any accidental excess of water will pass off. When growing rapidly, they should be watered freely. But the very best condition of the soil, in this respect, is that of moisture, without absolute wetness. It is almost as important to keep the leaves clean, by syringing, or sprinkling them, as to keep the roots moist. The unnatural dryness of most parlors and living-rooms shrivels the leaves, and the dust and smoke clog up their thousand pores. Hence, the importance of a daily sprinkling.

Give them also plenty of light. Curtains within and trees without, are an evil. Set the pots directly before the window, and as near to it as possible. Turn them around every few days, so that the foliage may grow symmetrical and healthy on every side

Don't bake them. Plants are oftener injured by too hot than too cold rooms. The heat of furnaces and stoves, especially those in which anthracite coal is burned, is very eoncentrated and dry; and this added to the high temperature of most parlors, is more than plants can well endure. A room adjoining a heated apartment is better than the apartment itself. A temperature ranging from 50° by night, to 65° by day, will answer for most plants. And fresh air admitted on mild days is of great importance.

Look out for insects. If you have only a few plants, they may be kept clean by picking off the insects with thumb and finger. If you have several shelves or tables full, take a half dozen pots at a time, set them in a row on the floor, putting a saucer of smoking tobacco among them, fire the tobaceo, and then set a box over the whole. In ten or fifteen minutes, every insect will be dead, or so well drugged that they can be easily brushed off the leaves. In this away, a large collection of plants ean shortly be cleaned.



SCHOOLEY'S PATENT PRESERVATORY.

Some Interesting Facts concerning Cooling and Drying Rooms.

Above we have made an engraving of an arrangement for using ice, involving the application of principles which it will be interesting to examine, whether the reader be at present so situated as to make any practical use of them or not. Our illustration represents one-half of a building, supposed to be divided through the middle, from the ridge-pole to the ground, in order to better show the interior arrangements. This structure may be a large one, twenty or thirty feet each way, or only a small room of but a few feet in size.

The side walls, *w*, *w*, and the lower and upper floors, *f* and *u*, are made double, being filled in with saw-dust. The upper floor, however, consists of a single layer of boards, nailed upon the under side of the joists, with the saw-dust piled on loosely, a foot or more in thickness. Above this is an open space or garret, under the rafters or roof, with holes in each gable-end to admit a free circulation of air. The main room is divided into two compartments—the fruit-room and ice-room—by the partition *d*. The partition *d*, unites with the walls on both front and rear, but a small opening of a few inches is left both above and below it—that is between the whole length of the lower and upper edges and the floor and the ceiling. The ice, as represented, is piled up in a compact mass in the right division, and covered in the usual manner with straw, A small vacant space, *v*, is left between the ice and the division wall, though this is not necessary unless the entire body of ice is so compact and frozen together as to prevent the air from circulating through it. The floor under the ice descends to the right from *f*, so as to carry any waste water out at *o*. There is an ingenious arrangement in the waste-pipe to prevent the access of air or vermin. It will readily be seen that before the water rises high enough to overflow the right projection, or gate, the upper or left-hand gate dips down into it, so that the opening is always closed with water.

Let us now examine what will be the effect of the ice upon the air in the adjacent room. It is well known that air when becoming warmer rises upward, because it is more expanded and consequently lighter, while colder air sinks downward. In a stove-pipe or chimney it is the heating and expanding of the air that causes it to rise, producing the *draft*. The same thing takes place in a room. Raise the lower sash of a window a little and also depress the upper sash A lighted candle, or a bit of cotton on the end of a string, held near the upper opening, will show that a current of lighter, warm air is rising and passing *out* at that point; while at the lower opening, at the bottom of the window, a current of heavier, cold air is flowing *in* to take the place of that ascending. This current will be kept up steadily, so long as the room is warmer than the atmosphere without. The same thing will be seen by experimenting with the cracks under and over a door connecting a warm and a cold room. The slightest difference in temperature of the two rooms will produce a very sensible draft. If we darken the room, and admit a few rays of sunlight at some point, and then stir up a little dust from the carpet or floor, we can trace the course of the air as it descends from the lower part of the window, flows along the floor, and becoming warmed, rises in currents, and passes back along the upper surface, returning outward through the upper opening. We may here add, that the most effectual way to ventilate a room is to thus open a window a little both at the top and bottom. It may be further stated, that winds are produced in like manner. From some cause, the air in one place becomes warm, and rises upward, and cold air from an adjacent locality, settles or rushes in to occupy its place. This is followed by air still more distant, so that the simple heating of the air at one point may set the atmosphere in motion for hundreds of miles, thus producing a wind current. The gentle western breezes of the morning, always experienced when there are no other disturbing causes, are accounted for by the fact, that the sun at the eastward is heating the air, and causing it to rise, and the air further west is moving forward to occupy its place.

But to return to our engraving. The air around and among the ice will always be kept cool. It will consequently settle downward and flow along *under* the division wall, *d*, and into the lower part of the fruit-room. At the same time, the warmer air will flow into the ice-room through the opening *over* the division wall. The arrows show the direction of the currents of air. This motion will always be kept up so long as the air in the fruit-room is in the slightest degree warmer than that in the ice room. We see, then, that by such an arrangement the fruit room is practically kept nearly as cool as if actually filled with ice.

There is another important end secured by this arrangement, viz., that the air in the fruit-room is kept very *dry* or free from moisture. The air always contains more or less *invisible* water floating in it. The amount of water in the air depends upon its temperature. Thus: at zero a cubic foot of air contains only about one-sixth part of a grain of water (.18), and we speak of it as a cold dry atmosphere. At the freezing point 32°, a cubic foot of air contains about 2½ grains of water (2.35); at 40°, about 3 grains; at 50°, 4¼ grains; at 60°, 5 4-5 grains; at 70°, 8 grains: at 80°, 10¾ grains; at 90°, 14, 2-5 grains. At 100°, a cubic foot of air contains over 19 grains of water, or more than 8 times as much as at the ice, or freezing point, or 106 times as much as air at zero. When a cold current of air comes in contact with a warmer one to cool it, the warmer air gives up a portion of its water which descends to the earth, the myriads of little particles uniting together into visible rain drops which fall down to the ground. So when the air is cooled by contact with the colder earth at night, it gives up some of its water in the form of dew. In like manner the surface of a tumbler cooled by ice water within, in turn cools the air around it, and the air no longer having so great a capacity for water gives it up to be deposited upon the surface of the glass. So the windows, being cooled from without, lower the temperature of the air in contact with them and thus withdraw the moisture, which trickles down upon the glass.

Just in this way our ice-room operates. The warmer air of the fruit-room takes up moisture from the articles there; but when it passes over to the ice, being there cooled it gives up a portion of this moisture to the ice, flows back below in a drier condition, to take up more moisture as it is warmed again. This change goes on unceasingly. We see, then, that our engraving furnishes an instructive study. To make the description complete we will alude to one or two things more.

At *e* is seen the entrance to the store room, in which may be kept all kinds of food, vegetables, fruit, &c. Should the air need changing at any time, to get rid of odors, it is done thus: Just under the ceiling is seen a flat slide. Moving this to the left, two holes through it will be brought under the two ventilators, one leading into the open air above, the other into the garret. When this is done, the fresh air from the garret will settle into the ice-room, while the warm air in the fruit room will ascend through the larger ventillator and pass off. In this way the whole air in both rooms will soon become exchanged for a new supply.

There are a great variety of arrangements which can be made on the principle here illustrated. For example, suppose the ice-room were a hundred feet distant, with only an open tube leading to the top of it from the top of the fruit-room, and another tube connecting the bottom of the two rooms; it is evident that the same change of air would take place, viz., a current of warm air *to* the ice room through the upper tube, and a current of cold air from the ice room through the lower tube. Any room in a house may thus be *cooled*, and *dried* also, by connecting it with even a distant ice-house. A chamber may be cooled and dried, by connecting its upper surface with the top, and its lower surface with the bottom of an ice-room or even a cool cellar. In short, any room in a house may be cooled and dried by an ice-room placed anywhere within reach of it, simply by connecting their upper and lower surfaces by capacious air passages.

It is hardly necessary for us to dilate upon the many advantages of a Preservatory on the plan illustrated above. Its usefulness for hotels, eating-houses, for keeping fruits fresh, especially for dairy operations, can, we think, scarcely be over estimated.

Always to indulge our appetites is to extinguish them. Abstain that you may enjoy

Sewing Machines.

But for the importance of the subject we should regret having said anything in these columns about Sewing Machines, simply because so many of our lady readers write for all sorts of information about the various machines that it is utterly impossible to reply individually, and we thus draw upon ourselves the imputation of want of courtesy or attention. Let us write once for all, that we cannot undertake to purchase machines or to decide what kind any one should buy. We have purchased for experiment two of the best machines we could find, and are giving them a thorough comparative trial. When we fully decide which is the better one of the two for general family use, we shall have no hesitation in publishing the result. We are waiting until both shall become equally familiar to those using them, otherwise the newcomer would not stand a fair chance.

Mr. J. C. M., a subscriber in Indiana, writes, urging us to describe and illustrate a low-priced machine which he names. We would do so with pleasure, but we have examined the machine carefully—a near neighbor owns one—and we cannot directly or indirectly recommend it to our renders.

Leaf and Flower Pictures.

Our children, with a little help from older hands, having recently decorated our library with this new style of embellishment, we beg leave to talk about it a little, for the benefit of the ladies and children who read this department of our paper.

Last Summer, a little book was published in New York, by Randolph, entitled "Leaf and Flower Pictures and How to Make Them;" in which the whole mystery of this art was revealed.* We will try and give an idea of the art in few words: Leaves and flowers, of all colors and sorts, are to be gathered in the Summer, and pressed in a large book, such as an old ledger. Thin flowers only should be used, or such as can be pressed thin. Of leaves, collect all descriptions large and small, green and spotted, and especially those which are tinted so beautifully by the frosts of Autumn. Fern leaves are excellent; lichens and mosses can also be used. Give them all a good pressing, and keep them in the dark until Fall or early Winter. Then, on some rainy or snowy day, having provided yourself with a small bottle of white varnish, and a flat brush about an inch wide, open your treasure-book and varnish the leaves on the upper side; then spread them out on a table until they are dried. Then prepare a coffee-cup full of gum-tragacanth, mixed with water to about the consistency of cream. Have at hand, also, a sheet or two of white pasteboard or cheap drawing paper, found at the stationer's, and cut out the figures of any object you may wish to represent—such as vases, wreaths, boquets of flowers, crosses, crescents, &c. Now arrange the leaves, and flowers on the patterns, as good taste will direct, fastening them to the paper by a little gum on the back of the leaves. As a general rule, the smallest leaves and flowers should be placed at the top of each pattern; and the colors should be arranged so as to contrast with each other. These several figures, when made, can be pinned against the side of the wall, or over the top of windows, picture-frames, &c. At a little distance, they have the effect of a fine painting, The whole work, from the gatheing of the leaves in Summer strolls, to the arranging them amid the storms of Winter, is exceedingly pleasant.

* The price of this book is $1 25. Any one of our readers desiring a copy, and not finding it convenient to obtain it elsewhere, may remit the price to us, and we will procure and forward it post-paid. This is our custom, in regard to any *good* book, or books, so far as our subscribers are concerned. As we have before stated, the discount allowed us by publishers, in most cases covers the expense of mailing and postage.

For the American Agriculturist.

Keeping House in the Country.

"HELP."

[*Continued from page 71.*]

The best way of doing without "help" was first brought to my notice by a farmer's wife of my acquaintance, who was listening with a compassionate air, while a company of housekeepers complained, (as is our wont at social gatherings in Windholme,) of our domestic grievances. "Yes," she remarked, "I do so pity those who have to depend on strangers." "*Depend on strangers*," I repeated in some surprise, "Why how do you manage? Ban you do the work for your large farm alone?" "Oh no," she answered, laughing, "I have five daughters, all trained in my own ways—the best help in the world." I had hitherto looked on a household of well trained *servants* as a happy abode—but from that day to this, I have thought one of well trained *daughters* something higher still." It is true it is not available for all, but do not some possess the materials, who make no use of them! I am far from thinking it is always the fault of the daughters. There are mothers who can not bear to give up to others any part of the housekeeping, who have persuaded themselves that nothing can be done exactly right, if it is not done with their own hands. They are willing, perhaps, to be assisted by some patient drudge—but we can not wonder that their daughters dislike employments with which they have no association but fault finding and hard work.

In the household of my friend, the farmer's wife, each daughter had for a certain time her peculiar charge. When Anna and Mary do the washing and ironing, Caroline and Martha take in hand the baking and cooking. Ellen who attends school, does not find it hard to dress the younger children and set the house in order before her departure. The mother plies her needle and is the presiding spirit of the whole. I asked her once how she had trained them all so well. "I begin when they are very little, and give each one something for her own work. They are soon proud of doing it well and want something more. In that way they have learned almost every kind of housework. Nelly made her first loaves a year ago."

The more I dwell upon this household scene, the more lovely and pleasant it appears. No intruding stranger with sharp ears and sharper tongue sits at the household board, or grumbles in the kitchen because she does not sit there. Happy, thrice happy are those who have five daughters, but as they must form a small portion of the community, I must consider the case of others less fortunate.

Household conveniences and labor saving machines are beginning to render us more independent of domestic service. Gas lights, furnaces, ranges, garret cisterns, patent wash-boilers and tubs, and above all sewing machines, certainly lighten the labors of a household. I have not mentioned the half, and you may not be able to command all these, but have as many as you can. Let your well and cistern be under cover in the laundry. Your woodhouse close to the kitchen door. Keep drains and sinks in good order. Put up a cheap cistern in the garret and save the carrying of water for at least nine months of the year. Plan your house so that the family rooms are thrown near together and the pantries and closets close to where their contents are needed. (I remember a house, where the preserves used *every day* had to be kept at the end of a long entry up two flights of stairs.) Grain and varnish nearly all your wood work, and you will save much more than half of the weary foot and heart labor which, without exaggeration drags down many of the women of America to untimely graves.

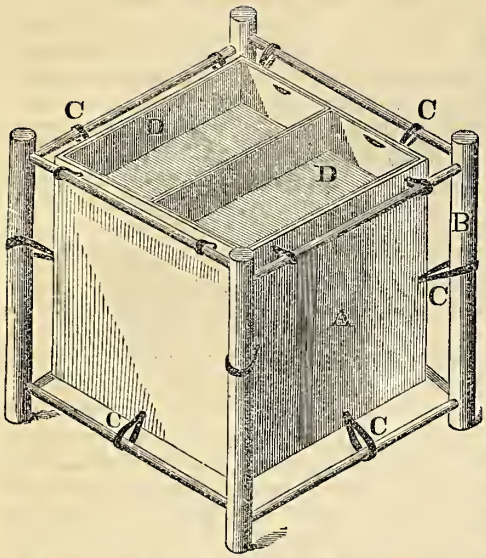
But the most convenient house will not do all its own work, and country help often takes wing at most inopportune seasons. At such times a little girl is a great resource, and as orphan and destitute children are everywhere abundant, comparatively few housekeepers need ever be without one in course of training. Such a child is a trouble and responsibility of course, but it is the only method by which you can always have some household help and be served as you choose. If she prove hopelessly bad, you need not keep her but it is surely not too much to say that in most cases a faithful and careful training must meet with its reward. You need not wait for this reward in the future, for there you may be disappointed. It can not be expected that the best of girls, will not marry at eighteen, if she has a good offer, but now—in times of pressure of work—of company—in the intervals between the departures and arrivals of older helps—nay every day and always, a diligent and obedient child is of great assistance in a family and worth all the trouble of teaching.

We have all to think, and ought to think, a great deal about the proper treatment of those whom we receive into our families, whom we must influence for good or evil, and upon whom so much of our comfort and happiness depends. I allude now to older domestics. I do not think we are in much danger of treating them inconsiderately or unkindly. They keep us in too good order for that; but we are very liable to fall into an opposite error, which is sure, sooner or later, to produce evil effects. I mean that of letting bad work pass unnoticed, because we do not like to find fault. It sounds very amiable, but after all, it is only weakness. It is, no doubt, very difficult to give a reproof, in a perfectly right spirit, exactly proportioned to the offence, and in such a manner as to awaken a desire of amendment. It is much easier, and seems safer, to say nothing; and so it goes on from bad to worse, till the end of our patience comes, and we either send away a girl who might have been a useful domestic, or have a scene, in which we are very likely to come off vanquished.

I once knew a lady, who was considered very successful in the management of her household. Her domestics were not perfect, but they usually stayed with her a long time, and were always strongly attached to her. I was anxious to know her secret, but could find only one peculiarity in her method. It was the almost excessive pains which she took to have a *right beginning*. As soon as a new girl came, she took her in training, taught her the exact way in which she wished the every day routine to be done, worked with her, pointed out all defects and mistakes, and the means of cure. It might seem an unnecessary waste of time, to devote so many hours and days and such strict attention, as my friend gave, to every new domestic; but she purchased by it months, and sometimes years, of comfort and ease. There was no room for doubt how she expected her work to be done, and more than all, in the very beginning of the new relation, while all was smooth and pleasant, that relation was fixed permanently as teacher and taught, head and hand. In other respects, I do not know that I should select my friend as a model mistress. She was kind hearted and just, but I am quite sure I have sometimes heard her scold! It was very dreadful and of course none of the lady readers of the *Agricul*

turist do it, but after all, it will not matter so much, if we can contrive to be beloved and obeyed as she was. EMILY.

Windholme, Pa., March 8.



Apparatus for Carrying Fruit, &c.

We give herewith an engraving of what appears to us to be quite a valuable arrangement for carrying various kinds of tender fruits, which are liable to be bruised in transportation—not to mention eggs and other articles requiring special eare in handling. It consists essentially of a square frame, like the base of a chair, within which is suspended the packing-box *A*, by means of the elastic India rubber straps, *C*, *C*, *C*. Nothing could be more simple in construction, and the inventor has wisely fixed the retail price at a low figure, depending upon large sales for a remunerative profit.

The specimen before us, from which the above drawing was made, cost $1 25. It is fifteen inches each way, measuring from the outside of the frame. Within the main box, *A*, are eight smaller neatly fitting fruit boxes, *D*, *D*, each capable of holding two quarts of berries, or sixteen quarts in all. For very tender, ripe fruit, these boxes might be divided across the middle, to give sixteen divisions, holding a quart each. The "Protectors" can be placed one above another in a car or wagon. The elastic suspending bands will prevent any sudden jarring, either vertically or sidewise. Two dozen of these, holding 384 quarts, would cost $30, or perhaps less at wholesale, without any extra expense for baskets, cans or boxes for the fruit, and they could be used year after year. A new set of rubber straps once in a few years, costing but a small sum, would be all the repair needed for a score of years. We speak thus strongly in their favor because we think them worthy the attention of those marketing the tender fruits, a vast amount of which is annually lost. They can be made of much larger size than the above, when desired. The inventor's card will be found in our advertising columns.

A Word for the Grape Vine.

If our readers followed the advice given in the *Agriculturist*, last Fall, they laid their grape vines on the ground, at the approach of Winter, and covered them with a little coarse litter or a few cedar boughs. And having done so, they will now have the satisfaction to find their vines unharmed by frost, and in full vigor and health, ready for their Spring work. But just here, let us give another word of counsel. *Don't take up your vines too soon!* By lying on the ground, especially if under the shelter of a high and tight fence, the buds will begin to start much earlier than if tied up to the trellis, and exposed to cold winds and freezing nights. If raised from the ground too soon, those tender buds will be in danger of blasting. Our advice is, therefore, that you gradually remove their Winter protection, early in this month, but keep the vines on the ground until cold weather has actually passed away. Then lift the canes carefully, taking pains not to break off any of the tender buds, and tie them securely to the bars or wires of the trellis. In this way—as we know from experience—you will be quite sure of an abundant and early crop of grapes.

The Sunflower.

We have had frequent inquiries as to the policy of cultivating the sunflower as a crop for oil, or pig, or chicken feeding on the farm; and occasionally seen a recommendation of it for these purposes. We have tried it to our own satisfaction, and under favorable circumstances, so far as the crop was concerned; cultivating in the same way as corn, with a result unfavorable to a second trial.

From the quantity of seed obtained from a single stalk, it may appear that the yield is large—forty bushels, or more to the acre. But when the *nutritive* amount of that seed is considered, the yield will be scarcely a third of the gross product. The kernel, or meat is soft, and oleaginous, inclosed in a thick husk of woody fibre, utterly worthless in nutritive properties, and taken into the stomach, has to be passed off as offal through the intestines. Indeed so coarse and chaffy is the husk that it is only fit for burning. Cattle, however, are fond of the leaves, and small branches of the stalk when green, and eat them with decided relish; but they, too, are so coarse and light in fibre that the same bulk of green corn stalks, and blades are worth double the sunflower. Pigs, and hens will eat the seeds, to be sure, but they prefer any sort of grain, and when all kinds are before them, the sunflower seed is the last they will touch.

Of its oil producing profit we know little, other than that it has several times been tried, and we presume, from hearing no continuous results, it proved a failure. In pressing, probably the open-grained, porous husk absorbed half the oil which the comparatively small kernel yielded. Yet, slight as the value of the leaf and seed may be for stock feeding, it is a noble, grand-looking plant, and should always have a place in the garden, and about the cultivated grounds of the premises. We love to look upon a vigorous well grown sunflower when in full maturity of growth, throwing its broad, glowing head-flower far above all else around it—and supported by its score of smaller sattelites below. Many people, since the choicer kinds of garden flowers have become so common, look upon the sunflower as vulgar, and not worth cultivation. As well might they discard the oak, or elm among shade trees because we have the mountain ash, and horse-chestnut.

We love to look at the great, broad sunflower in full bloom and glory, turning its morning face eastward to the rising sun, and following its course through the day along the Western firmament. It connects us with happy memories in childhood savors of an old-time home—associates us with a thousand domestic joys, innocence and peace.

Dearly do we love the sunflower! We always cultivate it in the garden; and although it may be ruled out of the catalogue of "choice plants," we cherish it none the less, but rather love it more that the dillettanti florists of the present day discard it. No. Although the sunflower, as a crop, may be worthless, as an ornament to the grounds—more particularly such as are not pretentious in keeping—it should always be planted, cared for, and admired. When past flowering, its leaves and small branches may be fed to the cow, and its seeds to the poultry.

Boys' and Girls' Own Clumns.

Molasses Candy.

A young reader in Glastenbury, Conn. (many pleasant remembrances of a Winter spent there in olden time arise at the mention of that good old town), desires us to "tell him, and others, how to make Molasses Candy, light, white, porous and delicious, such as is seen on the city candy stands." We are not very much skilled in this art, but a very good article can be made by taking a pint of good molasses, and stirring thoroughly into it a teaspoonful of finely pulverised bi-carbonate of soda (*i. e.* common cooking soda). Then put it on the stove in a large basin, and boil down, with frequent stirring at first, and constant stirring towards the last, until when a little of it is cooled, it becomes waxy Then let it get nearly cold, when it must be worked and stretched or pulled for some time. A little butter or sweet lard on the hands will prevent its sticking. The whiteness, and lightness, or porosity, depends wholly upon the amount of working and stretching it receives, providing good common molasse be used, and not scorched. Common white sugar candy is simply white sugar melted in a little water, and then worked like wax for a long time. The maker takes a mass in his hands, draws it out, throws it over a hook, and draws it out further, then doubles the loop, and draws the two pieces, and so on until it becomes white and porous. He then lays it on a table before the fire, to keep it warm and waxy, and draws off from one end a round piece, several feet long, rolling it round upon the table. When these long pieces cool, they are broken up into the penny sticks sold in the shops. Perhaps we will tell you more about *how* different kinds of candy are manufactured. We will now only say, never eat colored candies. Pure white candy is nothing but white sugar, well "stretched."

Answers to Problems.

Prob 13.—Jno. R. Long, Logan Co, O, gives, 11.30027 feet as the true answer. This is correct, we believe, but differs only from that of La Fetra (page 28) by the small decimal fraction .00027.

Prob. 22—From the following, correct answers to this were dated and post-marked, but not received, before our list was given on page 59: J. W. Quimby, Clinton Co, O; Canova Libhart Marrietta, Pa; Peter C. Waters, Gibson Co, Ind.; Robert Stobo, Essex Co, N. J.; "One of the Boys," Independence, Iowa; Chas. D. Morris, Tiskilwa, Ill; and Jno. D Smith, Des Moines, Iowa, nearly right. Waller W. Preston, Ringold Co, Iowa, sent also No. 23.

Prob. 25.—A gentleman gave to each of his sons a garden. John's garden was circular; James' was a rectangle or square. The ground was worth 3 cents per square foot, and the price of each garden in 3-cent coins just inclosed it—the coins being taken at 1-2 inch in diameter each. What was the size and value of each garden?

Answer.—John's garden—a circle, 96 feet in diameter, circumference, 301⅛ (301.5936).

Area, 7238¼ (or 7238.2464) square feet. Value $217.15 (or $217.147342),

James' garden—a square, 96 feet each side. Area 9216 square feet. Value $276.48.

Answering thus: Sallie C. Clarke, Indiana Co, Pa; A, Le Fevre, New-Paltz, N Y; W. C., Burlington, N J; J. Vipond, Jo Davis, Co, Ill; Jno. F. Miles, Girard, Pa; Bernardo del Cowperthwaite and Monie B. Cowperthwaite King's Co, N Y; T. J. Adams, Elkhart Co, Ind; G. H. La Fetra, Oakland, O; C. M. Barber, Washington Co, O; H. B. Reist, Lancaster Co, Pa; Abr. Myers, Ogle Co, Ill; W. H. G., East New York, L I; W. W. D., Mass; John A. Bowden, St. Andrews, N Y; S. K. Verrill, East Poland, Me; Jno. W. English, Rhinehart, O; Irving E. Walker, Westboro', Mass; Ann E. Sexter, New London Co, Conn; Jas. E. Allen, Newport Co, R I; Jer. Markham, Newcastle Co, Del; Caleb Loweree, Weakley Co Tenn; Wm. Huntley, Orange Co, N C; Robt. Eastham, Poinsett Co, Ark; Stephen Wright, Lawrence Co, Kansas; Amelia Raymond, Marengo Co, Ala,; Simon K. Wilson, Merrimac Co, N H; Sophronia King, Talbot Co, Geo; H. A, Kinsley, Ottawa Co, E Canada: also a good one from somewhere, dated Feb. 16, with no name.... very nearly correct; Chas. E. Truesdale; Erie Co, Ohio. Jas. Simpson, Ill; Jno. Fleming, Somerset Co, N J Other answers not correct.

Prob. 26.—A farmer in plowing a square field contain

ing ten acres, went round the whole field, cutting a furrow ten inches wide, and continued thus until he finished at the centre. Question 1st—How many miles did he travel? Question 2d—How many "bouts" did he make?

This problem is interesting, and admits of several solutions. The word bout, to avoid confusion, we called once round the field, and the answers given are in accordance with this definition; but it might be proper to call these "rounds;" and name each turning at a corner, a "bout;" for at each of these points the plowman calls to his team to "come about." The first question may be solved thus: 10 acres equal 1600 square rods, or a single strip of land one rod wide and 1600 rods long. But a rod is 16½ feet and 16½ times 12 inches, or 198 inches wide, divided by 10, gives 19.8 furrows wide. Then the whole field is equivalent to one furrow 19.8 times 1600 rods long, or one furrow 31680 rods long. Dividing this by 320 rods in a mile, gives 99 miles travel, if we make no allowance for loss or gain at the corners; for it ts evident, that we could begin at the centre and wind this long furrow around so as to just fill up the field.

Another way to solve it would be, to get the square root of the 1600 square rods, that is 40 rods for the sides of the square ten-acre field. Now there would be just 20 rods from each side to the centre, and in 20 rods there are 396 furrows, 10 inches wide. So when the plowman cuts 396 furrows off from each side of the field he would reach the centre—that is, 396 "rounds," or "bouts" round the field (or 1584 corner bouts), would plow it all. But the outside furrow is four times 40 rods, or 160 rods long, and the centre one 0, and the average length of the fur rows is 80 rods. 396 rounds of 80 rods each, equals 31680 rods, or 99 miles travel,

There are still several difficulties. When the plow goes to the corner, does it go clear out to *finish* its furrow before stopping, or does it stop 10 inches back, to turn around and begin the next furrow 10 inches from its outer edge? If it does the latter, then there is a saving of 10 inches at each corner, or 40 inches in each round, equal to just ¼ of a mile in making 396 rounds.... If on the contrary, the plow runs clear out at each corner, it must be pulled back 10 inches to start the next furrow, and here is a loss (backward travel—hard on the backs of weak plowmen), equal to ¼-mile in 396 rounds.

Again, when 395 rounds are made, there is left a piece unplowed, 20 inches square. Now, one furrow out and one back—that is, two side furrows, will finish this, requiring 1582, instead of 1584 corner bouts. Or the plow may cut off one-half of the plot, leaviag a strip 20 inches long and 10 inches wide; turning a quarter round, it cut 10 inches of this off, and then anotner quarter round finished it, leaving nothing to require a last corner bout. This would give 1583 corner bouts. Both of the points respecting the finishing of the piece, were referred to by "Sallie," of Indiana Co, Pa, who gave clear solutions of this, and a pretty figure for the preceding problem. Nathan Blakeslee, of Oakland Co, Mich, made the last round a three-quarters one, or 1583 corner bouts.

The following answered, 99 miles and 396 bouts: Jno. Souter, Butler Co, O; Jos. W. Anderson, York Co, Pa; W. W. D., Mass; Jno. A. Bowden, St. Andrews, N. Y; Jacob D. Shank, Clinton Co, O; Wm. H. Munroe, Armstrong Co, Pa; Wilson Stuart, Washington Co, Pa; John Fleming, Somerset Co, N. J; Joseph H. Simpson, Ill; E. H. Gilbert, Washington Co, N. Y; Mont. B. Cowperthwait, Kings Co, N. Y; Joseph Vipond, Jo Davies Co, Ill; John F. Miles, Girard, Pa; J. W. English Rhinehart, O; Irving E. Walker, Westboro, Mass; S. Johnson, Keene Co, N. H; J. Martin, Jefferson Co, N. Y; P. L. Donald, De Soto Co, Miss; T. M. Kirkby, Cecil Co, Md; Sarah L. Tudor, Rappahannock Co. Va; Harriet Clarke, Manitowoc Co, Wis; J. S. Rapalje, Hennepin Co, Min; Benj. Imlay, Yadkin Co, N. C; R. R. Simpson, Scott Co, Iowa: Joshua A. Manniere, Lamoille Co, Vt; Archibald Ransom, Niagara Co, N. Y.....Abr. Meyers, Ogle Co, Ill, (99 miles and 1 ft, 391 bouts); Peter A. Le Fevre, New Platz, N. Y. (990 m, 396 bouts); S. K. Verrill, E. Poland, Me, (99¼ m, 396 bouts); R. W. C., Burlington Co, N. J, (98 ¼ m, 395 bouts. (The other replies differed so far from the rght answers that we do not note them.

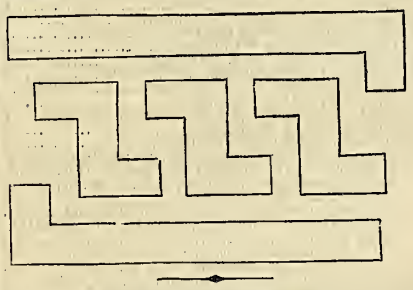
Probs. 27 and 28 have been largely answered, (47 correct answers already to 28), but as stated last month, these will be attended to in May.

New Problems.

We get many of tbese, but can publish only a small part of them. We thought we would print no more enigmas, but so many grown up people, as well as boys and girls write requesting this kind of problems, that we have concluded to, now and then, select a good one; so our young friends may send in their contributions when they an make up something extra of this kind. A good many send old problems; we hope every boy and girl who sends one will always tell us whether it it is new or old. A good thing is not to be despised because it is old. Don't forget our request that the answer to each problem be put on a separate slip of paper, if two or more come in the same letter, and put on each your name, post office, *County* and State. We only print the County and State, for should we give your P. O., there are a lot of dealers in lottery tickets and gift enterprizes and various humbugs, who are constantly on the lookout for names, and ten chances to one you would be flooded with their vile trash, if they could find your address in this or any other paper. We have frequently been offered large sums to furnish a list of the names on our mail books, under the specious pretense tbat they were wanted for legitimate advertising purposes, but such a list will never be furnished.

We only give one new problem now which with 27 and 28 will make three to be answered next month.

Prob. 29.—Sent by H. B. Reist, Lancaster Co., Pa. (not original). To arrange the following five pieces into a perfect *cross*.



A Scriptural Sum.

Here is a sum in addition for you to work out. It will require diligence and care, and admit of no wasted time:

Add to your faith.....virtue;
Add to your virtue.....knowledge;
Add to knowledge.....temperance;
Add to temperance.....patience;
Add to patience.....godliness;
Add to godliness.....brotherly kindness;
Add to brotherly kindness.....charity.

The Answer—"For if these things be in you and abound they make you that ye shall neither be barren nor unfruitful in the knowledge of our Lord Jesus Christ."—2d Peter, i: 5-8.—*Christian Index.*

The Warning Bell.

(Here is a beautiful waif which we find in the "Drawer." We have never known when or by whom it was written Our young readers have all heard this monitor speak within They will be wise if they heed its warnings.)

In every youthful breast doth dwell
A little tingling, jingling bell,
Which rings if we do ill, or well.
And when we put bad thoughts to flight,
And choose to do the good and right,
It sings a pœan of delight.
But if we choose to do the wrong,
And 'gainst the weak strive with the strong,
It tolls a solemn, saddened song.
And should we on some darksome day,
When hope lights not the cheerless way,
Far from the path of duty stray,
'Twill with its tones serene and clear,
Of warning in the spirit's ear,
Our slow returning footsteps cheer.
And always in the worldly mart,
With its sweet song it cheers each heart,
To do with energy their part.
Then let us strive with main and might,
To shun the wrong and do the right,
And the bell's warning song ne'er slight.

Conscience

New Books.

There have been comparatively few valuable new books issued since the "hard times" came on. We have, however, half-a-dozen or so which we think worthy of a more careful reading and notice than the business season has allowed of. (We never give a list of guess-work "notices" merely to please publishers and get our library filled gratuitously).... The "Illustrated Pear Culturist is a very beautiful volume, containing sundry directions for planting, budding, grafting, pruning, training and dwarfing the Pear Tree, as also propagation, gathering, ripening of fruit, &c. It is distinguished mainly, however, as the first American work giving *colored plates* of a large number of the most highly esteemed dwarf and standard pears. There are few or no prettier or more ornamental volumes of the kind for the table or library of the lovers of rural life. It was got up more for the love of the subject than for profit. The Editor witholds his name—a hint we suppose for us to do the same. Published by Starr & Co., New London, Ct., and A. O. Moore, New-York. Price $6.....Hedges and Evergreens is the title of a new work just published by A. O. Moore, from the pen of Dr. J. A. Warder of Cincinati, which name is sufficient to commend it to the attention of all interested in the subjects of which it treats—and who is not? especially the part relating to evergreens. The book contains much useful information respecting various hedge-plants; we are not prepared, however, to agree with one statement of Dr. W, viz: "That the Osage Orange (*maclura aurantiaca*) is the hedge-plant for the United States may be fearlessly asserted." The information on evergreens is quite full, and the book contains numerous plates and smaller illustrations. 290 pages; price $1.....Rural Affairs, by Jno. J. Thomas, L. Tucker & Son publishers, is announced at length in our advertising columns. We have not yet seen a copy, but it is doubtless a valuable work.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as Notes *and* Replies *to* Correspondents, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

To Correspondents.—By another month we *hope* to nearly clear our table of the mass of unanswered letters still on hand, calling for individual as well as general replies.

Complimentary Letters.—Such kind words and *acts* of appreciation as are in a letter before us from Mr. L. Hariman of Madison Co, Indiana, and in hundreds of other letters of a similar character, are well worth laboring for. It is natural to any heart to love approval. We seldom venture, however, to indulge our vanity so far as to *print* such letters, unless some general good end will be thus secured. But, they are none the less gratefully received because not printed or individually responded to.

American Cattle.—The chapter in type for this month is laid over—waiting for some *illustrations*.

Pears—Corn—Oats—&c.—H. Young, Owego Co., N. Y., and numerous other enquirers, will find the articles they ask about all advertised in the March or April *Agriculturist*. The White Poland oats are sold now at $1,25 per bushel, though we have found none this year quite up, in quality and weight, to the samples we distributed last year. The wet Autumn was unfavorable to their ripening bright and plump.

Prince Albert Potatoes.—A number of inquiries are made for these. The few persons in the country who have them for sale should advertise the fact and they would find a ready market at fair prices.

Burr's New Pine a Pistillate.—J. G. Marchant of Adams Co, Ill., in alluding to Burr's New Pine strawberry, says it is catalogued by Nurserymen there, as a *staminate* or perfect plant, whereas, in our list, page 208, Vol. XVI, it is called a pistillate, or imperfect variety. A casual examination of the blossoms as they open in the Spring will prove our correctness in this particular.

Turneps.—J. P 's acceptable communication marked for insertion at the turnip planting season.

Of that Big Corn Crop, in Indiana, referred to on page 283 of December *Agriculturist*, Mr. L. A. Hale, of Sussex Co., Del., and one or two others inquire: What was the kind and depth of the soil, the depth and manner of working, draining, manuring, planting, distance of hills or drills, number of hoeings, &c. Who will answer?

Trees on Hilly Ground.—W. H. Young, Suffolk Co, L. I. On your gravelly hill, probably the chestnut would flourish, though we cannot decide as well as if we had seen the soil. Locust trees would furnish more valuable timber, and might succeed well, especially around the base of the hill.

A Flower in Winter.—On Jan. 25, W. H. Young of Orient, L. I., forwarded us a full blown flower of the Garden violet (Pansy, or Heart's Ease) that day picked from the open ground.

More Pumpkins still.—J. Kenyon writing from Henry Co., Iowa says he raised last year, in Ohio, a pumpkin weighing 184 lbs., and another whose girth was seven feet and nine inches?....Can't we get any of the seeds of these various big pumpkins we so often hear of, to distribute among others? We have often tried and as often failed.—Ed.]

Patent Office Report and Seeds.—G. W. Lincoln, of Henry Co., Ill., writes: "....I for one endorse all you say of the Agricultural Department at Washington, which needs a thorough overhauling....I have a copy of the Patent Office Report and am honest in saying that I would prefer any one number of the *Agriculturist* for its *practical* information to the entire Patent Offie volume....I have had seeds through our representative, but they proved to be of little account....You men of influence should undermine the heap of foulness at Washington....' [This is a sample of many letters received hy us.—Ed.]

☞ The actual circulation of the Agriculturist to regular subscribers, is believed to be much larger than that of any other Agricultural or Horticultural Journal in the world.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 18th of the preceding moath.

TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.

Twenty-five cents per line of *space* for each insertion. About 9 words make a line, if undisplayed.
One whole column (145 lines) or more, $30 per column.
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Thirty-five cents per line; $38 per column.
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Flower Seeds! Flower Seeds!

J. M. THORBURN & CO. have just published their CATALOGUE OF FLOWER SEEDS for 1858 with practical directions for their Culture, containing over 1,000 VARIETIES, and many of them quite NEW AND RARE, among which are the following GEMS:

ACROCLINUM ROSEUM, *New Rhodanthe like Flower, per pkt.* 25*cts*
ALONSOA WARCZEWICZII, *bright Crimson,* 25
LINUM GRANDIFLORUM KERMESINUM, *beautiful crimson flax,* 25
LINUM LEWISH VARIEGATA, *splendid variegated* 5
PHLOX DRUMMONDII ALBA, " LEOPOLDINA NAPOLEON, " QUEEN VICTORIA OCULATA } *all magnificent, each* 10
PORTULACA CARYAPHYLLOIDES, *new carnation, striped,* 10
ASTERS INCOMPARABILIS, &C, *seven distinct fine German sorts,* 19
STOCKS GRANDIFLORA, &C., *six beautiful German sorts,* 10
LEPTOSIPHON AUREUS AND LUTES, *both new, each* 10
TROPŒOLUM MINUS COCCINEUS. *hardy dwarf, crimson,* 10
IPOMŒA TRICOLOR NOVO, *new, beautiful striped hardy Ipomœa,* 25
WHITLAVIA GRANDIFLORA, *beautiful blue hardy annual* 10
DATURA METELOIDES, *new hardy annual* 25
SABBATIA CAMPESTRIS, *new Green House annuals,* 25

We have but a limited supply of the above SEEDS and orders will be filled in rotation.

On receipt of order covering the amount, we send the abov postage paid, as also the following:

COLLECTIONS OF

100 Varieties of Annual, Bieunial and Perrennials, for....$4 00
50 Varietics of Annual, Biennial and Perrennials, for....$2 00
25 Varieties of Annuals for....$1 00
10 Varieties of Annuals for.... 50
20 Varieties of New and Rare Annuals for....$2 00
20 Varieties of Choice Green-House Seeds for....$2 50
40 Varieties of Choice Green-House Seeds for....$5 00
20 Varieties of American Seeds for European Culture....$2 00

ALSO:

Choice Assortments for Rockwork.....$1 00
Choice Assortments of Aquatics..... 6 00
Choice Assortments of Ornamental Grasses..... 1 00
Choice Assortments of Imported German Asters and Stocks from.....75c. to $1 50

OUR OWN SELECTION.

We can still supply small quantities of

DAN'L O'ROURKE & SANGSTER'S No. 1 PEAS, each at 40c. per qt.
NAPOLEON & EUGENIE PEAS, each nt 75c. per qt
HARRISON'S GLORY & PERFECTION PEAS. each at 50c. per qt.
FAIRBEARD'S CHAMPION OF ENGLAND PEAS, each at 30c. per qt.
RED, WHITE AND YELLOW ONION, from $1 50 to $2 50 per lb.
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LONG ORANGE CARROT, at $1 00 per lb.
AFRICAN IMPHEE, true, at $1 00 per lb.
SORGHUM, or CHINESE SUGAR CANE, at 25c per lb.
HEMLOCK TREE SEED (clean), at 75c. per oz.
WEYMOUTH PINE, (clean seed), at $3 00 per lb.
NORWAY SPRUCE. at $2 50 per lb.
EUROPEAN SILVER FIR, at $1 50 per lb.
DECIDUOUS CYPRESS, at 50c. per qt.
&c., &c., &e.

J. M. THORBURN & CO.,
15 John-st., New-York.

Catalogues will be mailed to applicants inclosing a postage stamp. Please say whether a Flower or Vegetable Seed Catalogue is wanted.

Garden, Field and Flower Seeds.

The subscriber offers a full assortment of Garden, Field and Flower Seeds of the growth of 1857 and of the very best qualities, and in addition to all the standard varieties, will be found many novelties, for sale Wholesale and Retail. Orders by mail attended to immediately.

PEAS—choice and new varieties, Extra Early Daniel O'Rourke Champion of England Carter's Victoria, Hairs' Defiance, Dwarf Sugar, Tall Sugar, Hairs' Dwarf Blue Mammoth, Harrison's Glory, Harrison's Perfection, Epps' Monarch, Epps' Lord Raglan, British Queen, with all other varieties.
CAULIFLOWER—Early Paris, Nonpariel and Alma.
CABBAGE—Early Wakefield, Early Ox Heart, Enfield Market and Winningstadt.
CORN—King Philip, Early Darling's, Constantinople and Stowell's Evergreen.
TURNIPS—Ashcroft's Swede. River's Swedish Stubble and Waite's Eclipse.
Prize Cucumbers for frames.
Winter Cherry or Strawberry Tomato.
New-Zealand Spinach.
Potato Seed, German and English.
OATS—Poland, Potato and other choice varieties.
POTATOES—Prince Albert's which we highly recommend. (Ash Leaf Kidney, imported) Early Dikeman, Early June, Dover, Mercer, and all other varieties.
SPRING WHEAT—Golden Drop or Fife, Sea, Canada Clubb, &c.
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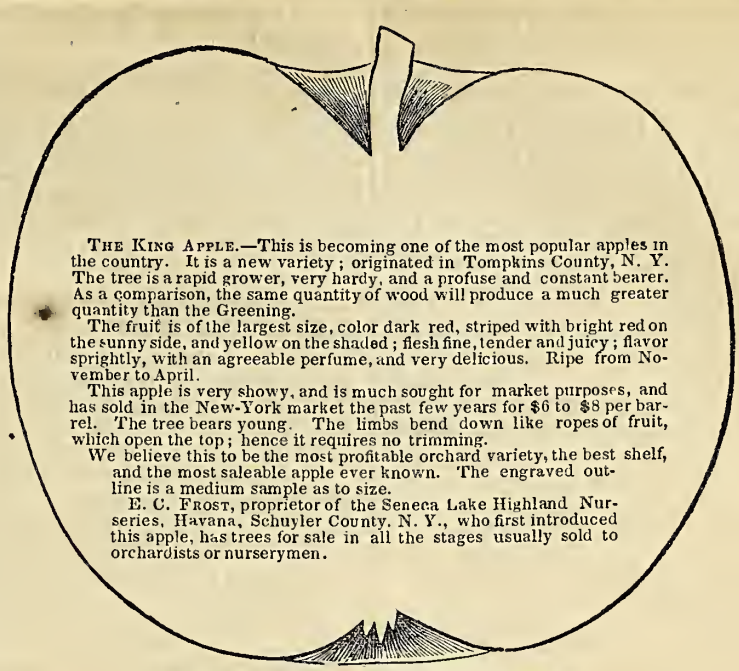
TOBACCO Seed, Havanna and Connecticut Seed Leaf.
SPRING and WINTER VETCHES or TARES—Broom Corn, Spring Buckwheat, Cotton Seed, &c.
FRUIT SEEDS, Apple, Pear, Quince, Currant, Gooseberry, Raspberry and Strawberry Seed, Peach, Plum and Apricot Pits.
OSAGE ORANGE. Buckthorn, Yellow and Honey Locust, Chinese Arbor Vitæ
GRASS SEEDS, Hungarian and American Millet, Green, Kentucky Blue or June, Orchard, Ray, Italian and Perennial, Foul Meadow, Sweet Scented Vernal, Fine Mixed Lawn, Red Top, Timothy or Herds. &c.
CLOVERS, Large and Medium Red, White Dutch, Luzern or French Sainfoin, Aliske, Crimson, Yellow Trefoil, &c.
ONION SETTS, Red and Yellow, Top or Button and Potato Onions.
RHUBARB ROOTS, Myatt's Victoria and Linnæus, Imported.
ASPARAGUS ROOTS—Cabbage, Cauliflower, Egg and Tomato Plants furnished in season.
Everything in my line furnished and at reasonable rates.
A Catalogue containing a full list of seeds and prices furnished on application.
AFRICAN IMPHEE, genuine as raised by Leonard M. Wray. One Dollar per pound.
CHINESE SUGAR CANE—American and Imported, 25 and 40cents per pound

R. L. ALLEN,
191 Water-st., New-York.



THE KING APPLE.—This is becoming one of the most popular apples in the country. It is a new variety; originated in Tompkins County, N. Y. The tree is a rapid grower, very hardy, and a profuse and constant bearer. As a comparison, the same quantity of wood will produce a much greater quantity than the Greening.

The fruit is of the largest size, color dark red, striped with bright red on the sunny side, and yellow on the shaded; flesh fine, tender and juicy; flavor sprightly, with an agreeable perfume, and very delicious. Ripe from November to April.

This apple is very showy, and is much sought for market purposes, and has sold in the New-York market the past few years for $6 to $8 per barrel. The tree bears young. The limbs bend down like ropes of fruit, which open the top; hence it requires no trimming.

We believe this to be the most profitable orchard variety, the best shelf, and the most saleable apple ever known. The engraved outline is a medium sample as to size.

E. C. FROST, proprietor of the Seneca Lake Highland Nurseries, Havana, Schuyler County, N. Y., who first introduced this apple, has trees for sale in all the stages usually sold to orchardists or nurserymen.

KING OF TOMPKINS COUNTY.

ESTABLISHED, 1828. REBUILT AND ENLARGED, 1856

BRIDGEMAN'S

HORTICULTURAL ESTABLISHMENT,

Nos. 876 and 878 Broadway,

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FIELD, HERB, VEGETABLE AND FLOWER SEED,

Fruit and Ornamental Trees,

GREENHOUSE PLANTS, &c., &c.

Every article appertaining to the business furnished at reasonable rates, and warranted as represented. The seeds are grown to order by experienced cultivators, and fully tested before being offered.

For sale by the qunatity or in packages for retail trade.

Goods packed securely to go any distance. Orders by mail will be attended to with exactness and promptitude.

Catalogues furnished on application.

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HOVEY & CO., invite the attention of amateurs and the public to their splendid collection of German Asters. Having for twenty years given particular attention to the improvement of this showy flower, and having been awarded the FIRST PRIZE of the Mass. Hort. Society THIRTEEN times since 1840, for the exhibition of superior flowers, offer for sale choice assortments of seeds as follows:—

No. 1. 16 varieties of the various beautiful kinds, extra, $1.00
No. 2. 12 do same, extra..... 75
No. 3. 8 do same, extra..... 50
No. 4. 8 do. Pæony flowered, su. to Truffant's, 50
No. 5. 8 do Globe and Pyramidal, extra, 50
No. 6. 4 do Globe, Pyramidal, Pæony, &c., ex. 25
No. 7. 2 do the new crown-flowered, extra, 25

Also, the following rare seeds; Calceolaria, Cineraria, Verbena, Lantana, Hollyhock, Carnation, Pelargonium, Pansy, Daisy, Phlox, &c., saved from named collections; extra, 25 cents each. With a large assortment of 800 other varieties of *Flower Seeds*; the newest and best *Vegetable Seeds* (including the Hubbard Squash), Summer flowering bulbs, &c. Seeds sent by mail. Catalogue gratis. Address

HOVEY & CO.,
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SEEDS, SEEDS, SEEDS,

The subscribers offer for sale Vegetable and Flower Seeds (Home grown and Imported), growth of 1857, comprising every thing worthy of cultivation all of which have been thoroughly tested in the Nursery & Vegetable Gardens of Mr. P. Henderson, Jersey City. Catalogues mailed to applicants.

Aquaria or River Gardens fully stocked, all sizes from $15 to $100 each. McILVAIN & YOUNG,
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IMPHEE SEED.

THE AFRICAN SUGAR CANE Seed, raised by Governor Hammond, of South Carolina, said to be superior to the Sorgho by those who have tried it.

Price $1.00 per pound. Or a package will be sent gratis to all who buy Olcott's Book "SORGHO & IMPHEE," containing Lovering's process of making Sugar and experiments of 1857.

PRICE ONE DOLLAR—POSTAGE PAID.

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Garden Vegetable, Herb and Flower Seeds.

The subscriber has now on hand a full assortment of all the most desirable species and varieties of Vegetable, Herb and Flower Seeds, all warranted fresh and true to name. Orders by mail will receive immediate attention. New price Catnlogues furnished on application.

ALFRED BRIDGEMAN.
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Field & Garden Seeds.—A Choice Variety.

PRINCE ALBERT POTATOES, and do not Rot, very Prolific.
Sold By GRIFFING BROTHER & CO.
60 Cortland Street, New-York.

PARSONS & CO.

COMMERCIAL GARDEN AND NURSERY

of Fruit and Ornamental Trees, Shrubs, Roses, Vines, Exo' Plants, &c., at Flushing near New-York. For particulars see AMERICAN AGRICULTURIST, for March.

HIGHLAND NURSERIES,

NEWBURGH, N. Y.

(Formerly A. J. Downing & Co.)

The subscribers, in soliciting the attention of *dealers* and *planters* of trees to their stock, now ready for the ensuing spring's trade, beg leave to say that it embraces everything in their line of business, all of the most vigorous growth and best quality.

THE DEPARTMENT OF FRUIT TREES

contains a full collection of Apples and Pears, both standards and dwarfs; Cherries, standards and on Mahaleb stock; Plums, Peaches, Apricots, Quinces, Almonds, and miscellaneous fruits such as Walnuts, Filberts, Chestnuts, &c. Also, Grape-vines (both hardy native and foreign varieties for vineries), Gooseberries (best English varieties), Currants, do., Raspberries, Blackberries (New-Rochelle or Lawton, High Bush or Dorchester, Newman's Thornless, &c.), Strawberries, &c. Rhubarb and Asparagus roots of the best varieties.

The long experience of A. Saul in these matters, which occupies his whole attention, enables us to guarantee the correctnes of all articles sold by us.

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embraces a complete stock of all kinds of *Deciduous* and *Evergreen Trees* and *Flowering Shrubs*, &c.; including a large stock of Norway Spruce, American Spruce, Balsam Fir, European Silver Fir, Austrian and Scotch Pines, American Arbor-vitæ, Junipers, Yews, &c, together with the newer and rarer Conifers, &c.; also, Maples, Elms and Oaks, in six varieties of each; American and European Lindens, Ash, Mountain Ash, Horse-Chestnut, Larch, Sycamore, Magnolia, Chestnut, Beech, Birch, Cypress, Acacia, Locust, Tulip Tree, Kentucky Coffee, Poplar, Willows, &c.

Flowering Shrubs, several varieties of Spiræs, Althæes, Tartarian Honeysuckles, Euonymus, Europæus, Syringe, Lilacs, Flowering Hawthorns, Weigelia, Forsythia, Tamarix, Deutzias Dogwood, Buffalo Berry, &c. A large collection of Climbing Plants, Climbing Roses, and Roses of all classes in great variety; Dahlias, Pœonies, Phloxes, Chrysanthemums, and a full collection of Herbaceous Plants and Bedding-out Plants, such as Petunias, Verbenas, Lantanas, Geraniums, Heliotrope, Fuchsias, &c.

Buckthorns, Hawthorns, Osage Orange and Privet for Hedges and Arbor vitæ for Screens, &c.

20,000 plants and cuttings of Salix triandra and Salix purpurea the two best Osier Willows in cultivation, as well as other varieties.

A Descriptive Catalogue of prices will be sent to all applicants on inclosing a three cent P. O. stamp to prepay the same.

A. SAUL & CO.,
Proprietors.

TREES FOR THE CENTRAL PARK.

In pursuance of a resolution of the 16th March, 1858, the Board of Commissioners of the Central Park, hereby solicit proposals for supplying trees and plants for the Park, according to a schedule to be had on application to the clerk at the office of the Board, Room 10 Bank of Commerce Buildings.

By order of the Board,

JAMES HOGG,
CHARLES W. ELLIOTT,
JOHN A. C GRAY, } Committee on Trees and Plants.

DAVID H. HART, Clerk.
Dated New-York, March 17, 1858.

HEDGES AND EVERGREENS.

A new work, showing how to produce a PERFECT HEDGE. A successful system of pruning—descriptions and engravings of plants to be used in the United States; with directions for CULTIVATING & TRANSPLANTING EVERGREENS Catalogue of different varieties, beautifully Illustrated.

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JOHN W. ADAMS, Portland, Maine, will send post-paid his new Catalogue to all who send a stamp

LINNÆUS RHUBARB.

BRINKLE'S ORANGE, FASTOLF AND HUDSON RIVER ANTWERP RASPBERRIES.

Newman's Thornless and Lawton Blackberry Plants, &c., &c.

The subscriber offers for sale a large stock of Rbubarb, Raspberry and Blackberry Plants, at the following low prices, viz:

	per dozen.	per 100.	per 1,000
Linnæus Rhubarb	$2 00	$8 00	$50 00
Brinkle's Orange Raspberry	2 00.	12 00	100 00
Fastolf Raspberry	1 00.	4 00	30 00
*Hudson River Antwerp do. (red)	75	2 00	18 00
White Antwerp Raspberry	2 00.	8 00	130 00
Newman's Thornless Blackberry	2 50.	15 00	120 00
Lawton (New-Rochelle) Blackberry	3 00,	16 00	130 00

*This variety is extensively cultivated on the banks of the Hudson River for Market; and produces yearly $200 to $300 worth of fruit per acre.

Also, Fruit and Ornamental Trees, Flowering Shrubs, Vines, Fruit Tree Stocks, Ornamental Tree and Shrub Seedlings, &c., &c., at moderate prices, wholesale and retail.

Catalogues furnished gratis on application.

GEO. D. KIMBER.
Nurseryman, Flushing, L. I.

4th mo. 1st, 1858.

Rhubarb Roots.

JUST RECEIVED from Europe
MYATTS VICTORIA RHUBARB ROOTS.
LINNÆUS RHUBARB ROOTS.
ASH LEAF KIDNEY POTATOES.
For sale by R. L. ALLEN. 191 Water-st., New-York.

LINNÆUS RHUBARB.

To MARKET GARDENERS & NURSERYMEN. We offer very low. FREEMAN & KENDALL,
Ravenswood Fruit Garden—Ravenswood, L. I.

RUSSIA OR BASS MATS, selected expressly for budding and tying. GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by D W. MANWARING, Importer,
248 Front-street, New-York.

Thoroughbred Short Horns,

FOR SALE.

I offer for sale three young Short Horn Bull's, all bred by Col. T. M. Sherwood, from his imported stock. Also several females of the same stock. Having sold most of my farm. I will sell these animals at prices suited to the condition of the times. For particulars address the undersigned at Brook Farm, Auburn, N. Y. CHAS. P. WOOD.

IMPROVED BERKSHIRE PIGS FOR sale by JOHN B. EDGAR.
Rahway, New-Jersey.

SUFFOLK PIGS.

The undersigned has for sale choice Suffolk Pigs at fair prices EDWIN MARSHALL.
Poughkeepsie, N. Y.

PERUVIAN GUANO—BONE DUST—Superphosphate of Lime—Poudrette—Land Plaster—warranted of best quality. For Sale by R. L. ALLEN.
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No. 1. Peruvian Guano.

GROUND BONE.
SUPERPHOSPHATE OF LIME,
LAND PLASTER, CHARCOAL DUST.
POUDRETTE, of the Lodi Manufacturing Co.

Send your orders early to the North River Agricultural Warehouse. GRIFFING BROTHER & CO.
60 Cortland St., New-York City.

To Farmers and Gardeners.

THE LODI MANUFACTURING CO. offer 70,000 barrels of their new Improved Poudrette for sale the coming season. It is now well known as the best fertilizer in market for Indian Corn and kitchen gardens—is perfectly harmless when applied next to the plant, and yet quick and powerful in its effect A pamphlet with instructions for its use, certificates, &c., will be forwarded, free of cost, to any person sending their address. The L. M. Co. have a capital of $100,000 invested in this business, and a reputation of 17 years to keep up—this is *some* guarantee for a good article Price as usual, $1 50 per barrel for any quantity over 6 bbls.; 1 bbl. $2 00; 3 bbls. $5 00; 6 bbls. $9 50; free of cartage or other expense Address
THE LODI MANUFACTURING CO.,
60 Cortlandt-st., New-York.

Fish Guano.—$35 Per Ton.

The attention of Farmers and others is called to the Fish Guano. Manufactured at the

LONG ISLAND FISH GUANO and OIL WORKS,

at Southold, Long Island. It is composed of the FLESH and BONES of Fish, after extracting the oil and water, and has been thoroughly tested in England and France, and from testimonials received, is found to be equal to Peruvian Guano, and other manures—is free from smell and not injurious to health,—Price in bags $35 per ton. Pamphlets containing full particulars and testimonials may be had on application to
BRUNDRED & ROGERS, 60 Pine St., New-York.

Bone Manure.

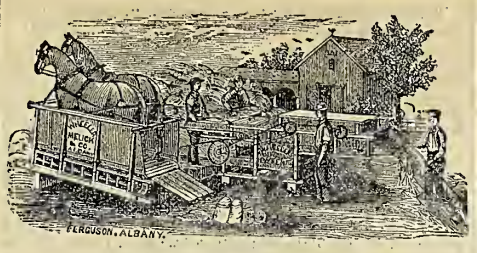
SAWINGS, TURNINGS AND CRUSHED BONES FOR Sale by the Manufacturers in large or small quantities.
A. LISTER & CO.,
Tarrytown,
Westchester Co., N. Y.

FARMERS AND GARDENERS SENDing their P. O. Address to us will receive by mail *gratis* an Almanac for 1858, and information concerning the CELEBRATED MANURES made by "The Lodi Manufacturing Co., 60 Courtland St., New-York:"

ROTHWELL'S

WOOL AND BLOOD MANURE, for sale at
R. L. ALLEN'S, 191 Water-st., New-York,
and other Agricultural Warehouses.

BEST Garden Engine—complete and ready for use for $24. JAS. M EDNEY, 56 John-st., N.Y



NEW-YORK STATE AGRICULTURAL WORKS,

WHEELER, MELICK & Co., Proprietors.

Double Power, and Improved Combined Thresner and Winnower, in operation.

Manufacturers of Endless Chain Railway Horse Powers, and Farmers' and Planters' Machinery for Horse Power use, and owners of the Patents on, and principal makers of the following valuable Machines:

Wheeler's Patent Single Horse Power,
AND
OVERSHOT THRESHER WITH VIBRATING SEPARATOR.

This is a One Horse Machine, adapted to the wants of medium and small grain growers. It separates grain and chaff from the straw, and threshes about 100 bushels of wheat or twice as many oats per day, without changing horses—by a change nearly double the quantity may be threshed.....Price $128.

Wheeler's Patent Double Horse Power,
AND
OVERSHOT THRESHER WITH VIBRATING SEPARATOR.

This Machine is like the preceding, but larger, and for two horses. It does double the work of the Single Machine, and is adapted to the wants of large and medium grain growers, and persons who make a business of threshing.....Price $160.

Wheeler's Patent Double Horse Power,
AND
IMPROVED COMBINED THRESHER AND WINNOWER.
[SHOWN IN THE CUT.]

This is also a Two Horse Machine, and has been much improved during the past season; it threshes, separates the grain from the straw, and winnows it at one operation, at the average rate of 150 bushels of wheat and 300 bushels of oats per day. In out door work, and for persons who make a business of threshing, it is an unequaled Machine.....Price $245.

ALSO CLOVER HULLERS, FEED CUTTERS AND SAWING MACHINES.

Our Horse Powers are adapted in all respects to driving every kind of Agricultural and other Machines, that admit of being driven by Horse Power, and our Threshers may be driven by any of the ordinary kinds of Horse Powers in use—either are sold separately.

☞ To persons wishing more information and applying by mail, we will forward a circular containing such details as purchasers mostly want—and can refer to gentlemen having our Machines in every State and Territory.

Our firm have been engaged in manufacturing this class of Agricultural Machinery 23 years, and have had longer, larger and more extended and successful experience than any other house.

All our Machines are warranted to give entire satisfaction, or may be returned at the expiration of a reasonable time for trial.

☞ Orders from any part of the United States and Territories, or Canadas, accompanied with satisfactory references, will be filled with promptness and fidelity; and Machines, securely packed, will be forwarded according to instructions, or by cheapest and best routes. WHEELER, MELICK & Co.,
ALBANY, N. Y.

SCHOOLEY'S PATENT PRESERVATORY.

FOR PRESERVING MEATS, FRUITS, VEGETABLES, the products of the Farm and Dairy, and all perishable articles, WITHOUT DAMAGE from heat and moisture in SUMMER, OR COLD IN WINTER.

Invaluable for Farmers, Grocers, Butchers, Candle and Oil Makers, Hotels, Restaurant Keepers, AND IS THE BEST DAIRY OR MILK HOUSE IN THE WORLD.

Milk can be kept sweet for weeks in Summer and Butter made with equal facility the entire season.

A MILK HOUSE on this plan can be kept at 40° the entire season, causing a perfect yield of cream, and the purest butter known.

For rights, plans, or estimates, apply to the undersigned.

H. C. Getty, at John Gebney's, West Street, New-York, is acting in the City of New-York.

J. L. ALBERGER,
Buffalo, N. Y.

Cane Mills and Distilleries.

GENERAL COPPER-SMITH WORK.

Distilleries of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills, syrup pans, skimmers, dippers, syrup guages and pumps, brewing apparatus.
JOHN W. REID, 11 Old-slip.

A PORTABLE STEAM SAW MILL.—Complete with Engine and Boiler, capable of cutting 2,000 feet of Lumber per day, will be sold cheap for cash or exchanged for Lumber delivered in New-York, at Market prices. Address box 3,286, New-York, Post Office.

BAKER'S ROTARY PLANER.—THE Cheapest and Best Planing Machine ever made. Six sizes. Prices $25 to 75. Address [for full information] H. H. BAKER.
New-Market, New-Jersey.

MILL STONES.—FRENCH BURR, Esopus Cologne, &c., and mill machinery of all kinds for sale by R. L. ALLEN. 191 Water-st.

PATENT WASH TUB—described in last number of the Agriculturist, for sale by
R. L. ALLEN, 191 Water-st.

FARM IMPLEMENTS OF MOST APproved patterns, made in best and most durable manner and at low prices. Our large assortment embraces almost every implement, tool or seed wanted by the Farmer, Planter or Gardener. For sale by R. L. ALLEN.
191 Water-st., New-York.

TO THE FARMERS AND HAY DEALERS OF LONG ISLAND—INGERSOLL'S IMPROVED PORTABLE HAY PRESS combines greater power and portability, requires less labor, occupies less space, and costs less money than any other hand power machine for baling HAY ever offered to the public. It has recently been much improved, and is warranted to give satisfaction.

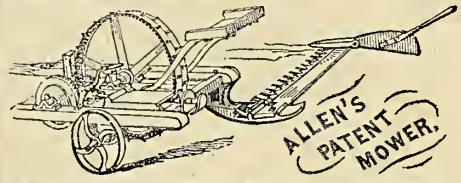
We have numerous letters from those who have seen and used these presses during the past season, similar to the following from Wm. Thompson, Esq., South Londondary, Vt., who writes Feb. 8, 1858, as follows:

GENTS: "I think your press, with the improvement you have made recently, will exceed anything of the kind yet got up, for it will press more in a day, with only two hands to work it, and do it easier, than any other press in New-England."

No. 1 Press—Weight of Bale 150 to 200 pounds.
No. 2 Press— " " 250 to 300 "

Presses constantly on hand and other sizes and for other purposes made to order. For further information call or address the
FARMERS' MANUFACTURING CO.,
Greenpoint, opposite New-York.

N. B.—The Brooklyn and Williamsburg City Cars run up to Greenpoint, and the New-York Dry Dock stages go to the Greenpoint Ferry.



STRONG AND DURABLE.—LIGHT OF draft to the team. Will cut all kinds of grass better than it can be done with a scythe—leaving it spread—so as to save labor of spreading it. It can be worked at a slow or fast gait and by oxen if desired. It is easily managed and safe to the driver.

All we claim for it is admitted by those who use it and it has received their universal approbation

I am making them for the coming season, when desired with a hoist for raising the finger board, a very simple and efficient addition, and can also furnish when desired a very simple Reaping attachment—which does not at all affect its simplicity or efficiency as a mower. R. L. ALLEN, 191 Water-st.

THRESHING MACHINES WITH FIXtures for hulling clover seed; also Mills for crushing the Chinese Sugar Cane. For Circular write to
W. W. DINGEE & CO. York, Pa.

HAND CORN PLANTERS.

BOEKLEN & BOSSERT'S PATENT

These are the best machines in use, and can be obtained for $3 50 of . R. L. ALLEN.
191 Water-st., New-York.

GANSE'S PATENT CULTIVATOR and Carrot Weeder, a very useful Implement. Price $6.
For sale by R. L. ALLEN, 191 Water-st.

PLOWS—A LARGE VARIETY OF ALL Sizes and Kinds. HARROWS—Field and Garden Rollers, Seed and Grain Drills—Wagons—Carts—Wheel Barrows—Forks Hoes, &c., &c, Horticultural Tools—Pruning Shears and Knives—Lawn Rakes and Scythes—Pruning Saws and Hooks &c., &c. For Sale by R. L. ALLEN.
191 Water-St, New-York.

HARROW AND CLOD CUTTER.

This is a highly useful and valuable Farm implement, for preparing sod-lands for corn, or to reduce cloddy lands to proper tilth for seeding oats, wheat or rye.

This Harrow drew a premium at the last State Fair, for the best harrow and harrowing.

Farmers who may want an important improvement for the harrowing of rough and cloddy ground, will do well to call and examine this patent Harrow and Clod Cutter

Manufactured by J. WINEBRENNER & CO., Harrisburg, Pa.

Sold also by P. MORRIS & CO., Philadelphia; and by J WARDRUP, Pittsburg, Pa.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE, NEW-YORK, March 26, 1858.

THE WHOLESALE PRODUCE MARKETS have been freely supplied with Flour and Corn during the past month. The demand for each has been pretty brisk, and prices have fluctuated very slightly. The principal purchasers of Flour have been home dealers. Corn was most sought after by shippers. The receipts have been to a fair extent, and as river navigation has been partially resumed, a livelier movement in produce is anticipated. It is reported from Albany that the State Canals will be opened for navigation on or before April 20. The ice has left the upper Mississippi, so that from St. Paul to New-Orleans, that great artery of trade is open. Its chief branches, the Missouri and the Ohio, have been navigable for weeks. Even the more northern lakes are opening. Collingwood Harbor, on Lake Huron, is reported clear of ice. As to the Erie Canal, the Commissioners, in their recent report to the Legislature, give assurance of a seasonable commencement, as the causes which so greatly retarded navigation last year will not be operative this Spring. This early resumption of inland navigation will enable those in the interior, having produce to sell, to send it to market freely. Hence, buyers look for increased receipts here, and do not manifest any disposition to purchase, at present, any more than they immediately require. Wheat, especially prime, has been very scarce and has advanced, but the demand for it, at the improved prices, has been limited. Rye, Barley and Oats have been sparingly dealt in at reduced quotations....Cotton has been in active demand, and it closes firmly....Provisions have been moderately inquired for. Prices show no important change....Hay opened with a good demand at buoyant prices. Mild weather and the partial resumption of inland navigation have, however, depressed the market so that buyers now have any existing advantage....Hemp and Hops have attracted considerable attention, at somewhat firmer prices....Grass Seeds have been in slack request, and have tended downward....A slightly improved demand has prevailed for Tobacco and Wool, at about former quotations....Groceries have been freely dealt in, at advancing prices....Other articles of produce have presented no important variation from the previous month.

CURRENT WHOLESALE PRICES.

	Feb. 23.		March 26.	
FLOUR—Com'n to Extra State	$4 25	@ 4 65	$4 25	@ 4 60
Common to Fancy Western	4 30	@ 4 65	4 30	@ 4 55
Extra Western	4 45	@ 7 50	4 35	@ 7 00
Fancy to Extra Genesee	4 40	@ 7 00	4 35	@ 7 00
Mixed to Extra Southern	4 75	@ 8 25	4 70	@ 8 25
RYE FLOUR—Fine and Super.	3 00	@ 4 00	3 00	@ 3 75
CORN MEAL	3 00	@ 3 50	3 00	@ 3 50
WHEAT—Canada White	1 10	@ 1 25	1 18	@ 1 35
Western White	1 10	@ 1 40	1 18	@ 1 50
Southern White	1 15	@ 1 42½	1 25	@ 1 50
All kinds of Red	95	@ 1 22	1 00	@ 1 23
CORN—Yellow, new	70	@	66½	@ 69
White, new	70	@ 71	66	@ 68
OATS—Western	45	@ 47	44	@ 46
State	44	@ 46	42	@ 45
Southern	28	@ 40	25	@ 35
RYE	70	@ 72½	68	@ 70
BARLEY	70	@ 78	60	@ 70
White Beans	1 37½	@ 1 40	1 31¼	@ 1 37½
Black-eyed Peas, per 2 bush	3 25	@	3 12½	@ 3 25
HAY, in bales, per 100 lbs	55	@ 80	45	@ 65
COTTON—Middlings, per lb	11¾	@ 12	11¾	@ 12
RICE, per 100 lbs	2 75	@ 3 75	3 00	@ 4 00
HOPS, per lb	4½	@ 9	4½	@ 8½
PORK—Mess, per bbl	16 50	@16 65	16 65	@16 70
Prime, per bbl	13 25	@13 40	13 50	@
BEEF—Repacked Mess	12 00	@13 50	12 00	@13 50
Country mess	9 50	@11 00	10 00	@11 00
" prime	6 50	@ 7 50	7 00	@ 8 00
HOGS, Dressed, per lb	6	@ 7¾	6¼	@ 7½
Lard, in bbls. per lb	9¾	@ 10	9⅞	@ 10⅛
BUTTER—Western, per lb	12	@ 17	14	@ 20
State, per lb	16	@ 25	17	@ 24
CHEESE, per lb	6½	@ 8½	8	@ 10½
EGGS—Fresh, per dozen			14½	@ 15
Limed, per dozen			8	@ 10
FEATHERS, Live Geese per lb	40	@ 46	40	@ 45
SEED—Clover, per lb	8¾	@ 9¾	7	@ 8½
Timothy, mowed, per bushel	2 00	@	2 00	@ 2 35
Timothy, reaped, per bushel	2 25	@ 2 50	2 25	@ 2 50
Flax, Am. rough, per bush	1 35	@	none selling	
SUGAR, Brown, per lb	4½	@ 7	5½	@ 7½
MOLASSES, New-Orleans, pr gl	30	@ 33	31	@ 33
COFFEE, Rio, per lb	9½	@ 11½	9½	@ 11½
TOBACCO—Kentucky, &c. pr lb	6½	@ 18	6	@ 17
Seed Leaf, per lb	9	@ 35	9	@ 35
WOOL—Domestic fleece, per lb	27	@ 45	27	@ 45
Domestic, pulled, per lb	20	@ 32	20	@ 32
HEMP—Undr'd Amer'n pr ton	100	@110	100	@110
Dressed American, per ton	140	@165	140	@170
TALLOW, per lb	11	@	10	@ 10¼
OIL CAKE, per ton	35	@ 37	36 00	@
POTATOES—Junes, per bbl	2 50	@ 2 75	2 50	@ 3 00
Mercers, per bbl	3 25	@ 3 75	3 25	@ 4 00
Peach Blow, per bbl	3 00	@ 2 25	3 50	@ 4 00
Carters, per bbl	3 50	@ 4 00	3 50	@ 4 00
ONIONS—Red, per bbl	1 50	@ 1 75	2 00	@ 2 25
White and yellow, per bbl	1 75	@ 3 00	2 50	@ 4 00
CRANBERRIES—Per bbl	10 00	@12 00	11 00	@14 00
APPLES—Common, per bbl	2 50	@ 3 00	3 00	@ 3 50
Spitzenburgs, per bbl	5 00	@ 6 00	5 00	@ 6 00
Greenings, per bbl	3 50	@ 4 00	4 00	@ 4 50
TURNIPS—Ruta bagas, per bbl	50	@ 62	62	@ 75
CABBAGES—Per 100	5 00	@ 6 00	4 00	@ 6 00
CELERY—Per dozen	1 00	@ 1 50	1 25	@ 1 50
POULTRY—Fowls, per lb	10	@ 15	10	@ 15
Ducks, per lb	18	@ 21	18	@ 21
Guinea Fowls, per pair	44	@ 50	44	@ 50
Turkeys, per lb	12	@ 16	13	@ 18
Geese, per lb	10	@ 11	9	@ 11
Partridge, per pair	1 00	@ 1 25	1 00	@ 1 25
Prairie Hens, per pair	1 00	@ 1 25	75	@ 88

The total receipts and the total sales of Breadstuffs for 26 business days, ending with to-day, have been as follows:

	Receipts.	Sales.
Wheat-flour, bbls	90,124	257,680
Wheat, bush	29,707	132,650
Corn	662,340	737,000
Rye		15,400
Barley	2,831	20,700
Oats	63,756	

This statement affords the following comparison of the total receipts and sales in each of the last two months:

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 bus. days last mon.,	128,000	11,660	450,000	——	——	21,000
26 bus. days this mon.,	90,124	29,707	662,340	——	2,831	63,756
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	
24 business days last month,	256,386	108,200	570,000	10,650	16,000	
26 business days this month.	257,680	132,650	737,000	15,400	20,700	

N. Y. LIVE STOCK MARKETS—BEEVES—Receipts fair for the season, and the demand light through Lent. Prices very low. Receipts and prices for week ending February 24 (2,657), ¼c. advance; March 3 (2,582), ¼c. advance; March 10 (3,539), ¼c. decline; March 17 (2,807), ¼c. decline; March 24 (3,649), ¼c. decline. Decline in 5 weeks 1c. ℔ lb. Total receipts in 5 weeks 15,233. March 24, prices ℔ lb for estimated dressed weight:—Premium cattle, 10¼c.; first quality, 9¼@10c.; medium, 8¼@9c.; poorer, 6½@7½c.; average of all qualities, 8c.

SHEEP.—Receipts small, 25,947 for 5 weeks. Present prices about 4½@5½c. ℔ lb, live weight.

HOGS.—Free receipts, selling lower. Present prices 5½@5¾c. ℔ lb, live weight, for corn-fed, and 5@5¼c. for distillery hogs.

THE WEATHER.—Our *Daily Notes* condensed read: February 24, coldest morning of Winter, 0°; 25 to 28, clear, mild, snow about gone. March 1, rain, changing to snow in evening; 2, three inches of snow, clear and cold p. m.; 3, 4, 5, 6, 7, a cold term, thermometer ranging 8° to 15° in the mornings—the 5th the coldest *day* of the season, 8° a. m. and 10° p. m.; 8, heavy northeast snow storm; 9, clear, cool, ten inches light snow on the ground, which nearly disappeared in the warmer days of 10, 11, 12 and 13; 14, 15, heavy fogs and light rain; 16 to 20, clear, warm, pleasant, frost nearly out of ground, buds swelling, robins and other early birds appearing; 26, rain a. m., clear and warm p. m; 22, 23, 24, 25, clear and warm, plowing, taking up trees, &c., going on.

EXTRA PREMIUMS,

offered as a remuneration for time and services to persons procuring and forwarding new subscribers to the *American Agriculturist*. The subscribers obtained will themselves be entitled to receive the seeds offered in our regular list, No. 1 to No. 52. New subscribers sending in their own names will be entitled to the extra premium No, 2, or No. 3 below. ☞ Only *one* of the following three premiums will be given on the same new subscriber.

Premium No. 1.

When any person shall have forwarded *forty* subscribers, for volume XVII, at the lowest club rates (80 cents each) he or she will be entitled to a copy of WEBSTER'S LARGEST SIZE UNABRIDGED DICTIONARY (not the smaller University Edition). The Book will be forwarded to the order of the recipient at his expense for transportation after leaving this city. Its weight (7 to 8 lbs.) will prevent its going by mail.

Premium No. 2.

Any person forwarding new subscribers for volume XVII, either at one dollar each, (or at the club rates in case of the formation of new clubs or additions to those already formed), will be entitled to One Pound of *pure* CHINESE SUGAR CANE SEED of the best quality for *each new* name. The seed will be put up in strong cloth bags and delivered free of expense to any Express Company or to the care of any person in this city. The cost of transportation will of course be borne by the recipient. [Since our last issue we have obtained 50 bushels more of splendid seed, at low rates, which enables us to make the above offer for additions to clubs as well as for single subscribers.]

Premium No. 3.

The varieties of New Seeds, Nos. 53 to No. 70, described on page 101, will be put up in parcels of the size named below. These separate parcels will then all be inclosed in one package, and one of these packages (containing 18 varieties) will be sent, *post-paid*, to any person forwarding a new subscriber for vol. XVII., at *one dollar a year*. EACH new subscriber will entitle the sender to one of these packages. The postage on each package (to be prepaid by the publisher) is 18 to 21 cents, which reduces the net amount received for each to the lowest club rates. ☞ Where clubs are formed, or additions to former clubs are made, and the expense of getting the seeds, by Express or otherwise, is borne by the recipients, the names will be taken at the regular club rates.

[The quantity of the above seeds received this year, is too small to allow of their being offered in the list for general distribution to all subscribers; and furthermore, the labor and expense attending the distribution of the general list first offered, and still continued, is about all that we can undertake gratuitously for the present season. For these reasons, these extra seeds, No 53 to 70, are only offered conditionally, that is, as premiums for new subscribers.]

CATALOGUE OF SEEDS IN EXTRA PREMIUM NO. 3.

(All in one Package.)

53.—Improved Yellow Flat Onion—200 to 300 seeds.
54.—Improved Brown Globe Onion—200 to 300 seeds.
55.—Improved White Globe Onion—200 to 300 seeds.
56.—Mrs. O'Rourke Pea—About 20 peas in a package.
57.—Eugenie Pea—30 to 40 peas in a package.
58.—Napoleon Pea—Same as No. 57.
59.—King of the Marrow Pea—Same as No. 57.
60.—Blue Sickle Pea—Same as No. 57.
61.—Waite's Bedfordshire Prize Cucumber—12 to 15.
62.—Waite's White Cos Lettuce—800 to 1000 seeds.
63.—London Particular Long Scarlet Radish—300 to 400 seeds.
64.—Extra Red Round Turnip Radish—Same as No. 63
65.—Waite's Large Cabbage Savoy—400 to 500 seeds.
66.—Extra London Curled Parsley—700 to 800 seeds.
67.—Intermediate Carrot—very fine flavor—800 to 1000.
68.—Purple-top Scotch, or Bullock Turnip Do.
69.—Green-top Scotch, or Bullock Turnip Do.
70.—Waite's London Purple-top Swede Turnip Do.

N.B.—We have, of some kinds of the above seed, only enough to make up some 2000 complete packages (18 varieties). Should more than this number chance to be called for, the subsequent packages will contain an assortment of all we then have on hand.

Contents for April 1858.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

ORANGE JUDD, A. M., EDITOR AND PROPRIETOR. | ESTABLISHED IN 1842. | $1.00 PER ANNUM, IN ADVANCE. SINGLE NUMBERS 10 CENTS.

VOL. XVII.—No. 5.] NEW-YORK, MAY, 1858. [NEW SERIES—No. 136.

☞Business Office at No. 189 Water-st.

☞For Contents, Terms, &c. see page 160.

May Day.

"The waving verdure rolls along the plain,
And the wide forest weaves
To welcome back its playful mates again
A canopy of leaves;
And from its darkening shadow floats
A gush of trembling notes.

Fairer and brighter spreads the reign of May;
The tresses of the woods,
With the light dallying of the west-wind play;
And the full brimming floods,
As gladly to their goal they run,
Hail the returning sun." PERCIVAL.

A thousand mingled associations cluster about the month of May. Poets of olden time sung of it as the "Flowery month of May," the joyous precursor of the "Merry month of June." On May-day—in common parlance, the first day of the month—the youngsters of both sexes, in Old and "Merry" England, gathered about their May-pole as an annual holiday, with jovial feats of strength, and exercise, and dancing, and rude play—oftentimes ending in fisticuffs, broken heads and bloody noses, among the swains in particular—which the poets in their halcyon lays have taken care not to chronicle. The girls gathered, and wove and braided wreaths and garlands of parti-colored flowers, with which they decorated their own sun-tanned brows, and flaxen hair, and the lads cut down boughs from the forests and hedges, stood them up in rows, or ambuscades, from behind which they played their coarse, practical jokes upon each other, either by individuals or parties, or made love by couples, as the fit or humor of the occasion invited. It was a rough and honest happiness for the time, in which the hinds and sweethearts of those days disported themselves—in most places long since in disuse, and in the few sequestered nooks yet left, continually going out of fashion.

It is a weeping month of the skies, too, in England. Gentle rains and sudden falling showers green up their early spring crops of barley, and oats, and beans, while the Autumn-sown wheat and the grassy meadows have already shot up their rank herbage into a gloriously promising harvest for the later Summer. The cows are lowing in the pastures; the foals are capering around the fields, and cutting heiniously threatening capers around their soberly grazing dams; while the young lambs on a thousand hills frolic in all the fulness of their innocent spirits, or lie clustered together by tens and twenties on the sunny knolls of the landscape.

It is not so in America. We have no May-day sports. Paas, Pinxter, Easter, and April fool's day are all passed, and May ushers in a month of sober toil, and workday reality. Our farm crops are already in, or rapidly going into the ground. Far away South, such work is fully done. Our middle States have got their seeds pretty much deposited—many of them up and growing; while far away North, the laborious ox, and sweating horse are in the midst and heat of plowing for receiving the seed, or busily drawing the harrow to cover it in. Double-trouble, toil-and-bubble are the order of the day, from Passamaquoddy to the peak-end of Florida; from the Red River of the North to the farthest shores of the Rio Grande—one everlasting, busy, toiling multitude of man and beast—freeman, slave and brute. Such is our working agricultural world through the month of seeding, culture, and hopefulness for the coming yearly harvest. We scarce give ourselves time to turn aside and watch the tiny, trembling flowers, as they throw out their soft, light, downy heads from under the leaves of the forest, or the grasses of the field, beautiful and fresh as they are, and vainly striving to win our attention. Melting showers and heavy rains are more welcome by far to the husbandman, and occupy his absorbed attention.

There are those, however, pursuing a vocation, like that of the first Adam, "to keep the garden and to dress it," who are quite otherwise engaged. They toil, and spade, and rake, and dig among a thousand brilliant woods, and plants, and flowers, which, though "they neither toil nor spin," yield myriads of delicious hues and odors and gratifications to our senses, in ministering to our cultivated tastes, filling out, equally with the more substantial productions of the earth, their delightful mission to us, in making up the great sum of Providential blessings with which we are surrounded. These may be termed the fine arts, and the poetry of the rural world, which, as the result of a part of our toil, minister only to the refinements of our leisure, and solace us with their almost overwhelming beauty and luxury, to compensate for the aching energy of our endeavors. Useful thus they are, rightly considered, equally with the absolute necessaries of the ruder field culture, to fill up the sum of our enjoyment, and so should they freely receive their share of our attention.

There are many poor delving mortals, however, who have little part or lot in this delightful out-door world—the dwellers in the great, crowded commercial city, or in the hubbub of the hammering, bustling town. The song of the caged canary, robin, or mocking bird, has greeted them through the sunny mornings, as they glinted from their imprisonment through the wires before an open window. The pots of geraniums, narcissus, and exotic roses have smiled upon them from their stands in the market places as they hurriedly passed—the only harbinger of Spring, except the bright glow of a fervid sun, as it melted, and almost fainted them on the heated sidewalk; while May-day opens upon them the clatter, bang, and rush of loaded drays, and troubled faces guiding and following them along the thoroughfares, as the dreaded one of all others—moving-day, in the city. Great times for the babies and children; toilsome and troublous, jolly and blithesome for the heedless servants, scullions and under-strappers; but woeful, anxious and deprecatory for masters and heads of families, who have all the risk, and none of the pleasures of "moving." And we—thank fortune that we are not, but—have been of them. Issuing from our sunny nook among the hills, where the broad shimmering of the distant water greets our first morning sight, among the songs of wild birds, and dewy grass, under the shriek of the locomotive whistle, surrounded by anxious and hopeful faces, on the same daily errand of life existence as ourselves, we hurry on to our toilsome, yet agreeable labor, and for the time, busy ourselves in our dingy apartment, among piles of papers, letters, and other written and printed missives, to entertain you, dear reader, in the best way we can, with the mental pabulum which is to cheer and help on your own possibly more useful endeavors.

City toil is our necessity; a country home is our mitigation; together they are our life. To the one we are obliged to resort as the Emporium, or gathering place from which we draw the streams of what little knowledge of every kind we impart to the farthest ends of our broad and teeming country; to the other we retire as our resting place, to restore our jaded energies, and gather strength for renewed exertion in your behalf. Could we have our own will, and want, the farm should embrace us altogether, and the city should only hold us long enough to get its indispensable supplies for our necessities, and we would "whistle o'er the furrowed land" as our daily pastime and pleasure. Our fields and our orchards, our woods and our meadows, our kine and our flocks, the cackle of our poultry yards, and the delights of our garden should altogether absorb us in our daily out-door vocation; while the domestic comforts and pleasures within should yield that calm and quiet satisfaction which the clamor, and avarice of the contending world of society, and business can neither give nor take away....But we are homolizing. We started with May-day. If you, gentle reader, have sympathized with our own feelings, as we have hurried through this somewhat inconsequent talk, and have caught an idea to which your own feelings have responded, we shall be happy. If not, set it down that your editor, on this occasion at least, has been only dreaming in a way, at times, peculiar to himself—perhaps.

Calendar of Operations for May 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, later for the North, earlier for the South.]

EXPLANATIONS.—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus: *ff* or *mm* or *ll*, gives particular emphasis to the period indicated —Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated; thus, work marked *fm* indicates that it is to be attended to from the first to the middle of the month.

FARM.

May is quite as busy a month as April, for the farmer,—at the North even more so—Nearly all crops not already in the ground require putting in at once, and before the end of the month, the hoes will be called into use.

No after labor can compensate for work poorly done now, and a future crop is mainly dependent upon *well manured* and thoroughly plowed ground, good seed, and a judicious planting or sowing. We can not too strongly urge, now, at the planting season, a finely pulverized and deeply worked soil for the *seed bed*, whether it be a corn field, a potato patch or a grain lot. A few more bushels to the acre will pay for an extra plowing or subsoiling.

Beans, which are not as hardy as many other field crops, may be planted, f, m,; or even, l, for the kidney varieties. Cover the large kinds rather lightly or they will come up poorly

Bees, will be swarming in some localities, ll. Have hives in readiness and watch them closely. See "Apiary."

Broom Corn—Plant like common corn or in drills, f, m.

Cabbages—Plant out early sowings, ff, m. Sow, ll, for late planting.

Cattle—Working oxen require good tending now that their labors are heavy. Keep them from grass till Spring's work is over. Save the finest calves for stock, notwithstanding the butcher may offer ever so tempting a sum. A good calf is as easily and cheaply raised as a poor one, and the value of the future animal may be doubled.

Cellars are fruitful sources of disease if garbage and filth are allowed to accumulate for years. We trust, they were thoroughly cleaned and whitewashed last month. Open the windows daily for ventilation.

Corn—Read the article on another page. Use seed which has proved good. Failures may be planted the first of next month with King Philip or other quick growing varieties. Sow, m, ll, in drills thickly for soiling. As soon as planted stretch twine across and around the field to keep away crows. A few old barrels left in different parts of the field suggest ambuscades to them. Bright tin dangling from a pole usually frightens them.

Drain wet lands whenever other labors will admit of it, and often when they don't. This should be a standing rule the year round.

Economy of the Farm—To drive business, be up with the sun. A late beginning usually makes a worrying day with an unsatisfactory amount of labor done at night. Have your own tools, and places to keep them in, that no time be lost in searching for them or in going to neighbors to borrow. Spend a little time to root out the stumps, old roots or large stones against which the plow has brought up for years. Leave no waste uncultivated places about the farm. The soil may as well produce a crop of vegetables as weeds. Set out a few shade and fruit trees about the buildings, and along the lanes and roads. Your wife and children will thank you for it in after time. There is economy in it too.

Fences—Keep stock of all kinds from becoming breechy, by providing good fences.

Grain—Sow, ff, any Spring crops mentioned last month and not already in, including millet, flax and hemp.

Grass Seed may still be sown with Spring grain.

Hoes will need scouring up in the corn fields by the latter part of the month in the South and Middle States.

Horse and Mule teams require good hard feed while under heavy work.

Manures—Do not omit the manufacture of them, although the yards have just been cleared. Cart in muck or loam for a *bedding*, and absorb all liquid or semi-liquid droppings of animals.

Meadows—Keep stock of all kinds from tramping over. Beat the cattle droppings with a "mall" constructed for the purpose. Sow plaster or ashes over old fields.

Onions were probably sown last month. They will need hoeing, m, l.

Peas—Sow, f, m, scalding any needing it to destroy the fly. We have tried pouring scalding water over them and allowing it to cool, with no damage to the germinating power of the peas, but with decided damage to the germs of a future crop of bugs.

Plowing is still going on briskly. Subsoil as many fields as possible Remember ☞ AN INCH DEEPER EVERY YEAR

Potatoes—These were doubtless nearly all planted last month. Complete, ff. See article in last number upon the merits of different varieties.

Poultry will require little care now if running at large. Where shut up it is well to let them out for awhile about sundown, otherwise the quantity of eggs will diminish. Hens may still be set for late chickens.

Pumpkins—Plant, ff, m, among corn and by themselves, both for table use and for stock.

Roots—If not done last month, sow carrots and beets for stock, ff, on rich and deeply plowed soil.

Sheep have lambs by their side, or are fast dropping them, and require care and good feeding Washing and shearing may be done, ll, in some warmer localities.

Sorghum or Chinese Sugar Cane—Plant, ff, both for syrup and for soiling. It may be put in as corn, or what is better, though requiring a little more labor, drilled thickly in rows 3½ to 4 feet apart, to be thinned to 6 inches in the row, when well started.

Swine—The pens are supposed to be well stocked with young "grunters," which may properly have the range of the orchard if it is not under cultivation. Don't make them a nuisance, both to yourself and the neighbors, by turning them into the highway.

Tobacco—Plant from seed beds, ff, m.

Tools, Machines, &c.—Now that mowing machines and reapers are coming into such general use. see if you had not better add one this season. Have carts, wagons and other gear in order, and purchase whatever hay and harvest tools are wanted, early in the season.

ORCHARD AND NURSERY.

The orchardist doubtless so improved the mild weather of last month as to have his planting nearly completed now, excepting at the North where he is still busy. We have noticed that nurserymen have been pretty busy in filling the orders for trees. Many of them were unprepared for such a rush, and their stock, especially of standard pears, has been exhausted. The rage for dwarf trees has subsided and standards are mainly selected now.

Apples may still be planted, ff, although all trees should have been set out last month.

Budded Trees—Cut away the heads of seedlings budded last season, unless a failure is evident. Remove suckers.

Cherries—See apples.

Evergreens—The most appropriate season for planting these is at hand. We prefer for this locality, the middle of May for setting them, although any time in the month answers well. Remove them carefully, keeping roots shaded during the operation.

Grafting may still be done, ff, m, if the scions were previously cut, and are in good order.

Hoe nursery rows, m, l.

Inarching—Perform, f, m.

Insects—Destroy caterpillars before they spread over the branches. Search out borers, and wash young trees affected with scale.

Mulch newly planted trees, especially if the weather prove dry.

Old orchards will be improved by plowing up and manuring. Young ones are better kept under cultivation for several years with hoed crops, manuring the land liberally.

Peaches, apricots, nectarines, &c., should have been planted last month. If neglected put out, ff.

Pears—Plant, ff, if not previously done. Head back where necessary. See chapter V, orchard culture on a following page, and illustrations of pyramid trees, pages 115 and 116 last number.

Plow often among nursery rows, turning a furrow towards the trees at one time and from them at another.

Plums—Plant, ff. Cut away black knots.

Quinces—Plant, ff.

Seed Beds—Keep free from weeds.

Transplanting and Planting out of stocks and standards should be completed as early in the month as possible.

Water newly planted trees, if the ground should be dry.

Weeds—Keep down in all parts of the nursery and about standard trees.

KITCHEN AND FRUIT GARDEN.

The vegetable gardener is now hurried with work, preparing grounds and putting in the remaining crops. Many of the directions for the latter part of last month are equally applicable to the first week of May, and operations not completed will take the precedence now. The work of planting should be hurried along, many of the vegetables succeeding much better when planted early. Those having but small plots of ground may so arrange their crops as to get large returns from little space. Of course the land should be manured in proportion to the returns expected from it. For example, a patch of early potatoes may be planted, and after receiving their last hilling, say by the middle of June, set cabbage plants between the rows, and after digging the potatoes the latter part of July or first of August, sow turnips over the ground for a late crop. Again, radishes need take up no room of themselves. Scatter seed over the asparagus bed, in potato and melon hills, among beet and parsnep seed, &c. They are soon out of the way and scarcely injure the other crops. Lettuce and spinach may be sown between rows of larger vegetables, or on ground which will eventually be covered by running vines. Turnips or cabbages may be grown after early peas, or squashes may afterwards cover the ground.

Towards the middle of the month hoes will need scouring up by daily use, and the armies of weeds conquered, if a crop of anything else is desired.

Artichokes—If neglected last month, fork around old beds and make new plantations, ff.

Asparagus—New beds may be made, ff. Fork over old beds at the same time if not done in April. Sow seed, ff, m. Cutting will begin, f, m, or even earlier. Do not injure the young shoots in the operation.

Beans—Plant Limas and Kidneys, f, mm, placing the former on edge with the eye down. A good plan is to start a bed of them in a warm corner of the garden, and only plant out those which promise a vigorous growth.

Beets—Sow, f, m, or for keeping through the Winter, l. Hoe and thin early sowings, m, l.

Blackberries may still be planted, ff, m. Stake up old plantations.

Borecole, Broccoli and Kale—Sow and plant out, ff.

Cabbage and Cauliflower—Sow, f, m, for late use. Plant out, fl, m, from hot beds and cold frames if any remain Scatter dry ashes over the seed rows to protect the plants from the garden flea. Hoe former plantings.

Carrots and Parsneps—Sow, ff, if not already in. Hoe and thin, m, l,

Capsicum—Plant, f, m.

Celery—Sow, ff, m, for late. Set early plants in prepared trenches, f, m, watering and shading.

Corn—Plant sweet varieties, ff, m, and l, to have a succession.

Cucumbers—Plant, ff, m, for early, and, l, for late use and pickling. Protect young plants from the striped bug, by frames, or dust with flour and black pepper.

Currants—Plant, ff. Use the wash water and chamber lye upon old bushes.

Egg Plants—Put out, f, m, or only when the weather has become settled warm.

Fruit Trees—Planting may still be done, ff. Train wall and espaliers rubbing off superfluous shoots.

Grapes—Rub off useless shoots, m, l. Keep well fastened to trellis or stakes.

Herbs—Set, ff, any remaining roots.

Hoe early plants, m, l, both to destroy weeds and loosen the soil.

Hot Beds—Complete planting from them, f, m.

Kohl Rabi—Sow, ff, m.

Lettuce—Sow and plant from hot beds, ff. Sow at intervals of two weeks to keep a succession.

Melons—Plant and protect as cucumbers, keeping the different varieties by themselves if seed is to be saved, otherwise they will mix. Pumpkins, cucumbers, squashes, &c., should be kept apart for the same reason.

Mushrooms—Make beds for Summer use, ff, m.

Nasturtiums—Sow, ff, m.

Okra—Sow, ff Plant out former sowings, m.

Onions—Sow, ff, if not put in last month. Early sowing is essential to good bottoming. Put out sets and top onions at the same time.

Peas—Sow Champion of England, or some other choice marrowfats, f, m, l, to form a succession with the Daniel O'Rourke and others sown last month. Stick when three or four inches high.

Potatoes may still be planted, ff, m, if they were not all put in last month. Put out sets of the sweet varieties, f, m.

Radishes—Sow at intervals, f, m, l, among other vegetables, or on ground, where late crops are to be planted.

Raspberries—Tie up canes, ff. Cut back long straggling shoots. Fork in a good supply of manure if not already done.

Rhubarb—Sow seed and plant roots, ff, although better planted in April. Keep ground light, rich and free from weeds.

Salsafy—Sow, ff, on rich, deep soil.

Seeds—See that roots spoken of last month are all out for a supply of pure home-grown seeds.

Small Salads—Sow, f, m, l, lettuce, cress, rape, mustard spinage, &c.

Spinage—Hoe and thin plants Wintered over, saving a quantity for seed; sow, f, m, l, for successive use

Squashes—Plant, f, m, as cucumbers, which see.

Strawberries—New beds may be made, f, m. Water in dry weather Keep free from weeds.

Tomatoes—Put out early plants. ff, m, and sow seed at the same time for late use.

Transplanting—Much of this will require doing, m, . Select damp cloudy weather before a rain, if possible; otherwise water and shade the plants after moving

Turnips—Sow for Summer and Fall use, f, m, l. Early sowings will need thinning and weeding, m.

Weeds—Keep them down or they will keep the vegetables down.

Winter Cherry (Physalis)—Plant out, f, m, as tomatoes. Seed may be sown, ff, m.

FLOWER GARDEN AND LAWN.

A favorable and forward Spring has given an opportunity to prepare and plant grounds some two weeks earlier than last year. We suppose the operations calendared for April are nearly all completed. If these and former directions have been followed, such as planting out bulbs liberally last Autumn, the grounds appear inviting on this lovely May-day. Rich and delightful, both in color and perfume, is that pride of the gardener, the bed of choice bulbs. The snowdrop and crocus have passed away and the narcissus has a faded look, but hyacinths, tulips, fritillarias, crown imperials, &c., still make a fine show. The early blooming shrubs are also in flower, and Green Houses and Conservatories are lending their supply of showy plants to enrich the borders with a variety of colors.

Annuals—Continue to sow, ff, m. Transplant from hot beds and green houses those previously sown.

Asters and Balsams—Sow, f, m.

Bedding Plants—Put out, f, m. We prefer a small bed of each of the different varieties, rather than massing them indiscriminately together.

Biennials and Perennials may still be divided and reset, ff, sowing seed, f, m.

Borders and Lawn Beds—Keep neat and clean, often raking the ground among the flowers.

Box and Grass Edging—Set out, ff. Clip old borders at the same time.

Bulbs—Beds of these still make a rich show. By keeping them shaded from the hot sun they will continue in bloom for two or three weeks longer. , Keep down if needed.

Carnations—Plant out and also sow seed, ff, m. Tie up flower stalks, and slit the sheath of those blooming upon the side.

Dahlias—Plant out, f, m, those started in houses and boxes last month.

Daisies—Divide and reset or plant out, ff, m.

Dianthus and Delphinium—Sow seed and set roots, ff, m.

Dielytra—Divide and reset, ff. See description and illustration on page 152.

Evergreens—This is the best month for planting them. Set out, ff, m, l. If this pleasant weather continues, planting may well be done, ff. See chapters with illustrations in our last number and on pages 144 and 145 of this.

Fuchsias and Geraniums—Bring from houses, f, m, and plant in the borders. Keep well staked.

Gravel Walks—Renew old and make new, ff, m. Keep well hoed.

Hedges—Set evergreen, ff, m. Norway Spruce and Arbor Vitæ are the most desirable trees for this purpose. Deciduous ones should have been put out last month. If not done, small trees may be planted with care.

Hoe often, or use the rake to loosen the earth among tender plants and to keep down weeds. The ladies garden fork illustrated on page 149, is a useful implement for this purpose.

Honeysuckles and other Climbers—Train to trellises or over arbors, keeping well tied. They may still be planted, ff, although with less safety than last month.

Hot Beds, Frames and Pits—Plant out, ff, m, anything remaining in them.

Labels, Stakes and Dahlia Poles—Have in readines against the time they are needed.

Lawn—Sow with plaster, guano or bone sawings, or water with liquid manure if not done last month. Mow, m, l, and roll smooth.

Mignonette—Sow, ff, m.

Mulch newly planted trees, especially evergreens. Leaves, sawdust, tan bark, old hay or straw spread around these, prevent from dying, and furnish a gradual supply of manure to be washed down to the roots.

Pansies—Plant out, f, m, sowing seed for a new stock.

Petunias—Plant out in masses, ff, m. Sow seed at the same time.

Portulaccas—Sow, ff, m.

Roses—Plant, ff. Bring from houses, f, m, and turn into a deep rich soil. Train climbing and pillar varieties. Destroy slugs preying upon the leaves by the mixture of whale oil soap spoken of elsewhere. Layer old wood, f, m.

Stocks and Wall Flowers—Sow seed and plant out, f, m.

Turf—Renew, ff, any bare spots on the lawn or in the grass edging and walks.

Verbenas—Set out a good assortment, ff, m. See the list given on page 51.

Water newly planted trees and shrubs, especially evergreens, if the Spring proves dry.

Weeds are in the wrong place, if among flowers "Put them out."

Zinnias—Sow, ff, m.

GREEN AND HOT HOUSE.

Fire heat may now be nearly suspended, except in collections of tropical plants, and during damp, foggy, or cool weather. Abundance of air is required to harden the plants for a removal to the open ground. Some of them may be taken from the hot-house to the green-house, and afterwards to the open air, rather than carry them from a high temperature to exposed situations at once. Towards the middle of the month, the work of removal may begin, carrying out the more hardy first. Arrange them in a convenient, tasteful order, and screen from high winds. Some of them may be turned into the border for Summer blooming, relying upon younger plants for flowering next Winter. Where the pots are placed on the ground it is well to put ashes under them to keep away worms and other insects.

Achimenes and Gloxinias—Keep in a warm situation, partially shaded.

Azalias—Water and syringe freely now that they are growing rapidly. Cut back straggling branches to form a compact head.

Bulbs—Plant out any still remaining in pots or glasses.

Cactuses—Syringe insects. Strike cuttings, ff.

Callas—Water freely while in flower.

Camellias are now in a fine growing state, and need frequent waterings. Syringe the foliage, to keep down insects. Give them an airy situation.

Carnations—Take to borders, f, m; stake those in bloom.

Chrysanthemums—The stock may still be increased by cuttings, suckers and division of roots.

Cinerarias—Late ones are out in bloom, and need frequent waterings.

Cuttings of Cactuses, Euphorbias and other succulents—Make these, f, m, partially drying them before striking, as they will be less liable to rot.

Fuchsias—Plant out in borders, m, or shift those intended to bloom in pots. Water freely.

Grapes require care according to the degree of forcing they have received. Some vines may now show good sized berries or nearly ripe fruit and require little water, especially among the bunches. Others are later and need frequent syringings and pinching back. A portion may need thinning with scissors.

Inarching—May be performed on woody plants that do not root readily by cuttings, such as oranges, lemons, &c. See description and illustrations in last volume, page 184.

Insects—Allow no strongholds to become colonized at this season. It will be more difficult to dislodge them afterwards. Water and tobacco fumes will usually free the houses.

Japan Lilies—Shift or plant out. Tie up flower stalks.

Layer, ff, woody and herbaceous plants to increase the stock.

Oranges, lemons, oleanders and myrtles—Carry to open ground and water frequently. Plant seeds for a stock.

Pelargoniums are beginning to bloom. Watch the appearance of the green fly and fumigate to destroy them.

Roses may all be removed to the open grounds, f, m. Increase the stock by cuttings, ff.

Water freely, both before and after removing plants from the houses. Evening is the best time to apply it.

THE APIARY IN MAY.

BY M. QUINBY.

Continue to examine the hives, daily if possible, to destroy what worms may be found. As soon as the bees cover the bottom of the combs on a cool morning, the front side of the hive may then be raised half an inch for the hot weather, unless they again get weak, when they should be let down. Where but few stocks are kept, it is quite important to continue the destruction of worms by all available means. Split elders, with a few notches cut across, and the pith removed, and laid flat side down under the bees, are very effectual. The worms will spin their cocoons in these, where they are so easily destroyed that it is almost no trouble. If neglected much over a week, till the moth matures, the bees are worse off than if you had not tried to help them.

Where stocks are strong, and the weather favorable for most of this month, swarms may be expected a little before June. Everything should be in readiness to hive them as soon as consistent after issuing from the hive. The unmelodious sounds of the tin pan, are all useless to charm them into a cluster—*that* is a natural consequence. All washes for the hive, to make the bees like it, are unnecessary, Let the hive be clean, and put nothing but bees in it: it should be rough, rather than smooth inside. It is immaterial by what manner the bees are got into the hive, providing they are all made to go in before they are left. It is much the best way to carry it to the stand, at once and raise the front side of the hive half an inch, and put up a shade to keep off the sun through the middle of the day for nearly a week. In operating about them, avoid *all quick motions*—a moderate movement is unnoticed, but a quick one resented.

Convention of Agricultural Editors.

[The circular below was put in type and a proof slip sent to our exchanges April 10, to give opportunity for an expressive opinion in the May issues of those Journals published monthly To this date (April 20th) letters have been received from Frank G Ruffin, who will be unable to attend in June, owing to a large harvest then coming on; and from H. P. Byram, cordially approving the plan, and preferring New York city, and middle of June. *Emery's Journal of Agriculture*, Chicago, says of the proposed Convention: "We are in favor of it, go in for it, will be on hand, do not care a fig where it is, provided it is previous to the first of September, and we vote for Rochester as the *place* for it. Why? Southerns want to visit Niagara, Canada will cross the line that far. New-Englanders want to see some good soil, and Western men are too independent to go more than half way to meet *any body*."

CIRCULAR

We have recently conversed with several of our brethren of the Agricultural Press, all of whom concur in the opinion that very much good would result, could the Editors of the several Agricultural Journals meet together, and spend a week or so in a discussion of some of the more important questions connected with *Soil Culture*. There is at present a wide diversity of views upon the subject of Chemistry as applied to agriculture; of the value and mode of applying several of the leading fertilizers before the community; of the comparative merits of prominent agricultural implements, books, &c. It is believed that these and other topics might well be canvassed by those to whom the community are looking for the most reliable information. Perhaps a majority of the News and Political journals are now devoting more or less space to giving agricultural intelligence and instruction, and the Editors would gladly embrace an opportunity to consult with those who make a speciality of this topic.

We speak in behalf of, and at the request of several others, in proposing that during the present season, there be held at some convenient point a general convention of all members of the press who are interested in the subjects of Agriculture and Horticulture.

Those we have conversed with, have indicated about the middle of June, as the most convenient season on several accounts. At that time a number of those residing at the South will be visiting the North, and it is a season of general traveling. Our several readers will be then so much occupied that a little less attention to our reading columns will not be so much regarded as at other times

We have, personally, no partiality for any particular time or place. New-York city has been indicated as a central point, but we, for one, will gladly go to any place in the Union which will be the most convenient to the greatest number of those interested. If this city is selected, we will undertake to secure a suitable Hall for the convention, without expense to those attending, and further to provide as far as possible for the entertainment of the visitors, and we doubt not similar provisions would be made elsewhere.

It is proposed to bring this matter to a focus in the following manner: Let each editor of the agricultural or semi-agricultural press, in his next issue, express his views upon the proposition, and if favorable to it, name his preference for the time and place of holding such a convention, and at the same time nominate several gentlemen to act as a committee of correspondence and to make arrangements for a first meeting.

At an informal meeting of gentlemen accidentally brought together in this city recently, the following persons were named as such committee, the nomination to be subject to ratification or alteration, by the general expression of the Press.

Simon Brown, Ed. New-England Farmer.
Luther Tucker, Ed. Country Gentleman.
D. D. T. Moore, Ed. Rural New-Yorker
Thomas Brown, Ed. Ohio Farmer
Jas C. Medill, Ed. Prairie Farmer
H. P Byram, Ed. Valley Farmer
J Jay Smith, Ed. Horticulturist.
Samuel Sands, Ed. American Farmer.
Frank G. Ruffin, Ed. Southern Planter
Daniel Lee, Ed, Southern Cultivator

If this arrangement appears to meet with general favor these gentlemen will doubtless at once open a correspondence with each other.

To save time and correspondence, it is proposed that the above named gentlemen, and others, forward at the earliest convenience their views on the subject to the editor of the *Agriculturist*, New-York, who will act as temporary secretary and embody in a circular the substance of the letters and editorials received, and send an early copy to all interested.

NEW-YORK, April 8, 1858.

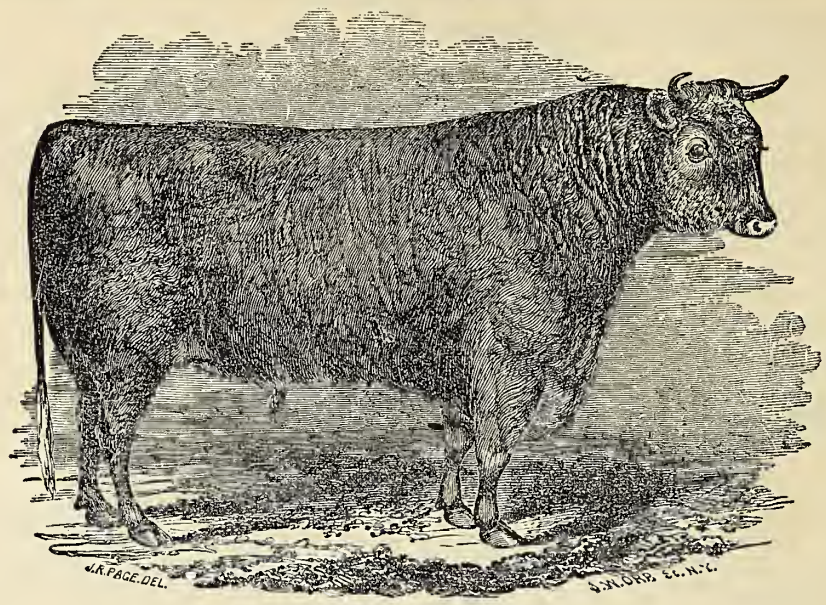
American Cattle....III.

[Continued from page 77.]

THE DEVONS.

What the turf horse, and its ancient progenitor the Arabian, is among horses, the Devon is among cattle. They are claimed in England as an aboriginal race, and to have existed in the island previous to its conquest by the Romans. Yet, from all accounts, the Devon has, from the earliest times, been confined chiefly to the county which bears its name, and the immediate confines of those adjoining, in the southwest of England. Nor does extraordinary attention appear to have been given to the improvement of the breed until the latter part of the last century, when the high prices, and great consumption of native beef in Great Britain, to feed her armies, having fearfully drained her cattle districts, awakened the attention of the few breeders of Devonshire, who still held their cattle in their original purity of blood, to their extraordinary value. The northern part of that county appears to have been their favored home. The soil and climate eminently suited them, and with the care and attention bestowed upon them by their breeders. for the past sixty or seventy years, they have improved in quality, appearance, and blood-like style, until they can be mistaken for no others with which they have any relation. The wild deer of our forests have no stronger marks of original descent than the well-bred Devons of the present day; and in uniformity of appearance, and identity of blood, they are scarcely more homogeneous.

An idea has prevailed to a considerable extent, that the red cattle of New England are essentially Devons, from the fact, that the first settlers of Plymouth came from Devonshire. There is no sort of proof in that, for no cattle were imported into New England until four years after the arrival of the Mayflower, and neat cattle were imported from all parts of the coast of England to the new colonies when an active communication had become established between the two countries. At all events, the New England red cattle are exceedingly unlike the well-bred Devons of the present time, and only resemble them so far as their approach to the same color, sprightliness of action, and an upturned horn are an indication. An occasional well-bred Devon may have been imported into New England during the last century, and left an infusion of its blood in certain neighborhoods; but nothing like an established herd of the kind has been known there until within the last thirty years. The first animals—six heifers and a bull—of pure North Devon stock, in the United States, of which particular note has been taken, were imported by Mr. Robert Patterson, into Baltimore, Maryland, in the year 1817. A few more were imported into New York, by the late distinguished statesman, Rufus King, of Jamaica, Long Island, about the year 1819—both from the fine herd of the late Earl of Leicester, then Mr. Coke, of Holkam, in the county of Norfolk, England. A few years afterwards, some of Mr. Patterson's stock were taken into Connecticut, and successfully bred. In 1835, the remainder of the Patterson stock went into the hands of Mr. George Patterson, of Sykesville, Maryland, who has skillfully bred them, with occasional importations of a fresh bull, up to the present time. Mr. King bred his stock, occasionally parting with an odd animal, until his death many years ago, when his herd was broken up and dispersed. These were all well-bred cattle, originally procured in Devonshire by Mr. Coke, who considered them admirably adapted to the light soil of his extensive estates in Norfolk. From the herd of the Messrs. Patterson, many animals were distributed into various parts of the country. About ten years ago, and since, at various times, several enterprizing cattle breeders made selections from the best herds in Devonshire, and brought them into Massachusetts, New-York, Georgia, and the Canadas. They have been eminently successful here, and now several herds exist, of purity in blood, and high quality—not excelled, even in England. The Devons have thus become an established breed of cattle in the United States, and in Canada.



DEVON BULL—FRANK QUARTLY

DESCRIPTION.

The pure North Devon is medium in size, and less than the short-horn, or Hereford. They are red in color—originally, a deep blood red, but latterly, they have in England bred them of a lighter shade, but still a red—a fancy shade, merely, the other characteristics remaining the same. The head is short, broad, and remarkably fine, with a quick, lively, prominent eye—encircled with an orange colored ring; and a slender, branching, upturned horn. The neck is fine, with little tendency to dewlap; the chest full, with a slanting shoulder, more open of late than formerly; a straight back, with full round ribs, well thrown towards the hips, and a projecting brisket. The loin and hips are broad and level; the rumps in good proportion, and the tail well set, round, and tapering like a drumstick into a tuft of mixed white hairs at the end. The flanks are deep, and level; the thighs somewhat rounding above, and running into a graceful taper at the hock, with a leg below of surpassing fineness and strength. The forearm is large above the knee, but below, the leg is exceedingly fine and muscular. A patch of white is occasionally found at the udder, and in rare instances extending forward to the navel, but in a majority of cases, perhaps, the white does not occur. Taken altogether, no animal of the cattle race exists, which in uniformity of color, style, symmetry, and blood-like appearance exceeds the Devon.

AS A BEEF PRODUCING ANIMAL,

no creature of the race on this side the Atlantic equals it in fineness of grain, delicacy of flavor, and economy in consumption. Its fineness of bone, and freedom from offal make it a favorite with the butchers, and a choice to the consumer. In England it is preferred to any other beef excepting only the Galloway and Highland Scot, and bears, excepting those, the highest price in her markets. He matures early—hardly so early, perhaps, as a Short Horn—but at four years old is fully ripe for the shambles, and at three, good. He is a kind and quick feeder, with finely marbled, and juicy flesh, and no bullock makes better *proof* at the shambles.

AS A WORKING OX,

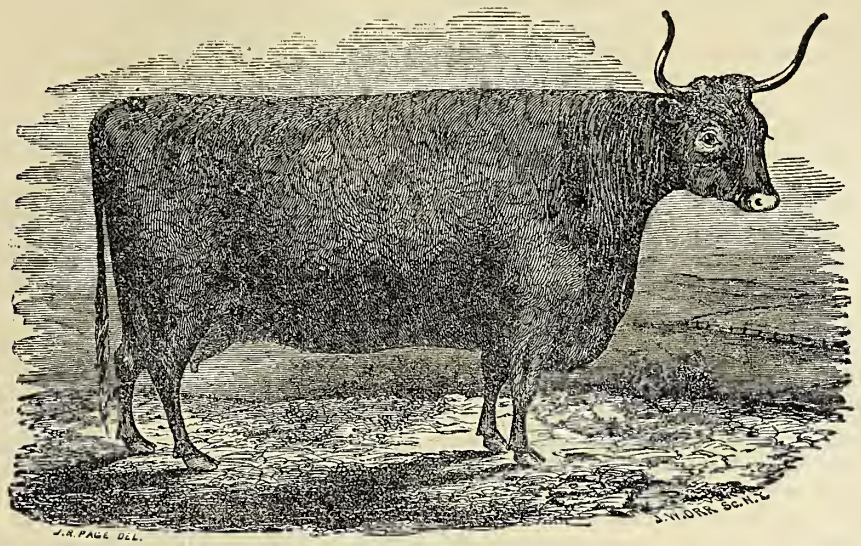
he excels, according to weight and size, any other known. Even in size, the ox is full medium, his solidity of carcass and muscular strength amply compensating for his *apparent* deficiency in bulk. For activity, intelligence, and docility he has no equal, and long experience has proved that where working oxen are in demand, an infusion of Devon blood adds largely to their value, both in price and performance of labor. They match readily, both in color and shape, the deeply concentrated blood of the bull imparting his color uniformly to his progeny. Their movements are quick and agile. They walk almost with the rapidity of the horse, possessing both wind and bottom. In short, the Devon is the *beau ideal* of a working ox, and as such, will always hold a pre-eminence.

AS A DAIRY COW,

she is full medium, when milk is made an object with her. For breeding purposes solely, as with the Short Horn, her milking capacity has been too often sacrificed for the benefit of her appearance. Naturally the Devon is a good milker. We have often seen Devon cows yielding twenty four quarts of rich milk a day for weeks together on grass only, and making a corresponding weight of butter. They are kind, and gentle in temper, and with the milking quality properly cultivated, they are, according to their weight and consumption of food, equal to any others. They have so proved in England—we know it to be so in America; and coupled with the manifold excellencies of her stock, no cow can be more profitably kept as an economical animal, either in the farm dairy, or the village paddock.

WHERE SHALL THE DEVON BE KEPT?

There has been much controversy among cattle breeders on this point. Our Western breeders and graziers, although they admire their beauty and symmetry, contend that the Devon is too small for their rich lands and huge corn cribs—the Short Horn is better. We will not dispute that conclusion, well knowing the partiality of good stock feeders for large size, and corresponding consumption of food. But for the medium,



DEVON COW—BIRTHDAY

and lighter soils of the country—and the richest also—in all its variety of climate, no beast is better calculated to win its way to success and favor. From Maine to Georgia; from the Atlantic shore to far beyond the Mississippi, the Devon thrives, and is a favorite with its keepers. On hills, or in valley, with scanty herbage, or a luxuriant growth, with anything like Christian treatment it will thrive, and do its duty.

"Beware of Eastern Tennessee Lands."

To the Editor of the American Agriculturist.

I notice with some regret an article in the April *Agriculturist*, referring to the wild lands of Tennessee, for although you only give the statements of a subscriber, which may all be very true in that case, yet they may be the means of inciting an interest which will surely be taken advantage of by sets of speculators, who are attempting to palm off large worthless tracts of land, not only in Tennessee but elsewhere. Let me give you an illustration.

During the past year, a man from Eastern Tennesee visited Brooklyn, and with the aid of a surveyor here, and certain specious statements, induced a number of us to believe that there was an opening for a pleasant and profitable investment in homesteads for ourselves and friends. A letter, purporting to be from a resident, setting forth in glowing terms his success and prospects in that region, was printed in a circular form by the said surveyor. Some twenty of us (including "stool pigeons") united together and contributed funds to send a man to investigate the matter. Our "surveyor" was of course selected. He came back with the report that he had visited the very land of Canaan, of which the "half had not been told." Well, arrangements were being entered into to purchase a single tract of over 10,000 acres, at $1 per acre, through him.

But as good luck would have it, our "agent" rather overdid the business, and a suspicion was aroused that he was "feathering his own nest." Before paying over the money to him, we finally concluded to "investigate" farther, and for this purpose secured the services of an experienced old Long Island farmer, and despatched him as a second agent to "spy out the land." Without entering into details, suffice it to say, our new agent brought back word that our ten thousand acre tract could be had for 50 cents per acre, and was not *worth* a sixpence—that the more of such land a man had for farming purposes the worse he would be off.

Our experience has cost us some blasted hopes, and a little money, but we are glad to get off so cheaply as we have. We hope this bit of history of one transaction—and we learn that it is only one of many of like character—may be the means of putting others on their guard.

One of the Humbugged.

Brooklyn, L. I., April 15th, 1858.

REMARKS.

We are obliged for the above communication. We have no doubt but there are very many fine tracts of land, which need only to be known to be taken hold of, but we commend the example of the Brooklyn Company to every one looking after them. No one should invest his property, and fix a homestead, without first examining the locality *with his own eyes*. He is foolish if he does otherwise, and, we had almost said, *deserves* to be fleeced.—Ed.

Dear Land and Emigration.

A correspondent of the *Country Gentleman*, in noticing our experiments with the Ashcroft and River's Sweedish Stubble Turnips, wants to know why we do not emigrate. It will be recollected that the writer took the edge of a marsh, drained it, and raised at the rate of nine hundred bushels to the acre without stable manure. The spot, we admit, was unpromising, and the turnips in better land would probably have yielded a larger crop. But we think nine hundred bushels to the acre is not so poor a remuneration for one's labor that he has occasion to turn his back upon the home of his fathers and seek a new one in the West. We believe that the advantages of the East and the West are so evenly balanced that no farmer has occasion to emigrate except from choice.

For many it is decidedly better that they should remain where they are, clearing off rocky land, draining swamps and marshes, turning wastes into meadows, than to seek farms ready made upon the prairies. There are thousands of acres of these unimproved lands in almost every county of the Eastern States, in the immediate vicinity of good markets, that only want capital and labor to make them largely productive. They are in the midst of civilization, within sound of the church-going bell, and within sight of the school-house and the post-office. The country is made up, and the farmer has not to be taxed a fourth part of his earnings to make roads and bridges, to build court-houses and jails, and to furnish society with the necessary fixtures of civilized life. All these things have been attended to by former generations, and the farmer has nothing to divert him from the luxury of cleaning up his farm and making the rough places smooth.

The swamp and marsh lands especially can be easily made productive, and pay for their own improvement. We have a few acres of this kind of property, that has lain waste from the foundation of the world, that we have determined to improve. We want to finish the job before we emigrate.

An Early Plot of Beans, Corn, &c.

The fine weather during the early part of April, and to the time of this writing, April 20, has induced many persons to nearly complete making their gardens, and put in many field crops much earlier than usual. Considerable anxiety has been felt, however, lest a late frost should cut down some of those not hardy. There has been so little cold weather the past Winter, that the ground has not lost as much heat as usual, and from theoretical considerations, we shall scarcely look for any severe frosts this Spring, though "all signs fail in dry weather," and it is safer not to be in too great a hurry in planting corn, beans, and such like crops that may be ruined by a cold snap, or a single night's frost.

We commenced this item, however, to suggest a mode of securing a few early beans, a small plot of corn, cucumbers, melons, &c., where the plan recommended, page 100, has not been adopted. Take Beans for example. We may plant them at once, in hills at the usual distance. Then a week or two later, extra hills may be put in between those first planted. If the weather continues mild, the first plantings will grow and give early returns, and the second planting may then be dug up like so many weeds. The only loss will be the small quantity of seed. But if on the other hand, a frost should chance to cut down the first planting, you then have the second as a reserve. Very often, owing to long rains and other causes, the later planted seed will shoot ahead of the earlier, in which case the weaker plants may be removed and give place to the stronger.

These remarks apply to corn, melons, and indeed to all of the tender vegetables. The extra seed required, is scarcely to be considered, in comparison with the value of having a *chance* for obtaining an extra early crop, without risking a later one

Humor in an Agricultural Society.—If we are to credit the Springfield Republican, the managers of the Amherst (Mass.) Agricultural Society enjoyed a bit of fun in making up the committee on stock for their cattle show. If the several boards of judges do not perform their duties well it will certainly be no fault of the managers.

The Republican gives the following examples: "The Committee on Cattle, upon the principle that 'he who drives fat oxen should himself be fat,' was composed of eight gentlemen whose aggregate weight is over two thousand pounds! Then the committee on calves (most impudent selection!) was wholly composed of members of the last Legislature. The committee on fowls were gentlemen from several towns about here, all of them blessed with the name of Fowle. But the happiest thing, and one that really had a good grain of satire in it, was the committee upon maple-sugar. This was made up of 'sweet hearts,' three ladies and three gentlemen, who were known to be engaged to be married, being upon it'

Experience in Potato Culture.

To the Editor of the American Agriculturist:

This root is one of the most common crops of the American farmer, and almost every one pretends to know all about it. But to raise superior potatoes, we have much to learn yet, especially as regards its proper treatment to ensure a large crop, even under favorable circumstances. Here the question presents itself—how many bushels is a large crop? This depends much upon the kind, all other things being equal. The best kind, such as the Mercer, is comparatively a small bearer. I think that for the middle of Pennsylvania, 200 bushels per acre of Mercers would be a very large crop. One thing is sure, that half that quantity is more frequently obtained. I could never come near 300, much less 500 or 600 bushels, as is said to have been raised from one acre. Whether that is only paper farming, or whether we common, hardworking Dutchmen are too stupid, I am not ready to say. But I would much rather see it, than hear it said. I am here speaking of Mercers only, and when I have 200 bushels, I consider it a full yield from an acre.

I prefer corn-stubble, well manured, and plowed 12 inches deep, and deeper if possible, then well harrowed. If cloddy, a roller is run over the ground, and again harrowed, so as to start with a well pulverized soil; then marked out with a light plow, 3 feet apart, and 4 or 5 inches deep, and covered with a hoe, from 3 to 4 inches deep. The planting is done as early in the Spring as circumstances will admit.

When the first young weeds make their appearance, a light harrow is run over the ground to destroy them. This is done as often as weeds make their appearance, till the potatoes themselves show above ground, when in a few days the rows will be sufficiently marked by showing a bluish streak of the young tops. The plowing is then done, throwing fresh ground up against the row on both sides at once, with a corn plow. Some will be covered, but that does no harm, for in a few days they work their way out again. If any ground is left undisturbed between the rows, the cultivator is run through, and the weeds between the hills are destroyed with the hoe and the hand.

By this mode of after-culture, the little spongioles are not disturbed. If the plowing is left till the vines have made considerable growth, it often does more harm than good, from the fact that the plow cuts many of the young rootlets which assist in drawing on the soil for nourishment. I have seen potatoes plowed when they had already gone into blossoms; in such cases they had better be left altogether without plowing.

J. S. Keller.

Landingsville, Pa.

The Peach Blow Potato.

To the Editor of the American Agriculturist.

The potatoes in the Buffalo Market last year were generally inferior in appearance and quality; the best during the Spring and Summer being brought generally from the vicinity of Rochester eastward, or the new lands of the Western States. As my father, of Onondaga County, had for several years raised the Peach Blow potato upon a dry, limey, table-land farm with such success as to consider them perfectly guaranteed against the rot, I had a quantity of them sent here by railroad in June, which sold at the highest market price and gave entire satisfaction. But, upon the same farm, last Summer for the first time, the Peach Blows rotted badly; and a letter on my table says those left are of "good size to shoot humming birds with." This failure was attributed, perhaps incorrectly, in part or entirely, to the wet Summer; but it indicates, I think, that the best varieties, even in the best localities, will sometimes or finally rot; and growers may, therefore, be thankful to you for calling their attention to new varieties—some of which, in some soils and during some seasons, will doubtless prove superior to those which have, in most parts of the country so generally failed during the year 1857. The expense of procuring seed sufficient for experiment cannot be very great; and in our present imperfect knowledge of the cause or causes of "rot," this plan of having "several strings to the bow" seems to be the safest for any enterprising and prudent farmer or gardener.

In this vicinity the White Pinkeyes, Carters or Moshanocks, and Western Reds have been the favorites; but the rot has been so general that every one almost is ready to try all kinds that are anywhere successful; and, unless this Potato Plague stops in its ravages, those varieties of this vegetable or those soils that are *rot-proof* will soon be well advertised, and the discoverers thereof will be private as well as public benefactors.

W. W. N.

Buffalo, March 8, 1858.

Long White French Turnip.

A VALUABLE VARIETY NOT GENERALLY KNOWN.

During the past Winter, we received from Joseph E. Macomber, of Portsmouth, R. I., a description of a turnip which he stated had been cultivated for "a long time" in that "Eden of Rhode Island." From the general understanding that the seed had originally come from France, and from its color and shape, it has been called the "Long White French Turnip." We requested Mr. M. to forward us a barrel for trial. These came about the first of February, and we have cooked them from time to time with an increasing conviction of their very superior excellence.

Though a little shriveled from standing in a barrel in a warm cellar opening into the basement kitchen, they still retain their good flavor. They are *white*, solid, cook moderately dry, and are *sweet and free from all rank taste.* There is none of that hard, woody texture common to most turnips kept until this season. In short, we like them better than any other turnip we have ever cooked. If they grow as well elsewhere as in Portsmouth—and we do not see why they should not—we incline to the opinion that they will take the place of the rutabagas and most other varieties. We learn that this is already the case in the vicinity where they have been longest grown, though no particular effort has been made to introduce them. Those we received had been trimmed closely, but we have made a sketch of one which is a fair average of those in our barrel, though the best specimens had been previously selected for cooking. In the largest part, it measures 18 inches in circumference, and this is about the medium size. In answer to a letter of inquiry, Mr. Macomber states that:

"It is much used as a table turnip, retaining its flavor and good qualities until the sixth month (June) if kept from the air. It is raised not only for the table, but for fattening beef and feeding sheep. It has almost entirely superseded the rutabaga here. We cultivate in all respects like the rutahaga. We plant in drills two feet apart, on well manured land, after early peas or potatoes, sowing for a large crop, 25th of 6th month (June); but for Winter table, 15th of 7th month to 1st of 8th month (July 15th to August 1st)."

We hope to obtain a plentiful supply of seed for our next Annual Seed Distribution. We are also trying to get enough this year to offer some as an extra premium (No. 4) *this year.* If successful before this number goes to press, it will be announced on one of the closing pages.

Ice.

Contrary to the thousand and one fears expressed by almost everybody who bestowed any thought upon the subject, (the ice-dealers in particular, up to the early days of February, who thought "the Winter was like to rot in the sky,") this has been one of the best ice seasons we ever knew—better even than many of our longest, severest Winters. There are two good reasons for this; the first is that the water through the months of December and January was kept at such a low temperature that the first severely frosty weather froze it at once, and deeply, forming a pure compact ice; and the second is that it had no thaws or rains upon it melting the surface into "slush" to spoil its beautiful hardness, and open the surface pores to let the air either out or in, and destroy its consistency. In consequence, our ice-houses all over the country are filled with the nicest body of good solid ice that ever was got together. Thirty or forty years ago the use of ice in Summer was little known, and then only as a rare luxury, either in this, or any other country. It is now an indispensable necessity in our large cities and towns, and the country family should have it in the absence of a spring-house, or a well of the coldest water.

We can scarcely enumerate the varied uses to which it is made subservient in domestic affairs, and to which it is of great value in an economical way. Nor will we condemn it because it also ministers to the appetites, and depraved tastes of those who indulge in mint-julips, brandy-smashes, jeremy-diddlers, tips-and-tye's, lemon-punches, and a score or more of other-"drinks" so universally swallowed during all seasons, by the free-and-easy moralists of the day, "who drink temperately." For these abuses of an absolute blessing, neither ice, nor ice preservers are responsible. We presume the grog-drinkers would suck their decoctions down as freely as ever, without the ice, as they have ever done.

To the dairymen of our country ice is to come into almost universal use—particularly with the butter-makers, through the aid of preservatories,

and such-like inventions, which, we are happy to say, are fast coming into use. And to town's people so cheaply is the article now afforded, and brought to their own doors by the ice companies, that no house-keeper can *afford* to be without it.

The Weather.

(This article, written by an associate editor residing in Western New-York, say 100 miles north of this city, is nearly applicable hereabouts, though we had a shorter "cold term" in the latter part of February, than the one described by our associate.)

This is an old topic to put in print, but the past Winter, and present Spring, thus far, have been so remarkable for mildness, beauty, and salubrity, that they are well worthy to be upon record. An Autumn of uncommon rain, wind, and discomfort, both for man and beast, terminated late in November by one of the most remarkable snow-storms, and sharp frosts succeeding, within our recollection. After a fortnight of this premature Winter, the weather gradually softened, the snow all disappeared, and a mild December—half of it Indian Summer—succeeded. January came in with a delightful haze, the ground was still open for plowing, the air very dry and genial. February opened in the same delicious tone for the first few days, but after a week, gentle snows fell over the unfrozen ground, making fine sleighing, and a month of the best "getting about" for farmers within our recollection. It was perfect. The ponds and streams closed thoroughly up. The ice crop—now a staple of absolute necessity of commerce with our Northern States, as well as of family consumption with most housekeepers—became secure. The woods were perfectly accessible by the ice bridges over sloughs, streams, and swamps, and every appliable thing and beast which could aid in man's labor, was employed to the best possible account. So lasted a month into early March. Then it gradually thawed, the snow melting gently away without severe freshets, or damage, and the mild Spring sun shone down upon us as lavishly as the smile of a mother on a recovering child.

In our Central States, by the middle of the month the plows were merrily turning up the earth for the early seeds, and by the first of April, even as far North as Montreal, the roads were dry, and the ground settled. Two degrees to the North of this, young cattle were turned out of their stables with well filled mangers before them, on the thirtieth day of March, and refused to come back, preferring to forage on the long withered grass with which the previously growing season had clothed the pastures in unwonted abundance. The weather has been, for most of the time, genial and balmy—wonderfully free from its boisterous, fitful habits in March, and early in April. On the average, our Spring crops go into the grounds this year a month earlier than last, and in much better condition. Then the land was clammy and wet; now, warm and dry. The farm stock throughout the country has wintered full fifty per cent better than last year, and on much less fodder. The forage of 1856 was light, the succeeding Winter and Spring remarkably severe and protracted, exhausting all the forage, which got up to famine prices, and every straw of it was consumed. Last year forage crops were abundant, and the past Winter so favorable, that, in the aggregate, millions of tons of hay and other forage, lie unexpended in the barns and stacks of our farmers.

We knew a farmer in Western New-York who had to buy several tons of hay a year ago at twenty-five or thirty dollars a ton, to eke out the season for his large stock of cattle and sheep, and now after maturing in fine condition a larger stock than then, he has over a hundred tons of good fodder in his barn, cut from the same land that his lessened stock of the previous year nearly starved on. And so it is, more or less, all over the country. Truly may our husbandmen rejoice in the fulness of their mows, their bins and their cribs, as well as feel a pride in the thrift of their herds and flocks now teeming with their annual increase, and the charming prospects for another season of bounty, and, we trust, of healthfulness.

"But," says the discontented man, "prices are low." No matter; it is time they were low; yet not so low as we have seen them within ten years past, when our farmers were happy, contented, and thriving. High prices have ruled for a few years past, we know—and they have been too high for the healthy action of our people. Our farmers have gone into mad speculations, bought too much land, built too many fine houses, got too many carriages, and their families have followed suit, each in their own individual line, and things have gone wrong generally. Now they can quit traveling on the railroads, stay at home, go to work and get steady again. No danger, either, that prices will not be good, and paying prices before the year is out. We have had a grand financial *spree*, and are now getting sober. No wonder a headache or two has followed.

But we are getting into the economics. We began about the weather, and, as very natural, have wandered into something else. We close by congratulating our farmers on the abundant promise of the coming season, and expect them to employ it to the best advantage.

Statistics of American Agriculture.

The importance of collecting early and complete official returns of the crops, stock, &c., of American Agriculture, is beginning to be felt. In Great Britain, the wheat crop, for example, is scarcely harvested, before official returns of the entire yield are gathered and spread before the country. This saves much uncertainty as to probable prices and is undoubtedly of inestimable value to producers, however it may effect the interests of dealers who speculate mainly upon the doubt and uncertainty as to the actual yield in any year. Something equivalent to the system of annual statistic tables recently put in operation in Great Britain, will, we hope, be soon introduced here. At present we have only imperfect tables gathered once in ten years, and published in the decennial census reports. But even these are still imperfect, and we are happy to second any effort to render them more valuable. The "American Geographical and Statistical Society" of this city is agitating the question, as will be seen by the following proceedings at a recent meeting for organizing an "Agricultural Section."

John Jay, Esq., was chosen chairman of this section, and read the opening paper, taking for his subject: "The Pre-eminence of Agriculture as the leading National interest of the United States, and the increased importance it is to derive from the growing demand for bread for Western Europe." We can give but an outline of the remarks.* Various facts were quoted to indicate a future increase of that demand, not only in England, but in France, Belgium, Holland, and the German States. The food question is evidently recognized by the European Governments as the great economic and commercial question of the age, and as one that is invested in times of scarcity, with marked political significance. The capacity of the United States to become the grain producers of the world, is apparent from the breadth of her arable land, the small density of her population, the intelligence of her farmers, the expanding influences of her institutions, and her commanding central position.

Agriculture is destined not simply to furnish the bulk of our exports, but to exert an all important influence upon our national strength in developing the industrial and moral qualities of our people, and its future statistics may develop laws that will assist us to solve moral and economic questions, that have puzzled the statesmen and philanthropists of both hemispheres.

The returns of the census for 1840 and 1850, disclose with tolerable accuracy the leading features of our agriculture, the amount of land occupied, improved and unimproved, the breadth of land devoted to the several crops, the annual value of each crop, the average of crops to the acre, the number of farms, their average size, the average value of land in each State, &c. They show Indian Corn, our native grain, to be by far our largest staple, *exceeding in value wheat, cotton and hay combined.* This crop (corn) has doubled since 1840, and yielded the last year more than eight-hundred millions of bushels, worth Four hundred Millions of Dollars. Wheat comes next and constitutes of breadstuffs our largest export.

The apparent deterioration of the soil as shown by the decreasing average of crops to the acre, the average of wheat in New-York, Ohio and Indiana being 12 bushels, while in England it is 21, and in Scotland 30; the average duration of life in towns and in the rural districts with a reference to the fact that in Surrey, England, it is 45 years, and in Manchester and Liverpool only 25, and the increasing proportion of our population who are relinquishing agricultural pursuits for trade were referred to as interesting topics which might be so elaborated and verified by the next Census, that its returns should teach us not only lessons of political economy but of daily duty. The subject was one that concerned the whole country and suggestions for the improvement of the agricultural schedules would doubtless be cordially welcomed at Washington.

On the conclusion of the paper, Hon. Geo. Folsom, made some remarks concluding with the following resolutions which were supported by Mr. Pierrepont and Dr. Adamson, and adopted:

"*Resolved* that in the opinion of this Society the increasing magnitude of the Agricultural interest in the United States renders it a matter of National importance that the Agricultural Schedules, for the census of 1860, should be made as complete as possible, with the view of marking accurately its progress, its capabilities and the profits of Agricultural labor; and with the further view of discovering where, and to what extent, the arable soil of the country is deteriorating in fertility, under existing modes of cultivation.

Resolved, that the agricultural section of this body be instructed to invite suggestions from gentlemen throughout the Union, in regard to the topics that should be embraced in the New Schedules.

On motion of Mr. Barney, it was further

Resolved, that the Governors of the several States be advised by the Chairman of the Agricultural Section of the foregoing resolutions, and be respectfully requested to present to the Society, for preservation in their library, a copy of the last State census and any other official documents bearing upon its Agricultural Statistics."

After some further conversation in which Mr. Folsom and Mr. Dinsmore took part, and a vote of thanks to Mr. Jay, for his address, notice was given that a meeting of the Agricultural Section would presently be called, for "working purposes," and that gentlemen wishing to join would please send their names to the Chairman.

* Since writing the above, we learn that this address, with some additional matter, is to be published by A. O. Moore: in a hand-book of some 150 pages. 25 cents in paper, or 50 cents bound.

Farm Buildings....III.

We have now arrived to the period when the farm requires a first-class dwelling to complete its range of appointments; and the farmer and his family, by their perseverance and well directed industry, are entitled to and can appreciate the value of a convenient and commodious house. Before proceeding to a description of the design now presented to our readers, we offer a few genaral remarks.

Simplicity in all things should mark the life and surroundings of the farmer. Not that he is not just as well entitled to surround himself with objects of taste and art, and luxury, if he can afford them, as the richest parvenu who lives amidst the dense population or in the environs of the great city—but his estate, his occupation, his enjoyments are in the *country*. He is apart from the throng of society, the whirl of excitement and the vortex of fashionable life. His employments are grave, his habits are domestic, his leisure serene, quiet, and cheerful. So with his family. Estranged from crowds, and away from the towns, he should be as independent of their immediate assistance to his wants as possible; and all about him, in the way of buildings and appurtenances which are to be furnished and supplied by mechanics and others not within the sound of his own dinner horn, should be of a character to require little of them beyond the contingent labors to which they are of necessity liable. In this we mean to say that, surrounding himself with everything in the way of building which his occupation, convenience and necessity requires, and which the means at his command will allow, all his structures should be permanently, thoroughly and tastefully constructed—not in a way to need perpetual alteration, tinkering and repairs to which the ephemeral things, called dwellings, in and about our cities and villages, are frequently subject. The farmer who, intending to build, throws himself into the hands of the nearest professed architect, whose practice has only been among town or village houses, will groan over his mistake when his money is squandered, and by sad experience he has found out his folly in erecting the unsuitable tenement and surroundings which he fancied might answer his purpose. He must first, of himself, *know what he wants*. Then if he have not the requisite taste or ingenuity to plan them himself, he should go to a reliable friend who has the taste and judgment to properly advise him, and sufficient interest in his welfare to see that he is not cheated, nor coaxed into plans unsuitable to his objects. Herein we do not charge the professed architects with dishonesty, but we know that, in designing farm buildings, so predominating is their disposition to finery, and display, that they unwittingly sacrifice a deal of economy, convenience and comfort to tawdriness and show —"style," "effect," or "good-keeping," as they may choose to call it. And out of this grows the thousand and one gimcracks, with grotesque shapes, stilted roofs, filagree trimmings and tinsel appendages of every sort hitched on to them, which tend only, as situated, to make them ridiculous. We can point to any number of such, all over our thrifty farming districts. Within a year after completion the aid of a mechanic of some sort, and more often several sorts are called in, and a perpetual run into town after trifling articles is needed, and scores of mechanics' bills are to be paid in rectifying defects which never need have existed, and which a sensible plan and style of building, at first, would have obviated. Thus, then, our farmer has entailed upon him an endless succession of discomforts, vexations and expenses as a penalty for his own folly by entrusting his designs to incompetent hands.

This may be severe talk, we admit, but we speak from stern experience and full observation in the premises, and well knowing the truth in the matter. We may be met by the remark that "there must be an observance of architectural rule, and form, as laid down in the different orders of architecture by the great masters, and they must be adhered to, or the whole thing is a failure!"—to which we reply, that it is utter nonsense. Such remark may apply to many public buildings, erected for certain purposes; but we have never yet seen a country dwelling, either designed in the books or actually built in the pretended style or order of a particular architecture but what has been violated a score of times in the monstrosities or absurdities hitched on to it by the conceits of a quack; and let the design be Grecian, Gothic, Norman, Tudor, Italian, Moorish, English Cottage, or whatever else it may be called, ten to one more or less of each are mixed up and huddled together in a single structure, when applied to a first-class country dwelling, and which the unfortunate owner fancies is a "pure model" of its illustrious *original* prototype!

We simply say that a country dwelling cannot be built *purely* in either of these given styles, consistently with the demands of our American climate, and the due economy and convenience of an American farmer. The Italian, taken altogether, we consider the best adapted to American use, as being comparatively cheap and permitting additions at a future day, if required, without violence to the general effect of the original structure; but the Italian roof is nearly flat, or of such moderate elevation as to be a serious hindrance in passing off our heavy rains and snows, and protecting us from the effects of the severe and extreme frosts to which we are subject. Therefore, we must adopt the steep roof, and Americanize the style, and thus modify it, as we must all these foreign modes of architecture, to meet the wants and demands of American climate and American life.

After such remarks, we need only say that in the design we now offer to illustrate our ideas of what appertains to a first-class American farm-house, we have studied the fitness of things to their proper use; that economy in structure, convenience in use, and due comfort to the occupants are the chief requirements consulted. General plainness, with a due regard to ornament, and *thorough substance* throughout, are the prominent features of our plans; in short, an adaptation of building to our circumstances. As such, we introduce on the next page a perspective view of our first-class farm dwelling-house and its immediate appendages.

This is a full two-story house, with walls of twenty or twenty-two feet hight above the lower floor, forty-four feet long, and thirty-eight feet wide, with a rear wing one and a half stories or sixteen feet high, and thirty feet long by eighteen or twenty feet wide, according to the material of which it is built. The house may be built of wood, brick or stone, as convenience, or the means of the owner may permit. We, other things equal, would build a farm house of stone. The roof, as in the elevation, is a third, or twelve feet pitch, or may be reduced to a quarter pitch, is broadly and liberally thrown over the walls, projecting full three feet beyond, on the main building, and two and a half feet over the kitchen-wing, and two feet over the out-buildings. Indeed, the roof should be a prominent feature of the farm house, and its appendages, as it is of these, with no more breaks in it than what are absolutely necessary to give it an agreeable effect—as in the gable-roof before us, over the balcony, or the front verandah—to obviate the otherwise monotonous line of the eaves. For, wherever a break is made in the roof, tin, zinc, lead or copper gutters are requisite to take off the water running down the shingles, and prevent leakages; and these are expensive, and unless thoroughly laid, and well soldered, liable to frequent openings needing repairs. The upper part of the rear-wing-roof runs into the rear roof of the main dwelling, in the same way as the front gable. The chimneys should be within the body of the house, to give out to the adjoining rooms all the heat they absorb, and break out of the building at the peak of the roofs, as in this, thereby allowing the least possible chance of leakage, which is difficult to guard against where they come out in the declining line of the roof, or midway of its slope. Such arrangement of roof, and chimney, we conceive to be altogether the best, and sanctioned by long experience in the occupancy of dwellings so constructed. The front verandah is eight feet wide, and of such length that the projecting eaves shall reach to near, or quite the ends of the building. The end windows, where not immediately protected by the roof, are hooded. The rear or kitchen verandah is six feet wide, running the whole length of the wing, and adjoining the woodhouse in rear.

ACCOMMODATIONS ON FIRST FLOOR.

The interior accommodation does not require extended remark. Entering the front door into a hall 8 feet wide, the right leads into a parlor, or library, as may be most desirable, 16 feet square with a small closet attached, accommodation for a stove, a fire place at the chimney, and lighted on two sides by a window in each. On the left is a sitting room, 18x16 feet, lighted, and warmed like the opposite room, with a door leading into the family kitchen. The ceiling of these rooms, as well as those in rear, in the main body of the house is 10 feet high. A flight of chamber stairs leads from the main hall into the chamber hall above, and at its end a door goes into the main kitchen. On one side of the kitchen is a family bed-room or nursery, 16x13 feet, with a closet, and fire accommodation either by fire-place or stove, at choice. The kitchen, or chief family room, is the grand economical feature, however, of the interior, as it should be of every farmer's dwelling; and we shall be excused, if in describing it, we go somewhat into detail. It is literally the farm-house "Exchange." It is occupied first in the morning, and last at night. Here is done the chief cooking and getting up of the family requirements for the table, the house-work, and the gathering at meal-time. It should be spacious in room, accessible to the other usually occupied apartments, light, warm, and comfortable. It should have a liberal, open fire-place, an oven, and a cooking stove, with ample room, light, and convenience for the use of all—in short, every good farmer, and housewife know the solid satisfaction and comfort of a well situated, spacious, and convenient kitchen for every day use. It is, indeed, the farmer's living-room—indispensable: and without it, indoor work never goes right.

Our kitchen, therefore, is 27 feet long, and 16 feet wide. It has two windows at one end, and one at the other, causing us to place the rear-wing a little more on one side than we otherwise would have done, to gain this end window. It has an open fire-place, and oven adjoining, and a separate flue with a thimble above, to let in the pipe of the cooking stove, which may be in the back part

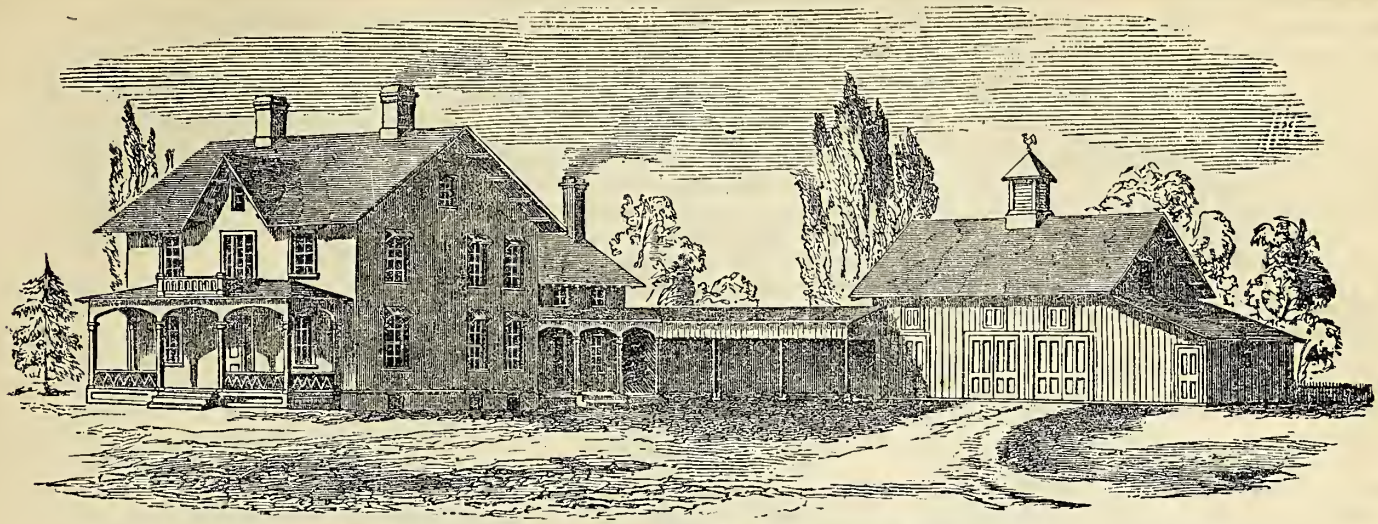


Fig. 7—A FIRST CLASS FARM DWELLING AND ITS IMMEDIATE APPENDAGES.

of the room between the rear window, and large closet door, thus giving, in Winter, additional warmth to the apartment. In the partition next the front stairs is a door leading down under them to the cellar; another door in the rear, leading into a large dish and provision closet, 10x5 feet, and through that, into a buttery of the same size; or these, without the partition, may be in one commodious room. Another door leads into a rear

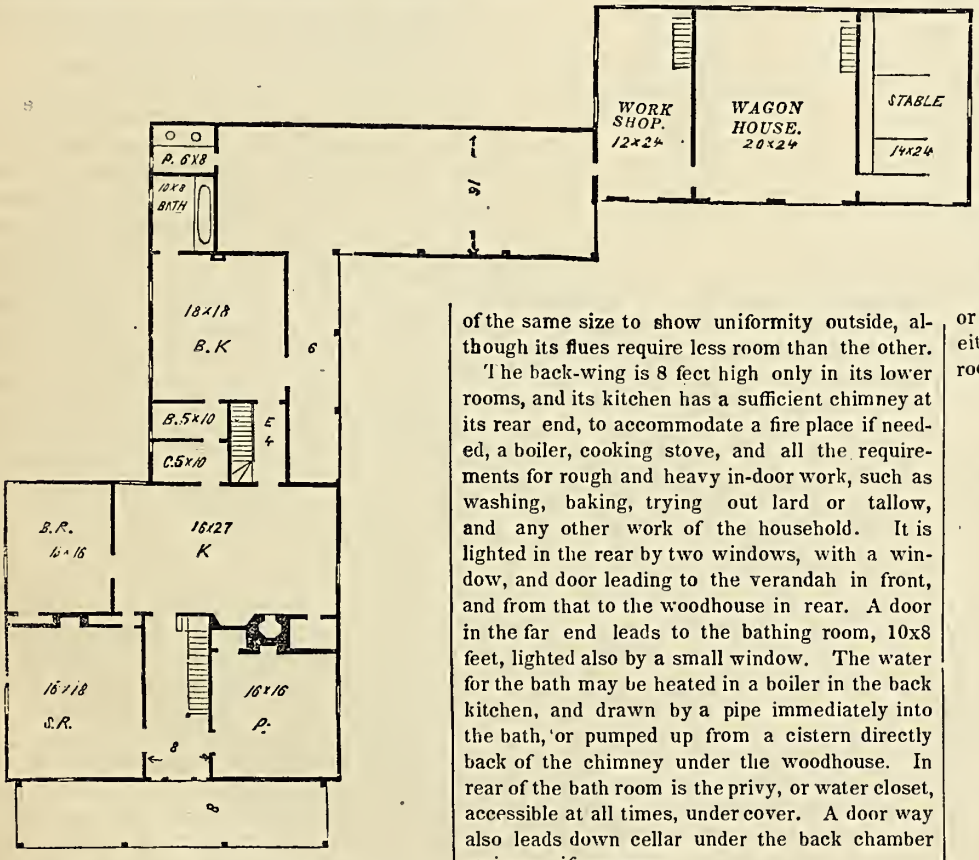


Fig. 8—PLAN OF FIRST STORY.

ha , 4 feet wide, and 10 feet long, running into the wash room, or back kitchen; this hall also communicating by a door with the wing verandah. From this rear hall, a door next the inner kitchen door, or leading immediately out of the inner kitchen, if preferred, leads up a flight of back-stairs into the wing, thus relieving the front stairs from common use. Thus, then, our *family* kitchen, by the aid of the back-kitchen, or wash-room, marked *B. K.*, 18x18 feet, is relieved from the rough work of the house, leaving it always capable of use, as a neat, tidy affair, where the meals are eaten, the lighter labor done, and the family gathered at all seasons, as they may chose, for domestic enjoyment. It may be well to remark that the kitchen chimney, giving so large accommodation as it does to the fire-place and oven, should be spacious in its foundation, and carried up broadly through the lower story and contracted above only to the necessary space for the flues to carry off their smoke effectually. The opposite chimney should also, at its outlet in the roof, be of the same size to show uniformity outside, although its flues require less room than the other.

The back-wing is 8 feet high only in its lower rooms, and its kitchen has a sufficient chimney at its rear end, to accommodate a fire place if needed, a boiler, cooking stove, and all the requirements for rough and heavy in-door work, such as washing, baking, trying out lard or tallow, and any other work of the household. It is lighted in the rear by two windows, with a window, and door leading to the verandah in front, and from that to the woodhouse in rear. A door in the far end leads to the bathing room, 10x8 feet, lighted also by a small window. The water for the bath may be heated in a boiler in the back kitchen, and drawn by a pipe immediately into the bath, or pumped up from a cistern directly back of the chimney under the woodhouse. In rear of the bath room is the privy, or water closet, accessible at all times, under cover. A door way also leads down cellar under the back chamber stairway, if necessary.

CHAMBER ACCOMMODATION.

This needs little remark. A turn of two feet in the upper story lands on a floor three feet wide, leading to the front hall, 8 feet wide, and by a door-window, on to the balcony over the verandah, protected by a railing. The floor of this balcony should be slightly inclined outward, and floored tightly over with lead, tin or zinc, and painted, or if not needed the balcony may be left off altogether, and the verandah show only a plain roof throughout. It is a thing of luxury only, although, we think, adding to the architectural variety of the building, and may be retained or dispensed with, at pleasure. A chamber door leads, on either side of the hall, into a spacious sleeping room, with closets. A door in rear of the hall, from the head of the stairs, leads into a rear hall with a large bed clothes closet, 8x5 feet, and another sleeping room, 16x13 feet, and round to another sleeping room, of 12x16 feet, into the rear passage over the lower room of the rear wing. In this rear hall of the main building is a flight of garret stairs, leading from its rear part, up into the center of the loft overhead, where all sorts of garret storage will find accommodations, or further sleeping rooms, even, can be made. A house of this size, however, will hardly require them.

Leading back, down three steps, this rear passage leads into a narrow hall, 4 feet wide, round to the head of the wing flight of stairs, and into a lodging room, 12x10 feet, and into another, 16x18 feet, for the use of the laborers who board and lodge in the house, if any; or for such other use as may be necessary. Thus, either flight of stairs leads all over the chamber rooms, at will, or, by locking one of the passage

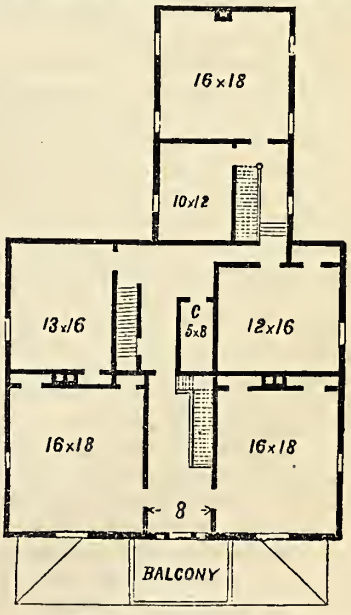


Fig. 9—CHAMBER PLAN.

doors, egress may be confined to either part of the chamber at pleasure.

The wood-house is 16 feet wide, and may be extended to any length required. It is a cheap building, any way, and we would have it ample in size, and accommodation. Its hight is such as to admit the wing porch, or verandah, to run into its roof on a level. It has a double or ridge roof, and

runs adjoining on to the building containing the work-shop, carriage-house, and stable. The work-shop is 12x24 feet, with a flight of stairs in it, and a lumber-loft overhead with a door window in front to receive and discharge its material. The work-room also has a large door in front, and is well lighted with windows. Adjoining this, is a carriage-room, 10 feet high and 24 feet square, with two large double doors in front, and two small windows to light it in rear. A flight of steps leads into the hay-loft above, and a harness-room, and granary may be partitioned off below, if necessary. From the carriage-rooms a door leads through a passage, 4 feet wide, into the horse stable, with a single and two double stalls, and one window in the further end, and another in the side.

The stable, it will be seen, is a lean-to with a shed roof of a quarter pitch, or whatever pitch is required to bring the roof from the plate of the carriage-house to that of the stable, which is 8 feet high. The roof of the stable should also project in front as far as that of the main building, to give the outside wall shelter, and show a full finish. We have made the stable a lean-to, because, being more or less damp from the stale, and droppings of the horses, the floor timbers and sills are subject to decay, and they can better be repaired without disturbing the other parts, than they would if in the main building. We think, besides, the lean-to form of the stable gives the whole building a more comfortable, homelike, and sheltered look. We have one on this model which we have long used, and have found no individual feature of it which we would alter, so convenient has it proved. If our readers are dissatisfied that this work-shop, carriage house, and stable design is just like another which we have adopted as an independant building in our series of farm structures, our simple answer is, that *we can invent none better*, cheaper, or more convenient, or in better style of architecture; and having found a thing as perfect in its kind as we can contrive, we think it hardly worth while to design an inconvenient and pointless thing for the mere object of showing a variety. Our designs are intended, of course, to be merely suggestive,—not models to be strictly imitated.

Thus much for our model farm-house. Our incidental remarks, made as we have proceeded in the description, show our views of all that the farmer needs in the indulgence of a taste for display in his buildings consistent with the requirements of a well regulated, thrifty rural establishment. That this design will equally well answer the purposes of some country dwellers who are not farmers, we believe; and that it may be adapted with economy and convenience to all their family wants. We might have varied it in outer appearance, and given it a different architectural style; but such, we consider, is scarcely worth while, nor do we believe we could better it. As it is, we trust it will be acceptable. It may be said there is nothing particularly new about it, and that the main features of the whole affair are old fashioned. Very well; if that be so, there have been a good many very good houses built, and lived in with great acceptance to their owners and occupiers in past days, at which we rejoice. The hills, valleys, mountains, woods, waters, grass, cultivated fields, and a thousand other objects of love and life-long familiarity are not new, yet none the less admired that they have ever greeted our sight. That they be sufficient and needful for our wants, and agreeable to our tastes, is sufficient to satisfy any reasonable mind; and they who want to go into absurdities from the mere love of variety, or the gratification of a vagrant fancy, can do so—without *our* assistance, however.

COST OF THIS ESTABLISHMENT.

That may vary from three to five thousand dollars, according to the price of material and labor, and the extent of finish. The first sum will erect and finish the whole in a plain way; and the latter will do it in the completest manner, while it may vary, more or less, at any sum between. We cannot well, and we certainly need not go into the details of finish, as in the erection of the building. A competent builder and mechanic should take charge of the work, draw out the plans, and give the items of expense in each one, by itself.

We have submitted the elevation and plans, sufficient for general use, as intended, and trust they will prove satisfactory.

To get rid of Ants.

It may seem an easy matter, to the uninitiated, to get rid of ants. So thought we, years ago, but we think otherwise now. Our front-yard, when we first came into possession of it, abounded in ant-hills, and to get rid of them, we followed the advice of a neighbor, viz: to cut off the tops of the hills with a shovel, and then throw on a shovel-full of fresh ashes or lime, carting off the hillocks into the street. This process evidently weakened their forces for a while, but did not utterly rout them, for in a few weeks new hills were peeping up around the old ones on every side.

At another time, we discovered a large ant-hill around the roots of a favorite pear-tree. A friend suggested a dressing of salt, though in small quantities, lest the tree itself should be injured. The ants liked salt: at least, they "stood it." Not to be beaten, we increased the dose, and succeeded, in salting down the ants and the tree likewise. Rather, we simply drove away the ants and killed the tree. The ants did not travel far from the salt-pit; they merely moved to the pear tree next in the row, and in a few weeks commenced housekeeping in their usual style. "Why don't you scald 'em out," said a neighbor, looking over the fence and seeing our perplexities; and if that don't do, then pound 'em, take a mallet, unroof their house and pound 'em as fast as they come up to see what the matter is. Well, we tried both plans, and with partial success. Plainly, their household affairs were disturbed, when we poured down scalding water through garret and chamber and kitchen; but this did not exterminate the varmints. And the pounding was an extinguisher, as far as it reached, but it did not put an entire end to the race: Moreover, the hot water hurt the roots of the tree, somewhat; and in our zealous pounding, we broke off several fine branches and barked the trunk of the tree.

Last Summer, having suspended warfare with the ants, because it did not seem to pay, we watered our besieged trees with soapsuds, and the refuse slops from the kitchen, hoping to promote their vigor and productiveness. What was our surprise to find that, before Autumn, the ants had struck their tents and gone to parts unknown! They could stand salt and lime, and hot-wate and earthquakes, but when bilge-water came streaming down into their private apartments, they gave it up!

But our troubles were not to end so easily. As if to wreak vengeance upon us for our attacks on their homes out of doors, the ants, like the frogs of Egypt, came up into our very dwelling, infesting kitchen and pantry, running into sugar bowls, dishes of preserves, molasses jugs and all our wife's dainties. A few years ago, we built an arbor* around the trunk of a fine old elm in our grounds, where we might enjoy a siesta, of a Summer's noon, or sit and gaze on the beautiful prospect spread out before us. For the first season, it answered our expectations and yielded us a great deal of enjoyment. But, last Summer, soon after the ants capitulated at the battle of the pear-trees, some of them took a fancy to our arbor. And while we were daily endeavoring to enjoy our favorite seat, we found the ant's running up and down the tree, over the arbor, and over our clothes, and under our clothes and all to our exceeding consternation and annoyance. The kitchen slops, which were so efficacious at the root of the pear-trees, would not answer in the pantry or the arbor, so we are driven to the use of some other weapons. We have lately devised some new apparatus for assaulting our enemy the present Summer. How successful the campaign shall prove, remains to be seen How to get thoroughly rid of ants, we consider an open question.

*In the previous volume (16) page 229, we gave an engraved sketch of this arbor.

My Neighbor's Barn Cats.

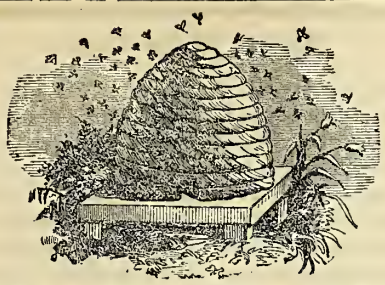
To the Editor of the American Agriculturist:

Notwithstanding the "public" consider cats as the fireside divinities of the unappreciated "belles" of former generations, and as being specially invented to be tormented by boys and dogs, farmers who raise large quantities of grain acknowledge their usefulness, and if fortunate in their management, think one good cat is worth all the terriers in the world, this opinion can hardly be doubted. Drop in upon your city neighbors, the flour and grain dealers, and ask to see their rat catchers. Every one will show you a CAT. Your article on page 71, March No., leads me to say a word of the cats of my friend, farmer D. He Winters some thirty head of cattle and raises choice swine, and feeds them high—buying shorts or other ground feed by the ton, and keeping it in a bin in his barn. The pigs are kept in separate pens in a part of the barn cellar and well supplied with clean straw. Their mixing trough stands under the bin and is supplied from it through a spout, and the aqueduct log is at one end of the trough. Is not every arrangement made for the convenience of rats and mice as well as himself? Yet he told me that he would give $100 for every rat or mouse that could be caught upon his premises. His barn and dwelling join. He keeps six cats—five of the feminine gender and the other he calls his "wether" cat. The "wether" cat is not supposed to be a mouser, but drives off the "Thomas" cats, so that kittens are nearly as scarce as rats. His hens have their quarters in the corner of the house-cellar nearest to the barn and although grain is always upon the floor no rats are seen. The cats are fed on milk—only once in a great while do they get anything else—and they are never allowed to be in the house. He says cats have "fits" because they are fed too much meat and are permitted to sleep near the fire....One of his cats has an extraordinary fondness for cows; I saw her walk along in front of them and purr as each cow licked her with the tongue. M. B. I.

Massachusetts.

THE MAPLE SUGAR CROP FOR 1858, will probably be a very light one. The first of the sugar season was unexpectedly early and sugar-makers were not prepared to improve it, while the early opening of Spring, stopped the flow of sap much sooner than usual

He who can take advice is sometimes superior to him who can give it.



Wonders of the Bee Hive....XI.

Fire is said to be a good servant but a bad master; and with a similar contrast we may speak of the honey-bee as an excellent servant, but a terrible foe, Small as it is, it is capable both of contributing greatly to our enjoyment, and of inflicting injuries which few would care to receive.

"They compassed me about, they compassed me about like bees," was the vivid description given of old by one who had been beset by foes; but blows, and wounds from stones and clubs and arrows and javelins, are hardly to be compared with the innumerable stings which may be inflicted by these tiny insects, searching out in their anger, every part of the body, and leaving abundant room for hundreds more to participate in the attack.

The sting of the bee is a formidable weapon, the fear of which gives the hive protection from the attacks of men and of animals. Yet it seldom has occasion for the use of this dreaded implement. It does not go about the meadows seeking for opportunities to worry horses and cattle, and distress the poor innocent sheep, or persecute the cats or the poultry. No creature more faithfully minds its own business, and lets every body else alone, than "the litttle busy bee." And of the thousands of bees in a hive, all armed with the same weapon, and equally capable of employing it with effect, very few ever find occasion to use it. And in swarming time, when more than at any other season, some care must be shown the bees by those who wish to enjoy the fruits of their labors, it is exceedingly rare for them to be provoked to anger.

The weapon itself, however, would occasion us very little inconvenience, were it not for the poison which flows through it. The pain produced by a very fine needle penetrating the skin for one-twelfth of an inch, could be easily borne, but if the needle were a hollow tube, through which a concentrated poison was forcibly thrown into the pores of the skin, and thence rapidly diffused through all the surrounding parts, it would he quite a different matter. And, after all, it is the venom, rather than the sting itself, that makes it desirable for us to keep the bees good-natured.

We have an engraving of the sting and its appendages, (fig. 17) that may interest some of our readers. We will refer them first, however, to fig 3, page 9, Jan. No., where similar parts of the insect are introduced. There, *A* represents the poison bag, which is supplied from the tube below it, of which, indeed, it is an enlargement. *C* indicates the muscles that move the sting whose barbed point is seen projecting below.

In fig. 17, *A* is seen in a different position, and the tube descending from it can be traced to the very extremity of the figure. When we look at a bee's sting with the unaided eye, the closest examination does not detect any roughness or unevenness in its polished point, but the microscope shows that it is furnished with barbs like a fish-hook, so that when once it has pierced the skin it is not easily withdrawn. These barbs are attached to two separate shanks which close together, but move independently. A two-fold appendage is seen above the point, whose use is unknown; and still higher up, on either side are the muscles and cartilages that thrust the barbs upward. Swammerdam, from whom this figure is copied, says, that after dissecting these parts, he has found the poison bag *A* so strong and firm, that by pressing it with his fingers as hard as he could, the poison might be thrown to the distance of two feet from it through the sting. And so, no sooner have the barbs worked their way into the flesh, than the venom is ejected into the wound they are making, and in some mysterious manner is distributed through the surrounding glands, causing oftentimes severe pain and enormous swellings, which may not subside for eight-and-forty hours.

Fig. 17—THE STING AND ITS APPENDAGES.

It is frequently the case that the bee, in attempting to withdraw its sting from a wound, leaves it there with its accompanying parts. Of course the insect is disabled, but the muscles of the sting continue to act for a little time, and the longer this is permitted, the greater is the inconvenience resulting. And the author just quoted suggests, that in our attempts to extract a sting thus left, the pressure on the poison-bag, may force out a greater quantity, and thus increase the evil. Sometimes a bee, when provoked, does not know where to make an attack, and a drop of poison may be seen clinging to the extremity of its sting.

The sting is used in self-defence to repel an injury received or feared. The workers sometimes employ it in destroying the drones. The queen uses her's only in an attack upon her rivals. The bees are greatly excited by the odor of their own poison, and are offended also by the human breath, and by disagreeable odors generally. This may account for their antipathy at times to persons after a fit of sickness, that previously had handled them with impunity.

The remedies for one who has been stung are almost as numerous as for a common cold. We have never found anything *uniformly* successful; and when we have neglected all remedies, we have sometimes suffered no inconvenience at all. Rubbing or sucking the wound, is probably worse than useless. The immediate extraction of the sting and the copious application of cold water, are simple and unobjectionable measures. And for the encouragement of apiarians, we will add that there is some reason to hope that the human system after a time may become so fully impregnated with the poison as to suffer no further inconvenience from being stung.

CURIOUS INSTANCES OF BEES AT WAR AND IN WAR.

The wars of bees with each other are among the strange mysteries of nature. A few years ago, in Conneaut, Ohio, no less than seventy swarms, it is said, engaged in a battle which was continued from three o'clock in the afternoon until six. They were all the property of one man who had them about equally divided on opposite sides of his house. No one could account for this desperate contest, and though the ground was covered with the slain, neither party gained the victory. Two young swarms were entirely destroyed, and others were greatly weakened.

In Carlisle, (England) a swarm of bees flying over a garden in which a new colony had been recently placed, settled upon the hive, and a contest ensued which resulted in the defeat of one party while the victors settled down in the branch of a neighboring tree. In this case the cause of the battle may have been the desire to secure possession of the quarters occupied by the first colony.

The attack of bees upon an army is a matter not provided for in the ordinary books on tactics. But we have recently had in the papers the following account of a regiment put to flight by a swarm of bees.

"In India, lately, while the army were returning from Alumbagh to camp, one of the Lancers was tempted to poke his spear into a bee's nest, when the swarm at once turned out and attacked the soldiers with such ferocity, that they all turned tail and fled, both officers and men, abandoning their guns, and they did not stop until they had reached the camp, where they were enabled to partially protect themselves from their active persecutors."

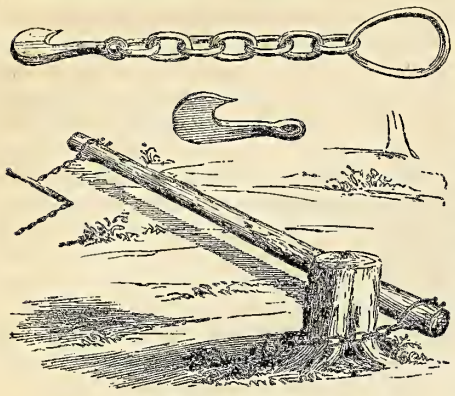
Still more remarkable, however, is the use of bees as a means of defence against an armed force, and we close this number with some curious matters of history drawn from sources not generally accessible to our readers.

"A small privateer with forty or fifty men, having on board some hives of earthenware full of bees, was pursued by a Turkish galley, manned by five hundred seamen soldiers. As soon as the latter came alongside, the crew of the privateer mounted the rigging with their hives and hurled them down on the deck of the galley. The Turks, astonished at this novel mode of warfare, and unable to defend themselves from the stings of the enraged bees, became so terrified that they thought of nothing but to escape their fury; while the crew of the small vessel, defended by masks and gloves, flew upon their enemies, sword in hand, and captured the vessel almost without resistance."

"When Amurath, the Turkish Emperor, during the siege of Alba Græca, had battered down part of the wall and was about to take the town by assault, he found the breach defended by bees, many hives of which the inhabitants had stationed on the ruins. The Janissaries, although the bravest soldiers in the Ottoman empire, durst not encounter this formidable line of defence, and refused to advance." (Jardine.)

Kirby and Spencer quote another incident

"During the confusion occasioned by a time of war in 1525, a mob of peasants assembling in Hohnstein, attempted to pillage the house of the minister of Elende, who having in vain employed all his eloquence to dissuade them from their design, ordered his domestics to fetch his bee-hives and throw them into the middle of this furious mob. The effect was what might be expected; they were immediately put to flight, happy to escape being stung."



A Stump Puller.

A correspondent recently sent us the above drawing of *his* Stump Puller. We handed it to an artist, who returned the engraving, but unfortunately lost the original sketch and accompanying article, descriptive of the implement. This is of little consequence, however, as the whole operation is plainly shown in the cut. The contributor has our thanks, and we request his address, that we may give him due credit in our next Basket budget.

Depth for Planting Corn.

If corn is planted three inches deep, it will come up and grow thriftly for a while, until it is three or four inches high; then it will stand still ten days or a fortnight. If now, we examine the roots to ascertain the cause of this check upon the owth of the corn, we shall find that a joint has rmed about an inch and a half above the kernel from which new roots have sprouted, and that the roots first formed below the kernel have rotted. While the process of changing roots is going on, the plant ceases to grow perceptibly above ground. The stalk and ears flourish as well after this change, as corn planted shallower, but there is a loss of about a fortnight in the growth and maturity of the plant. The lesson to be derived from this fact is, obviously, that to have *early* corn, it must not be planted more than an inch and a half deep.

It may interest some who are now engaged in planting Indian corn, to read the following record of experiments made by a careful observer:

No. 1.	planted	1	inch	deep, came up in	8½ days.
2.	do	1½	do	do	9½ do
3.	do	2	do	do	10 do
4.	do	2½	do	do	11½ do
5.	do	3	do	do	12 do
6.	do	3½	do	do	13 do
7.	do	4	do	do	13 do
8.	do	5½	do	do	17½ do

No. 8 came up very weak, and died in a few days.

Peabody's Premium Prolific Corn.

A score or more of subscribers inquire about this corn. We know little of it—and expect less—so far as adaptation to Northern cultivation is concerned. When we have *fruited* and liked Mr. Peabody's Strawberry we may then look after the corn. Our friend Frank G. Ruffin Esq., of Richmond, Va., Editor Southern Planter, has tried it. In his April issue he gives Mr. Peabody's circular, and proceeds to 'remark' upon it as follows:

"Accompanying the circular, from which the above are extracts, came a box to us, containing samples of the ears and stalks of the Peabody corn, and a small bag of the same for ourselves, for which Mr. Peabody will please accept our thanks.

That Mr. Peabody really did make the crop of corn he took the Premium on, we shall not dispute; as little that one or two persons made large profits on the sale of Morus Multicaulis; that Mr. Iverson made—was it four tons per acre?—of the Rescue grass, in something less than no time, by his own showing; that the West Indies will be outdone by Connecticut in the Sorgho and Imphee; or that Jack the Giant Killer accomplished wonders by means of a very prolific bean—*not* the Chinese prolific *pea*. Nevertheless, we can not advise our readers to purchase the corn for seed unless Mr. Peabody will send persons to grow it for them. We do not speak unguardedly, because we tried a sample sent us last year, and not a sucker did the corn produce; and no better crop than we might have grown on the same land—stiff upland, limed and manured, and in pretty good heart—with our own seed.

Supposing the corn to be quite as good as Mr. Peabody thinks it, no man can afford to purchase it at the price he asks, for it will do him no good for seed if he has to grow it upon a plantation in the neighborhood or vicinity—to wit, "six hundred yards"—of other corn. He must, therefore, obtain seed enough for his whole crop, and for his neighbors too, that it may not "mix." This, at ten dollars a bushel, would be rather hard even for corn which, on "common pine lands, bringing from ten to twelve bushels of the common corn to the acre," manured with only "160 lbs. guano to the acre," should, "notwithstanding a drouth of seven weeks," produce "more (how much more?) than one hundred bushels of shelled corn to the acre." By the way, if that corn had been manured with the CONGLOBATED SUCCEDANEUM, or essence of tumble-bugs, of our friend, FAIR MIXTURE, Esq., which, it may be remembered, when tried at pine thicket, on a roasting-ear patch, "produced seventeen ears on a stalk, each ripening just in time for table use," and which applied in another field —"a handful to the hill,"—"gave twenty-two ears to a stalk, and all hard on the 4th of July, two days after the silk appeared;" if, we say, the CONGLOBATED SUCCEDANEUM had come in contact with Peabody's Prolific, would not the product have jarred the ground, if not frightened it into an earthquake?

We advise our friends to wait awhile. Perhaps the corn may fall. One hundred bushels per acre, at ten dollars per bushel, is one thousand dollars per acre. Twenty-five acres is twenty-five thousand dollars; and that for four years—the Presidential term—will make a man rich enough to authorize his selling afterwards at a living profit. Meanwhile, let our friends wait in patience and see the issue...."

Wyandott Corn.

To the Editor of the American Agriculturist:

You are about right as regards the Wyandott Corn. I planted some of it in 1856 in the field with the common eight-rowed corn, and when the latter was ripe enough to cut up the Wyandott had not tasseled out. One kernel planted in the garden, which had good care and was manured well, had seven stalks which grew ten feet high, and got so far along that the kernels had begun to form, about the the 20th of October, when the frost killed it. The seed was genuine.

ONE WHO PLANTED IT IN ONEIDA CO., N. Y.

[It is useless to try the Wyandott Corn north of latitude 39° to 41°, for it will not usually ripen. South of 39° it may be well to try it on a small scale.—ED.]

The tongue, like a race-horse, generally runs faster, the less weight it carries.

What is Soluble Humus?

To inquiries of WM. Thomas, Talmadge, and others—*Humus* is a general term given to the brown or black decaying vegetable matter, muck for example, and also to animal substances. which are found in dark colored soils. A portion is usually soluble in water, and is ready to be taken up in the saps through the roots, to afford food or nourishment to growing plants. Removing standing water, and admitting air to humus, gradually changes it, nearly or wholly, into soluble humus—that is, available plant food. Since all kinds of plants and animal supstances are essentially composed of the same elements (carbon, oxygen, hydrogen, and nitrogen), any plant in decaying furnishes the elements needed by any other plant. So any animal substance, especially lean flesh, as it decomposes, furnishes a large amount of the very best nourishment for any plant whatever.

Grass—Light and Heavy Seeding.

A correspondent writing from Kennebec Co., Me., queries whether the quantity of grass seed usually sown is sufficient, and, as an illustration, mentions a field which he seeded down with about one-half bushel of herd's grass, and some sixteen pounds of clover per acre. The result was a heavy crop of first-rate *fine* hay, which the stock, and especially calves, ate up clean. The past Winter he has been feeding out hay from another lot seeded with the usual quantity, (8 quarts of herd's grass, and 8 to 10 lbs. clover), which, on rich land, grew rank and coarse. He found much of this left by cattle, and questions whether what they do eat is as valuable as finer hay. The query, however, with him is, whether heavily seeded lands will not "run or bind out" sooner than where less seed is used.

We have several times, in former years, alluded to this subject. In our fifth volume (page 171) we gave the statement of Isaac Bowles, of Winthrop, Me., to the Kennebec Co. Agricultural Society, in which he states, that he cut 6 tons. 18 cwt. and 7 lbs. of well cured premium hay, in one season, from an acre and a quarter of land, at two mowings. The seed used was 30 lbs. of red and white clover, and one peck of herd's grass. Again, on page 56 of the same volume, allusion is made to a visit by one of the editors to Charles Downing's place, at Newburg, at a time when he was seeding down a piece of lnnd with a *half bushel* clean timothy, one peck orchard grass, and four quarts of clover, to the acre.

Farmers usually sow too little grass seed. They need have no fear of its "binding out." A portion of the roots will die out, or be eaten by mice or worms, each year, and with spare seeding, and a part not germinating, vacant spots, or thin patches are very soon observed in the fields.

Profit of Raising Timothy Seed.

Enoch Engle, of Beaver Co., Pa, sends us the following results from 13 acres of Timothy. The seed was sown with the wheat in Autumn, and the expense of putting in, consequently, very little beyond the cost of the seed. The next season after the grain crop, the expenses of the 13 acres were:

Harvesting and putting in barn	$17 00.
Threshing and cleaning	20 00.
Marketing	12 00.
Interest on land	39 00.
	88 00.
68 bushels seed sold at Pittsburg at $3,25	221 00.
Leaving a profit of	$133 00.

From this deduct at least $13 for the first cost

of seeding, which leaves $120, or $9 25 per acre—a very fair remuneration, though not more so than many other crops often give.

Top Dressing Grass Land.

A YANKEE IMPLEMENT.

In the grazing districts, where butter and cheese are the leading products, farmers often find it inconvenient to take up sward land as often as desirable. It is considered a debatable question whether lands naturally adapted to grass, may not better be kept in good heart by top dressing, than by plowing and reseeding. Some very intelligent farmers claim that it takes many years to make a perfect sod well seeded with the best variety of grasses for the dairy, and that when this sod is once formed it should not be broken up—Of course they do not discard manuring, but apply it in the shape of top-dressing, as often as the land gives any indication of a decreasing yield of hay. They also accompany the dressing with sowing grass seed, where the sward is not sufficiently thick.

In Litchfield County, Ct., they have a very ingenious and simple contrivance, combining the advantages of roller and harrow, to aid in the work of top dressing. It is claimed that the manure benefits the land, just as it is made fine and available for the roots of the grasses. To accomplish this comminution of stable manure, they spread it upon the surface of the meadow, and go over it repeatedly with this peculiar implement—The framework is simply two large planks, such as are used for making stone boats or drags. The plank should be of the best white oak timber, two or more inches thick, two feet wide, and five or six long. Two of these are framed together in the usual way, and then the bottom is bored for harrow teeth—The teeth are made of steel, four inches long, and about an inch square. They are arranged in triangular shape, three triangles shutting into each other, and no tooth following its neighbor. It takes about forty teeth for a complete implement.

This breaks all lumps in the manure very finely, and makes small furrows among the grass roots, into which the manure is pressed by the drag as it passes along. It leaves the surface much less even than the harrow, and breaks the lumps better than the roller. Grass seed is put in with this implement in the best manner. By occasional top dressings, and scarifyings old meadows are kept in flourishing condition, and there is no loss of the grass crop, even for a single season.

We have never met with this Yankee contrivance in any other locality—It is considered by those acquainted with it, as better adapted to scarifying and smoothing the surface of grass land, than any other implement. It is not patented, and there is nothing to prevent any cultivator who chooses, from availing himself of its advantages.

Removing Ergot from Rye.

To the Editor of the American Agriculturist:

Two years ago I had a small piece of rye, and from causes not known it contained a great deal of black rye, (*secale cornutum.*) Black rye or ergot is a poison, and my grain contained so much of it that I could not feed it. By accident a very fine hog was destroyed by eating it. I have met with no mill or screen that will separate it, as much of it is as slender as the true grain. After various failures, I discovered that brine would separate it, the rye sinking and the ergot floating on the surface. This might, in some instances, be turned to profit, as the ergot is bought by druggists and is worth much more than the rye itself. The salt should be immediately washed out and both carefully dried. GEO. HILL.

Ashmeadow Farm, Lycom. Co., Pa.

Vetch—(*Vicia sativa*).

In response to various queries relative to the vetch, or tare, we introduce the above cut showing the general appearance of a branch as growing in the field. The vicia is a somewhat extensive class of plants, only one variety of which, the *sativa* (vetch), is cultivated, and even this is but little grown in this country. In England it is cultivated to considerable extent to feed out green as a soiling crop, and sometimes for pasture feeding. There is a Spring and Winter variety, both of which may be sown broadcast or in drills. The seed resembles small peas of a dark color, and the plant has somewhat the habit of pea vines, with papilionaceous (pea like, or butterfly shaped) flowers, which produce seed pods. About one bushel of seed is required for an acre if drilled in beds, or 1½ to 2 bushels if sown broadcast, it can be had at most seed stores for about $3 50 per bushel. It is gaining favor with some in this country, as an annual forage or soiling crop, like millet. Cattle and horses are fond of it, and appear to thrive well while fed with it. It prefers a clayey loam, but does well on any good soil not too sandy or dry.

Reapers and Mowers, &c.....IV.

FIELD TRIAL OF IMPLEMENTS BY THE UNITED STATES AGRICULTURAL SOCIETY, JULY, 1857.

[*Continued from page* 103.]

To the Editor of the American Agriculturist.

I now quote a few of the blunders noted by Mr. Soper:

"The Sub-Com. evidently made a mistake of nearly one hundred pounds in the weight of Ketchum's Reaper, by error in suhtraction, and in not deducting the weight of the plank *twice*, as two drafts were taken.....

"With respect to the draft of the Ketchum machine, he admits there is a mistake of one inch—a small matter, but a good deal upon 'a man's nose,' or in testing the draft of a machine. With this correction the Ketchum machine was 69 pounds lighter draft than any other upon the ground, and for a day's work of ten hours, (according to the rule laid down in the Report, on page 51), the team would have to draw two millions four hundred and eighty-four thousand pounds less than the one of the lightest draft. In the language of the Report, is this 'a mere bagatelle?....

"In table F, on page 77, it is stated that the Ketchum machine advances six inches to one vibration of the knife. The diameter of the driving-wheel is correctly given—36 inches, and 36 vibrations of the knife to one revolution of the wheel, and, for a wonder, these are correct. Now, ask any school-boy how far the wheel or machine will have advanced to one vibration of the knife."

Mr. Allen's Protest shows up such a continuous series of tricks, blunders and final injustice, one lapping directly on to another, and each forming so close a part of the whole as to make it extremely difficult for me to quote from it. In fact, the entire Protest ought to be read from beginning to end; and, as it is printed for general distribution, I presume Mr. A. will be happy to send it to any applicant who may desire to see it.

The Judges praise Mr. Allen's machine more frequently and more highly than any other throughout their Report; and yet will it be believed that they give him only *seven* out of the one hundred merit marks adopted by them for the Trial! Perhaps they wanted to let him down "aisy," as an Irishman would say. The Judges say in their Report that—

"R. L. Allen's machine is one of excellent character—much better than appears from Table H, as will be seen from a comparison with other tables."...."It is very strongly built, the strength of material judiciously distributed, the workmanship is of the very best character, and the materials of the first quality. The seat of the driver is more convenient and comfortable than any other."...."The journal boxes are of composition metal, and it runs with very little noise."...."On the whole we consider this machine to be one of a very high character, light of direct draft, and *totally free from side draft.*" [See page 40.]...."The guards in Allen's machine seemed of a very excellent quality."...."We think, too, that Allen's concave knife is a step in the right direction for reducing friction, and for diminishing the weight of the knife without lessening its strength." ..." [See page 52.]...."To R. L. Allen—A diploma for his concave knife blade, and general excellence of material and superior workmanship" [See page 68]...."This machine runs with very little noise, showing that the gearing is well made, and the momentum very equally distributed throughout the machine. In most respects a first-class Mower." [See page 78.]

The italics are my own. Contrast the above with what the Judges say of the price, weight, complexity, clogging, uneven cutting, dragging, breaking down or not working on the most important day's trial of the First Prize machine, to which they awarded the Gold Medal,—and inform us, reader, if you can, how such decisions are brought about in this enlightened day. Mr. Allen winds up by the following spirited challenge:

"A fair test requires the working of machines throughout an entire season, in every kind of soil—whether sand, clay, or wet marsh; of surface—whether soft or hard, rough or smooth, stony, hillsides, deep and frequent water-furrows, and the like; in all kinds of forage—early and late; soft, fine, and wet grass: lodged and standing clover, &c., &c.; and the machine should sometimes be drawn by weak or ill-trained horses, half broken oxen or steers; driven by boys or unskilful drivers—under all the discouraging circumstances and disadvantages occasionally to be met with by farmers. Such a trial as this—for twenty or thirty consecutive days, cutting 10 or 12 acres each day, with a strict account of breakages and repairs, with an ordinarily constructed machine, the type of its kind—in all respects like those usually sold to customers—such is the test, if carefully noted by intelligent, practical and impartial men, I should deem conclusive as to the absolute as well as the comparative merits of rival machines; and to such, if it could be secured, I would fearlessly offer the Allen Mower."

The public had scarcely got over the ignorant, unjust decision of the Judges of the Massachusetts Agricultural Society's Trial the preceding year, when this of the United States follows rapidly in its footsteps. Had I an enemy whom I wished to injure deeply, and hold up to unmitigated contempt, I would contrive to get him appointed a Judge on the next "Grand Trial of Harvesters;" and then further induce him to assist in preparing a Report of the same. "Oh that mine adversary had written a book," cried in his smitten anguish the sorely afflicted Job;

meaning from this, we may suppose, that it would have contained so much folly as to have surely been the intellectual death of him—and ah, what a death!

In my last I asked, "Was not one of the most influential Judges in this decision (meaning that of the Syracuse Trial,) an *agent* for the machine at Columbus, Ohio, to which the first prize, the Gold Medal, was awarded?" As I have received no reply from him to this question, I beg to say that I am informed from other good and reliable sources that he was! Now, I have a few more questions to ask.

1. Previous to the commencement of this Trial did not the Honorable Chairman of the Judges ask him, in common with all the other Judges, if he was in any way interested in any machine entered to be tried at Syracuse?

2. Did he not to this question give an emphatic "*No*"?

3. After the Ball, Aultman & Co., or the Miller & Aultman, (for the two are so mixed up in the Report I cannot tell which is which), machine broke down on the first day's trial, did he not report the following morning to the Judges, or one of them, that he had gone the preceeding evening with another Judge and cut one of the alloted pieces of clover with the same machine which had broken down, or had not worked that day, and in consequence of this Report was allowed to go on with the remaining trials; and thus unfairly and unjustly, mainly through his influence, obtained the first prize?

4. When subsequently asked for the proof of all this before the Judges in full session, did he not back out of the assertion, and say that he might have been *mistaken* in the machine—he *thought* it had been tried, &c.?

5. Was it not proved during all this time he said it was at work that the machine was lying in some shop to be repaired?

I do not assert these three last questions to be facts, I only ask if they are not? And if they are, how could the Judges allow such an enormous wrong, if wrong it were, to go unpunished? I think it behooves each one of them to clear his escutcheon in this matter, and the sooner he does it the better the public will think of him.

I did propose going on further with this Report, but what is the use? Its praise or its blame—its sins of omission or commission—are alike unworthy the notice of any just or honorable man; and had I known when I began these articles what I now do of its demerits, I should never have troubled myself by writing a word on the subject. Silent contempt should have been its treatment on my part.

I intend hereafter to make some comments on the famous Massachusetts Trial, in 1856, as well as that of Ohio, in 1857, when I get the Report of it, for I have attended them all. I have a sort of passion for such things; not because I am interested pecuniarily in any mowing or reaping machine living, but merely as an *amatcur*. I have my own notions as to which are the best machines for reaping and mowing, and how they can be still further improved and made more available; yet, for the present, lest I should be accused of partiality, I choose to keep these ideas to myself.

H. L.

Syracuse, N. Y., March 17, 1858.

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251 LBS. OF BUTTER TO THE COW.—The Montpelier (Vt.) Watchman, states that Herman Powers, of East Montpelier, kept 17 cows the past season from which he made 4,020 lbs. of butter. Allowing one cow out of the number to support the family, will leave a fraction over 251 lbs. to each cow. We should be better pleased to know further the breed of cows, kind of pasture, length of time occupied in making the above amount, &c.

Gargety Cows.

To the Editor of the American Agriculturist.

I have a cow which for about two months has been giving bloody milk from one teat, while the milk from other teats, is, to all appearance, pure. If I omit milking once or twice, the blood becomes clotted and difficult to draw. Will you please to explain the *cause* of it, and also the cure for it, if there *is* any. J. & K.

Mason Co., Ill.

REMARKS.

The cow probably has the *garget*. The causes of it are various—ill usage of the hag, oftentimes; accident, at others. A careful milking out of all the matter that will flow from the diseased teat; bleeding of the cow, if in good condition; or a dose of purifying physic, like salts, milk and molasses, or other mild medicines are what we should use. We have had cows occasionally so affected, and have given moderate doses of the root "poke-weed," called garget-root in some places. This, or one of the remedies above will usually effect a cure, but not always. If the disorder prove obstinate, so as to injuriously affect the cow, we would dry, and subsequently fat her for beef, unless she were of more than ordinary value. The disease being confined to the teat would disappear when the cow is dried, and she would not be injured for beef.—ED.]

To prevent and cure swelled Udders in Cows.

To the Editor of the American Agriculturist:

For sometime before and after the cow calves keep her in a warm dry place, and do not let the cold winds blow upon her from some window or crevice. Give her exercise in the open air, but do not let her lie down on the cold, wet ground. Clean out and change the litter twice a day. If the udder swells and becomes hard rub it faithfully, several times a day with the following ointment:

Heat one quart of hog's lard in an iron kettle until it smokes pretty well, and is somewhat blackened or burned; then let it become nearly cold and stir in ⅔ pint of spirits of turpentine. Be careful and not add the turpentine when it is hot.

The above recipe I believe saved a cow of mine, and I have known of its curing other cases. As the complaint is common, I hope it will do good by being generally known. OREN O. STEWART.

Union, Maine.

Feeding Poultry.

Rev. A. DuBois, of Richmond Co., O., sends for the *Agriculturist*, the following items from his experience in feeding poultry: I have 28 chickens large and small, several of them Fall chickens. I obtained but a few eggs the fore-part of Winter—not more than one or two a day. The feed was corn and oats. In January I tried the experiment of hot feed once a day, in the morning. As soon as the fire was started in the cook-stove, I put a quart or so of small potatoes in an old dripping pan and set them in the oven. After breakfast I took a quart or more of wheat and buck-wheat bran, mixed, put in the swill-pail, and mixed into a thin mush with boiling water, then added about 1 quart of live coals from the stove and put in the potatoes hot from the oven, adding all the egg shells on hand, and some times a little salt, and some times a little sulphur. These mashed together are fed immediately in a trough prepared for the purpose, made about 10 feet long, of 2 boards 6 inches wide, nailed together, and two short pieces nailed on the ends, with a narrow strip nailed lengthwise on the top, and two bearers under. The object of this was to keep the hens out of the trough, and leave room to eat each side of the narrow strip. At noon I fed 6 ears of corn cut up in pieces an inch long; and in the evening oats and wheat screenings about 1 quart. Now for the result. In about a week the number of eggs increased six fold and in about two weeks, and since, they have ranged from 12 to 20 eggs per day. The coldest weather made no difference. When it was cold and stormy I kept them in the hen-house all day, and generally until 10 or 12 o'clock. Such singing over the corn at noon I never heard from hens before—a concert of vocal music that would have done any lover of eggs good to hear.

Poultry Raising is Profitable.

To the Editor of the American Agriculturist:

Seeing a piece headed, "Will Poultry Pay?" leads me to give my experience. One year ago, I wintered 22 hens and three roosters. I commenced to keep an account of their proceeds in March, and up to the beginning of this year they had brought me $50.63, with a stock of 74 hens and 150 eggs on hand, besides supplying a family of four persons with eggs and chickens. I sold the eggs for about 14 cents per dozen, and the chickens at 8 cents per lb. I kept no account of their feed, as they run at large, and picked up much of it. Sour milk is very good for hens. They will drink till it runs out of their mouths, and then they do not have much inclination to scratch. I find they do little injury when their crops are kept full. They will not do near as well when shut up, and if they are not well kept there is little profit. Grain is so cheap here that it is better to feed it out than sell it.

MARY KELLY.

North Lamartine, Wis., Jan. 16, 1858.

Grubs and Wire Worms in Corn Fields.

Sward land, plowed in the Spring for Corn, is often found filled with worms which are sure to make great havoc with the seed unless they are exterminated. The following is an excellent remedy: After turning under the sod, sow broadcast a bushel and a half of fine salt to the acre, and harrow it in, following with the roller. Soak the seed in tepid water about eighteen hours. Dissolve two ounces of sal ammoniac and add it to the water. This amount will answer for a bushel of seed. Plant the corn soon after sowing the salt. The seed will germinate quickly and the plants will come forward at once. Between the salt and the ammonia, the corn will suffer little from the worms. Who will try this, and send us a report of his success, in the Autumn? *

VERMONT AGRICULTURAL EXHIBITION LOCATED.—The State Society has decided to try the experiment of holding the Annual Exhibitions in one place, to save the expense of erecting new buildings every year. The next three Fairs at least are to be at Burlington, that of the present year (1858) to open on Tuesday, September 14 and continue four days.

A lad asked a physician whether snuff was injurious to the brain. "No," said he, "for nobody who has any *brains* ever takes snuff."

The Spotted Squash Bug.

(*Coccinella borcalis.*)

There is a large family of insects of the order Beetles, (*Coleoptera*), called *Coccinellidæ*, which has a very wide geographical range, being familiar to the farmer as well as to the entomologist, in this country and in Europe. Their common names are Lady-bug, Lady-cow, Lady-bird. There are many different species in this family, varying in their size and color. Some are of a dark or black color, with yellow or red spots; others have a yellow or red ground, with black spots. Some have only two spots, while others have twenty or more. This family, with few exceptions, are insectivorous—that is, feeds upon insects; indeed, until recently, entomologists have given the entire family of *Coccinellidæ* the credit of being our friends and aids in diminishing the number of destructive insects, such as Aphids, or Plant-lice. The cultivator may therefore be perplexed, by finding that Harris, and other writers, urge us to spare the Lady-birds, while the evidences of the injury produced by a disreputable member of this worthy family are unmistakeable.

The accompanying cuts, Figs. 1 and 2, give a vertical and side view of the *Coccinella borealis*, which to some of our readers will be entirely familiar, while others may never have seen it. In some localities in New Jersey, New York and

Fig. 1. Fig. 2. Fig. 3.

Figs. 1 and 2—The *Coccinella borealis*, or Lady-bird.
Fig. 3—The same insect in the larva or worm state.

Connecticut, it has been a very troublesome visitor, entirely destroying the foliage of the squash vine, even after the plant has reached a large size, and is in full bearing.

In no work have I been able to find any mention of this insect, except in Dr. Emerson's excellent "American Farmer's Encyclopedia;" and even there in the description accompanying the figure, it is said to be insectivorous; but under the head of "Squash-bug," the true habit of the insect is given, with the name of "*Coccinella borealis.*"

As in several respects its habits are interesting and peculiar, I will give the result of a few observations, made during the Summer of 1856.

The form of the perfect insect is nearly that of a hemisphere. Like all beetles, it possesses horny wing-cases, which, when closed, cover a pair of folded membraneous wings. Its legs are yellow, quite short, being scarcely seen when looking at it from above. The head is very small, as compared to the body, and is so covered by the thorax as to

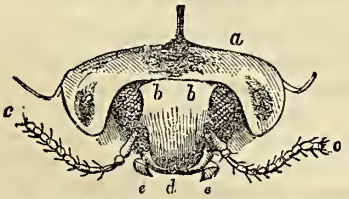


Fig. 4—A magnified view of the head of the Coccinella.

be almost invisible. Fig. 4 gives a greatly magnified view of the head and the thorax, the latter covering the former like a hood. *a* is the thorax, on which are several spots; *b b* are the eyes, which are compound, or formed of a number of smaller eyes arranged in rows; *c c* are the antennæ; *d* the mandibles or forceps with which it cuts its food; *c e* are movable jointed organs of the mouth, which serve as fingers or feelers, and are called *Palpi*.

Fig. 5—*a*, *a*, The larva feeding within the circle. *b*, An insect which preys upon the larva. *c* Size of the larva when first hatched.

The color is a dull yellow of uniform shade, but having on the thorax and wing-cases, nineteen black spots, (counting as two each those which are divided by the suture of the wing). It is first seen early in June as a perfect insect, feeding in the day-time upon the upper surface of the leaf. It has a singular habit which I have noticed in no other insect. In feeding, its first act is to mark out with its forceps a circle or semicircle, sometimes of great regularity, inclosing the portion of the leaf upon which it is about to feed. The leaf is then eaten within this mark, and nowhere else. The larva, or worm, observes the same habit of marking out its pasture ground, as seen in Fig. 5, *a*. The insect is not quick in its movements, and does not readily take wing, but when disturbed, draws its legs and antennæ under its body and falls to the ground. Shortly after its first appearance it is found in pairs, and soon after commences to deposit its eggs. These eggs are placed in irregular groups on the under side of the leaf. When first hatched, the young larva, Fig. 5, *c*, is very small, of a chrome yellow, and armed, even at this early period, with thornlike spines. One of these spines, magnified in Fig. 6, shows the formidable character of this natural defence. These larvæ eat voraciously, and grow rapidly, casting their skins several times. A magnified view of the larva is given in Fig. 7. They have six true legs, and use the tail, or posterior extremity in walking, as a seventh leg. After attaining the size represented in Fig. 3, they crawl to some sheltered spot on the under side of the leaf, or upon the stem, and fasten themselves securely for the change to a pupa or chrysalis, the pupa case being the thorny skin of the larva. Remaining in this dormant state something over a week, it then emerges as a perfect insect, and if not too late in the season, recommences the propagation of its species. It may be found upon the squash vine, of all ages at once, from the first of July to the middle of October, showing that many successive broods are hatched irregularly through the Summer. In Fig. 5, *b*, is represented an insect, which in several instances I have found preying upon the larva of the Coccinella, by inserting its proboscis in the body of the latter, and sucking out its contents. On being disturbed, it carried off the larva elevated on the end of its sucker. This insect destroyer must not be mistaken for another squash bug of similar shape, but larger, which is exceedingly destructive to this plant.

Fig. 6—Magnified view of a Spine of the young larva.

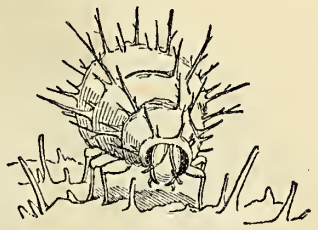


Fig. 7—Magnified view of the larva.

The only remedy which I have found effective to prevent the injury from the Coccinella is hand-picking. Lime, dusted upon the leaf while wet with rain or dew is some assistance, but will not be in itself sufficient. A small basin, or cup filled with strong brine, to brush the insects into, can be used advantageously; and remember that one hour spent in this work when the insect first appears, and before its eggs are laid, will be of more service than many hours after that time.

A. O. Moore, in *Country Gentleman.*

"A Bloom of Beauty."

Though we treasure and value them, we should hardly dare to copy one in a thousand of the complimentary sayings of our cotemporaries, respecting the *Agriculturist*, lest our readers should think us gratifying our own vanity at the expense of space belonging to them. But the following we must transfer here to have opportunity to reciprocate the sentiment of the closing paragraph. The Well-Spring, Edited by Rev. Asa Bullard, and published weekly by the Mass. Sabbath School Society, is a beautiful "child's paper," and is indeed scattering *good seed* wherever it goes. In the number for March 26, under the caption of "A Bloom of Beauty," the Well-Spring says:

The Editor of the *American Agriculturist* of New-York, a few months ago, offered a premium of a few choice "field, garden, or flower seeds," to all his numerous subscribers, and also to those who would procure new subscribers. The list of seeds contains 51 different varieties—of which *thirty* are *flower* seeds.

What perfume, and beauty, and waving fields of grain and fruit, will these seeds cause to spring up, by-and-by, around some 40,000 or 50,000 dwellings all through our land! What *a bloom of beauty* those flowers would present, could they all be collected together in one immense garden! Is not this a pleasant device of the *Agriculturist* to spread fragrance, and beauty, and luscious fruits, over the land?

And if our little paper, 'The Well-Spring,' scatters *g od seed* wherever it goes—as we trust it does—what a glorious array of the '*plants of righteousness*,' are everywhere springing forth, converting many a Sabbath school and family garden into the 'garden of the Lord.'"

An idler boasted to a farmer of his ancient family, laying much stress upon his having descended from an illustrious man who lived several generations ago. "So much the worse for *you*," replied the farmer, "for we find the older the seed the poorer the crop."

A Grecian sage was asked, why philosophers ran after rich men, while rich men seldom courted philosophers. He replied, because the latter know they want money, but the former fail to perceive that they need wisdom

Fig. 6—ABIES EXCELSA, OR NORWAY SPRUCE.

Fig. 8—PINUS LARICIO, THE CORSICAN OR LARCH PINE.

Evergreens.

[*Continued from page* 113.]

The Norway Spruce Fir, (fig. 6,) may, without exaggeration, be proclaimed the finest of evergreens. Estimating, as they deserve, all its qualities when young and when old, in its Summer and Winter garb, in its native forests and in cultivated grounds for ornament and for use, it stands peerless. A native of the mountains of Northern Europe, it is everywhere hardy and easily cultivated. It is one of the largest of forest trees, attaining often a hight of 180 feet, with a straight erect stem, regular, wide spreading branches, and foliage of a rich deep color. We note some of its desirable characteristics:

It is nearly a first-class timber tree, and as such may probably be profitably cultivated in the timberless districts of the West. It is truly an elegant ornamental tree, and from its hardy rapid growth, will rarely be omitted in large or small plantations. It is beautiful as a single specimen-tree, and combines well with other trees in groups or masses. It is peculiarly well adapted to the purpose of *hedging*, as it bears the shears well, thrives even when crowded, and branches low, near the ground. It is advantageously planted as "a nurse" to other trees, and is deserving of more frequent use in this manner. Branching near the ground it prevents evaporation from the soil, while its spiral top does not interfere with the spreading head of deciduous trees, and its thick evergreen foliage is a good screen from severe or cold winds. Added to these, it

Fig. 7—ABIES DOUGLASII, DOUGLAS' SPRUCE FIR.

bears transplanting well, as its roots are fibrous, running near the surface of the ground.

When young its branches grow regularly in whorls with an upward curve, but when old, and after exposure to storms, and the weight of snows, they droop gracefully, and are in the highest degree picturesque. From the exuding sap of this tree is formed the well-known Burgundy Pitch.

The Douglas Spruce Fir, (fig. 7) is a native of the Oregon coast, where it forms immense forests, and grows to a hight of 180 feet, and sometimes even reaches a greater hight. The stump of a tree on the Columbia river, measured at 3 ft. from the ground after the bark was removed, 48 feet in circumference. The leaves are dark green above, and a silvery white beneath. It is hardy in this latitude, and is a free grower, which will render it a desirable tree for general cultivation. Our engraving represents a young tree. In vol XVI, page 108, we gave an engraving of a much larger tree.

THE CORSICAN OR LARCH PINE.

This is a native of Southern Europe, and has been considered so valuable a tree that the French government has made repeated attempts to introduce it, and it has at last become thoroughly domesticated in that country. It has been grown successfully in England and even in the Highlands of Scotland, although in the latitude of New-York, it is frequently injured by the Winter. At Philadelphia it is entirely hardy, and forms a beautiful pyramidal tree with long, dark, green leaves, the branches growing in whorls with considerable regularity. It is a rapid grower, and attains a hight of 80 to 100 feet.

Fig. 9—ABIES SMITHIANA; SMITH'S, OR THE HIMALAYAN SPRUCE FIR.

This forms a beautiful pyramid of about 50 feet hight when full-grown, and is a very ornamental tree. It grows rapidly, and in sheltered situations it is hardy as far north as New-York. Mr. H. W. Sargent of Fishkill Landing, says that in his grounds its foliage was *browned* by the Winter, but the buds were good. It is deserving of a place in every collection, if a favorable position can be given it.

BROAD-LEAVED EVERGREENS.

All the foregoing are of the class called *Conifers*, and are terebinthinate or resinous trees, having narrow leaves. But besides these there are a number of fine evergreen trees and shrubs of the broad-leaved kind. Of these, the magnolias are foremost in beauty.

Fig. 10—MAGNOLIA GLAUCA.

The *magnolia glauca* (fig. 10) is a small tree, growing from Massachusetts to the Gulf, attaining a hight of 12 to 20 feet. It has an abundant white bloom, which continues, when in favorable locations where it has abundant moisture, during the whole Summer, rendering the forest very fragrant. The leaves are smooth, of a bluish green above, and though it sometimes loses a portion of its leaves in Winter, it may fairly be considered an evergreen, and has the advantage of being perfectly hardy.

The *Magnolia grandiflora* (of which fig. 11 below, represents the leaves, and fig. 12, on the right the blossom,) is really a princely tree. It is a native of the Carolinas, and is justly the pride of the South. Strangers, seeing for the first time these magnificent trees in their native forests—a hundred feet high, covered with large, snow-white blossoms, imbedded in clusters of dark, shining leaves nine inches to a foot in length, the air for miles around, being filled with perfume—are always overcome with rapture. No tree of the forest equals this in regal magnificence. The majesty of its form, its thrifty, luxuriant growth, and the ease with which it is cultivated, are bringing it rapidly into use wherever the severity of the Winter does not forbid. A French sea-captain at New-Orleans carried home one of these plants and set it in his garden, where it, at first, attracted no attention. After some years, however, its magnificent blossoms excited admiration, and its fame finally reached the *palace*. The royal gardener was dispatched to ascertain whether a removal could be successfully made. The tree was by this time some thirty years old,

Fig. 11—LEAF OF MAGNOLIA GRANDIFLORA.

and it was decided that the risk was too great, so that it continued to grace the humble garden of the Captain. After this it was burned nearly to the ground by a fire which destroyed the adjacent dwelling, but the next season it produced a vigorous new shoot.

HINTS ON TRANSPLANTING EVERGREENS.

The great obstacle in the way of widely extended cultivation of evergreens is the difficulty in transplanting them successfully. While a few persons will transplant thousands with a loss of scarcely one per cent, many others find that their trees either die, or "grow shabby," in spite of all their care and pains-taking. The chief causes of failure are:

1st. The planting of trees taken from forests or uncultivated grounds. This is a point not understood by persons of limited experience, but which is well established. Any tree, carefully removed and well planted and cultivated, is much more easily re-transplanted than one taken from the spot where it originally grew; and after several judicious removals when the plant is young, it may then be, with perfect safety, transferred to the spot where it is to remain, even after it has obtained considerable size. The reason is obvious; the roots which naturally extend laterally and downward to distances not easily reached by the spade, are cut off in transplanting, and in evergreens a constant evaporation is taking place from the leaves, before the roots left are able to supply the demand for sap. If, however, a seedling tree is planted in a bed of rich soil, its roots are more fibrous, and it does not form those long,

Fig. 12—FLOWER OF MAGNOLIA GRANDIFLORA.

naked roots seen in the wildling. If, moreover, it is taken up when one or two years old, and its roots by this means shortened, a larger quantity of small fibrous roots will start near the body of the tree, so that they are easily taken up without injury. It is therefore an excellent practice to dig a trench around the tree intended for removal, in the Fall, or early in the Spring, deep enough to cut off all the roots 12 to 15 inches from the body of the tree, if the stem is less than two inches in diameter, and from 1½ ft. to 3 ft. if larger. The trench is to be filled with rich soil. This will induce the formation within the trench of those small roots so essential to the nourishment of the tree. In the succeeding season the tree may be safely removed.

2nd. An exposure to the sun or drying winds, though injurious to the roots of all trees, is peculiarly hurtful to evergreens. Dr. Warder, in his work on "Hedges and Evergreens" says: "In all the resinous or terebinthinate trees the proper juices of the roots are of such a character, that when once dried they cannot be restored to their fresh condition by the application of water or moisture, as is the case with most deciduous trees." These two causes of failure are sufficient to account for the loss of the great quantities of trees brought every Spring from the mountains, by the wagon load and boat load, and sold *very cheap* after a few weeks of exposure in transportation and sale.

3rd. The planting in narrow holes and unprepared soil is a frequent cause of failure. Ample space should be allowed for spreading the longest roots in a natural position, and the soil should be moderately rich and finely pulverized. No fresh animal or other rank manures should be used, but leaf mould, or rich soil from the garden or old pastures are desirable immediately about the newly planted roots. Wherever it is possible, the tree should be taken up with a ball of earth adhering to the roots; this is always a great additional security in removing evergreens.

A Look at the Evergreens

[We had hardly printed the April number containing an illustrated article on evergreens—which was written in connection with the one in the present number—when the following from a distant contributing editor came in. It treats the subject somewhat differently and from a more northern point of observation (latitude 43°). We can hardly print too much on this subject during this evergreen-planting month.]

A first look to see how we like them. During the past Winter, they have battled bravely with the winds and defended our premises from the stormy blasts. They have kept up a cheery look, amid surrounding desolations. In the early part of Winter, before the snow fell, they gave our grounds almost the look of Summer. And through

all the cold season, they have appealed pleasantly to the ear, as well as to the eye; for the sound of the wind through their branches was a soft, silvery murmur, while in deciduous trees, it was a cold whistle. They have appealed to the heart, likewise, by their steadfast verdure. Such is friendship, we have said, the same in all weathers and throughout all the year.

They address, also, the taste. What symmetry, and yet what gracefulness; how this one vaults up from the ground, and throws abroad his giant arms in the air; how the branches of that one droop and sway about, with the least motion of the wind! What depth and richness they give to the coloring of the landscape! Our private grounds and our general scenery would be tame and monotonous, if they were destitute of this class of trees.

A second look, to see which we like best. But it will take a long look fully to settle that question. We can say, however, almost at first sight, that we don't like the tender ones. Some of the delicate creatures are very beautiful, when growing in their native climates, or when nursed, as small bushes, in a green-house. But to see them pinched and frost-bitten and half-killed by our boisterous Northern Winters, gives the beholder a feeling of positive discomfort, and sorrowful pity. There is a felt incongruity in their situation. If one has no sympathy for the poor things, he must at least see that they lose much of their beauty by being frozen nearly to death every Winter. What a forlorn object is this one with its leader cut off, and that with its branches dead on one side, and that with nearly all its foliage as brown as sole leather! No: give us the hardy ones, those which can rough it through the coldest Winters. And of this sort there are enough in every latitude to give needful variety.

But, sir, says some inexperienced planter, please look a third time, and long enough to tell us the names of some of the best hardy ones. Here, then, is a list of the best evergreens which may be relied on as hardy as far North as Albany:

Pines: White or Weymouth, Scotch, Austrian, Cembrian, Norway, Corsican, Dwarf or *humilis*, *Pinus ponderosa, and Sabiniana*. *Pinus excelsa*, or Bhotan pine, is a beautiful variety from the Himalaya mountains, of a silvery hue, and a waiving, graceful habit, but will not be found hardy North of New-York. The Scotch and Austrian, retain their colors in Winter better than the native white, but their foliage is not as soft and agreeable to the eye.

Arbor Vitæs: The American and Siberian. The American is often, but improperly, called White cedar. The white cedar is as distinct from the arbor vitæ as the Red cedar is. The American arbor vitæ is a very useful tree for screens, and is sometimes handsome enough for an ornamental tree; but its commonness and its rusty look in Winter, make it objectionable to many eyes. The Siberian is better than the American, being equally hardy, more compact in its foliage, and retaining its greenness better throughout the Winter. For an ornamental screen, it is second only to the hemlock.

Junipers: The Swedish, common American and Red cedar. These all make medium-sized trees. The foliage of the first two is light green, with a bluish tinge Some specimens are compact and pyramidal, others loose and spreading. By a little tying-in and pruning of the branches, they can nearly all be made into dense columns of verdure, resembling a miniature Italian poplar. The Red cedar belongs to the juniper family. It is not always a well-formed tree; but in some localities—as, for example, on the shores of the Hudson river—it often becomes very beautiful. The Savin and the Trailing Juniper, are undoubtedly hardy, but have little else to recommend them.

Firs: Common Balsam Fir. The European Silver fir is a neat, symmetrical tree. It is superior to the native fir in at least one respect, that it retains its foliage throughout its entire extent, better in old age. But its leading shoot is often killed in Winter, and where this happens frequently, it of course despoils the tree of its beauty. It can hardly be recommended for the latitude of Albany.

Spruces: Norway, Black, White, Red, and Hemlock Spruces, are all hardy and worthy of planting. The Norway is fast becoming the most popular evergreen in the Northern States, and deservedly so. It needs no recommendation from us. The Hemlock is also winning its way into the hearts of amateurs, as being, on the whole, *the most beautiful* of all evergreens. We shall have more to say about this, our favorite tree, at another time.

Yews: The American, the English and Irish yews may be carried through the Winter, by giving them a protection of cedar boughs or of straw, but they come out in Spring more or less "cut up." The American is tough as an oak, and with a little training, makes a neat, small tree. It retains its greenness best in Winter, when planted in the shade.

If, now, any of our readers can testify *from certain knowledge*, of the hardiness of any other evergreens along the parallel of latitude we have taken for a standard, we should be glad to hear from them. There has long been a lack of definite and reliable information on this subject, and those who know anything on the subject have acquired their knowledge by costly experience. Many new conifers, lately introduced from Northern Europe and Asia, and California and Oregon, promise to be great acquisitions. It must, however, be several years, before their hardiness is settled beyond a doubt.

The Orchard....V.

AMERICAN PEARS.

[*Continued from page* 115]

Taken altogether, those varieties which have originated on our own soils have, thus far, proved most promising for orchard cultivation. The Seckel is, perhaps, the best pear *we* know—better even, than the Vergalieu, whose European origin dates "far back in the ages," and until the Seckel was discovered, excelled in flavor any other pear known. This superb variety, by fatality—the cause, and remedy yet undiscovered—has taken a disease which for some years past has rendered it, in most localities, worthless, and discouraged us from attempting its cultivation in the future, bating all the nostrums which pomologists, geologists, and the whole community of savans have prescribed for its relief. The Tyson, the Bloodgood, the Osband's Summer, the Sheldon, the Fulton, the Buffum, the Lawrence, and many others, taking their type in flavor and excellence from well known foreign varieties, crosses of which they probably are, yet re-invigorated, as seedlings, in American soil, supply all the nicer qualities of our European importations, and in their superior native vigor and hardihood, bid fair to supplant the foreign varieties which we have heretofore cultivated, and for future generations, supply us with all that the most fastidious palate can demand in a perfectly luxurious pear. To them, and them only, with perhaps a few foreign exceptions, we would resort for successful cultivation in the orchard. We do not name the localities where they can best be placed, leaving them, as with certain varieties of the apple, for individual experience, and observation to decide.

THE QUINCE STOCK, OR DWARF PEAR.

In discussing this, we may tread on somebody's bunions, for which we certainly have no particular inclination, and shall regret it if such be the fact. Nevertheless, as it belongs to our subject, and having an opinion, we shall not hesitate to disclose it. For elucidation, let us recur to a scrap of recent history. Thirty, forty, or perhaps fifty years ago, dwarf pears, worked low on the Quince stock, were imported into Boston, Massachusetts—possibly a few other towns, and cultivated with more or less success, in the choice grounds of a few amateurs. Of these the public knew little, or nothing. In the year 1846, the late Andrew J. Downing, the fragrant odor of whose memory will long survive in the remembrance of every true pomologist, commenced his admirable journal, "The Horticulturist," and in a short time afterwards brought the fact of the existence and success of these dwarf pears into notice, with high encomiums on their excellence, and a recommendation of them to public favor. With the lately growing pomological taste of our American people, now spurred on to increasing efforts by the action and intelligent mind and pen of Downing, an intensity of appetite, little short of a furor, was created among our pomologists, and, young America like, they "pitched in" to "dwarf" culture with a spasmodic activity scarce exceeded by the eager scuffling for precedence and possession which the discovery of the mines of California a year or two later developed. Nurseryman, amateur, layman—if such last term can be, in pomology—went incontinently into their propagation and in less than five years dwarf pears enough existed in the country, if successfully planted out, and cultivated, to supply every decent family in the United States, at its daily dinner table, throughout the entire pear season. Yet, when the stern lessons of experience had began to cool down the ardor of experiment, three or four years later, it was ascertained that but few varieties would succeed on the Quince; that the common Apple Quince Stock of the country was unfitted for working them, and that the "Angers" was the only wood, in its stout and vigorous growth, which would sustain the pear at all. The nurserymen had dipped in largely, of course, and the unsuspicious public, taking all as gospel which "the papers" had said about the dwarfs, gave them a capital benefit, reserving only to themselves the privilege, "solitary and alone," of leisurely chewing the cud of repentence over their fading investments, and agreeable anticipations, afterwards.

Following the discovery that the Angers was the only Quince Stock on which the pear could succeed, it was soon after found that but a few varieties of pear would even adhere on them and grow to successful bearing, while the appaling fact was promulged, that Rivers, the celebrated pear grower of Sawbridgeworth, near London, could name only four—and but one or two of them a really choice variety—which he would dare to cultivate! Our pomological doctors soon set to work, through the oracular machinery of their still ubiquitorial conventions, to rectify their previous error, gave some recognition of the wisdom of Sawbridgeworth, and sought to make new schedules of the "refractory," and gave still further license and encouragement to "successful" varieties, "sure" on the quince. One, and another of these deliberative bodies of savans adjourned, each self-convinced that it was "sound on the goose," and gave, through the publication of their "pro-

ceedings," their *ipse dixit* of what was "flesh, fish, or good red herring," on this momentous topic. And so it stands at this present writing,

Now, if any of our sagacious readers can discover in what we have said, or, what is still more reliant with themselves, in their own experience, any substantial facts on which to base their future action in dwarf pear culture, more than that the whole matter is enveloped in a bank of fog, or controversy, they certainly have achieved more than we have been enabled to do after an investment of more money, time, "special" manures, and land in the enterprize than we at this moment care to tell of.

That individual plantations of dwarf pears to a limited extent have succeeded, in certain localities, and with certain varieties, with great care, and great comparative expense, we shall not deny; but that the public are aware of any one individual dwarf *orchard*, where pears are successfully grown on the Quince, as a *remunerating* market crop, we shall be right glad to hear. Nor will we condemn the propagation, or the cultivation of the dwarf altogether. For him who has only a small garden, or but a limited space of ground, or who wants pears immediately, and is willing to invest a moderate outlay in a few trees for his own family supply, and is willing to encounter the pains and penalties of their purchase, cultivation, and the early deaths and disappointments of which a portion of them are sure to become the victims, we say: go on, and succeed, as best you can. The recompense may be worth the trial.

MY DWARF PEARS DO NOT SUCCEED.

Nor, shall what we have said be left without a reason: The dwarf pear being budded on the Quince root, that root requires Quince culture, and the Quince is far from being a universal grower on our soils. In some localities it flourishes freely. In others it is more or less refractory. As a matter of course, the pear thus Quince-grown is likely to do better or worse, as the soil in which it is planted is congenial, or not, to the Quince. But, to our apprehension, there is a still more cogent objection; the pear is a free-growing, open-pored wood, drawing, in its natural condition, largely of sap from its own vigorous, expanding root. The Quince, on the contrary, has a close, compact wood, its sap vessels, or pores are small, and its sap more sluggish in action, fed through the fibrous spongioles of its contracted and home-bound roots. There is, consequently, an incompatibility in those two widely discordant woods to unite and constitute a perfectly combined trunk through which the root sap of the one can flow, by way of the imperfect embrace, into the wood, and leaf of the other; and so back, from the outer and upward leaf of the pear, down its branching wood and trunk, to the root of the Quince. Such difficulty, in our judgment, tells the whole story. That a very compact pear wood may connect more kindly with an uncommonly open pored Quince, so as to make an exception to the rule, we will not deny; but, *as a principle*, we stand convinced in our own theory, which, we still contend, is fortified by experience. We have said our say; and so it may rest, until a newer light than we have yet seen, shall convict us of error.

INCIDENTAL REMARKS.

The upshot, then, of our conclusions, is that the pear is a fruit of uncertain and precarious growth, and duration. More liable to casualty by diseases not understood—of which the various kinds of blight are far the most destructive—and uncongenial to many soils, and positions, it can not be safely undertaken to any extent except in well tried localities. The finer varieties have proved far more uncertain than the rougher, and less valuable—the latter retaining their health, vigor, and bearing, while the others, with exceptions, however, become diseased, and prematurely die. For a family luxury, almost any pains and expense may be tolerated to acquire them; but as a market fruit, an investment in a pear orchard may, as a general proposition, be questioned. For the last twelve, or fifteen years innumerable pear orchards, both on their own stocks, and the Quince, have been planted. Pears—choice ones too—are much more abundant as a household fruit, than formerly; but in market, *good* pears are scarce, and dear as ever; and the common chokey puckery things are not worth either cooking or eating, a good apple being far better for either. We can name scores of extensive pear orchards planted out with high hopes and anticipations within the past ten years, and have since seen them scattered, root, and branch, or if they still exist in name, a few struggling survivers only mark the ruin which disease and death has made among them. We speak now of the better classes of pears, while a man would be foolish to plant out wildings for grinding into "perry," or raising "choke-pears" for market.

To sum up: Let every land holder, and housekeeper with garden room sufficient, plant out his Tysons, Bloodgoods, Osband's Summer, or other sure early kinds, for the first of their season. Let these be followed by the luscious and noble Bartlett, for early Autumn. Succeed those with the Buffum, Flemish Beauty, Virgalieu,—if it will grow healthily—Louise Bonne of Jersey, Sheldon and Seckel, for the later ones; and close in with the Winter Nelis, Glout Morceau, Lawrence, and Easter Beurre, for late keeping—all, or either of them, as you may prefer; or, these uncongenial to your soil and position, substitute others which will do better. Let the dwarf have its place also, if it will succeed. Seasonably picked, and properly laid away, a single variety will be in eating one to three weeks of the Summer, and early and late Autumn pears, while the Winter kinds will last for months. Plant well, cultivate thoroughly, manure richly, and prune sparingly your standard trees. Do the same to your dwarfs, with the exception of pruning, in which you may pinch, cut, and scissor to your heart's content and the exhausting of your patience. If the standards succeed at all, they will last you till you become an Octogenarian, or even a score of years beyond it, and then be left as a legacy to your heirs, a lasting and perennial good to each, and all; while your dwarfs may live just as long as they choose to do; and if they die suddenly, you must have a sufficient stock of philosophy on hand not to be hurt by the disappointment.

We shall next proceed to the Cherry, Peach, and other fruits.

Varieties of Apples.

To the Editor of the American Agriculturist.

I agree with your remarks on the different varieties of apple trees. I think you have laid the ax at the root of the tree. I will give you my experience, and hope others will add their testimony in order to substantiate the facts that you gave us in the February *Agriculturist*.

Ten years ago, I commenced planting fruit trees, with more experience in sailing a vessel than in fruit growing. I procured a catalogue, ran over the list, and of course selected the best—that is, such as were called the best. I kept them tied to stakes for two or three years after planting, in order to have them stand alone. I cultivated the ground and manured it yearly, washed them, and was as careful of them as a mother is of her infant child, and my wife said, my trees were always the first object I saw when I came home

My R. I. Greenings and Baldwins have done well. Last Spring, I measured a Greening tree that was 27 inches in circumference—and a Blue Pearmain only 15 inches, in soil equally as good. Unless I expected to live to be as old as Methuselah, I would not give the Blue Pearmain ship room. My Esopus Spitzenbergs have commenced dying. The bark turns black and dies, and the trees soon follow suit. The Newtown Pippin appears to be hardy. Out of 20 Spitzenbergs two only have escaped injury, and one half are dead. I have some 40 varieties of apple trees which were well planted in holes dug 6 ft. in diameter, and 18 inches deep, with a load of loam put in each hole. If I were going to plant a new orchard, I should plant two-thirds Greenings and Baldwins. I have not lost a single Greening or Baldwin tree. The first thing I do after unpacking my trees, is to examine every one for borers. I next cut off all the bruised roots, and then wash the bodies with soapsuds in order to kill the lice.

JOHN PERENE.

Montville, Conn.

Old Orchards—Defects in Pruning.

To the Editor of the American Agriculturist.

After plowing the ocean for about 25 years I have bought a farm upon which is an orchard, about 50 years old. Very little care has been taken of it. Large limbs have been sawed off, the stumps rotted, and now there are large rotten holes in them What can I do with these holes, and when shall I prune so that the limbs will heal over? I have put a lot of hogs in to break up the ground.

HENRY F. GIFFORD.

Falmouth, Mass., April 2, 1858.

REMARKS.

Such orchards as the above are very common Injudicious pruning has prematurely destroyed many of the trees. The first error was in not removing from the young trees all such branches as were likely to interfere with each other, and need after pruning. It is questionable whether *large* limbs should be cut off, even to give symmetry to the head. Though not approving of the non-pruning system, we may say that the most productive tree we ever saw (which yielded 60 bushels of fruit one year) was never pruned at all. Certainly no one should go into the orchard during March or April and cut away thrifty branches at hap-hazard. Whenever a large branch must be pruned, let it be done neatly and smoothly, and close to the trunk, so that the new wood may close over and heal the wound. There is little hope of reclaiming trees which have once been left with stubs on their side to rot away and let air and water to the heart. Some of the more valuable ones may be protected with canvas bound on or nailed over, to keep out storms. We would plant out a new orchard at the same time, and prune and train to our liking. We have often recommended June and July as the best months for removing large branches, and would then coat the wound with gum shellac disolved in alcohol.—Ed.

When an infidel production was submitted—probably by Paine—to Benjamin Franklin, in manuscript, he returned it to the author with a letter from which the following is extracted: "I would advise you not to attempt to *unchain the tiger*, but to burn this piece before it is seen by any other person If men are so wicked with religion, what would they be *without it*?"

We may always joke when we please, if we are always careful to please when we joke.

Fig. 1—A branch on which Summer Pinching has been performed without causing the starting of the buds into new shoots

Fig. 2—A branch on which Summer Pinching has been performed so as to cause the last bud to start into a new shoot.

Suggestions on Pruning....VI.

BY A. O. MOORE, NEW-YORK.

[*Continued from page* 117.]

It is a very common remark, made too by intelligent men, when the results of a correct system of pruning are shown on a few well managed trees, that this minute attention to root pruning and top pruning, disbudding and pinching, is all very well on a limited scale, it is even admitted that the time and expense have been amply repaid in the product of the trees, but they say "it would never pay in general cultivation on a large scale. In the orchard, the less you have of your dwarfing and scientific pruning, the better. Nature takes care of herself." If closely questioned, the doubter fails to give any satisfactory *reason* why, if six trees with a certain outlay of time and money, will in ten years yield a certain return, sixty trees with ten times the outlay, will not as easily yield a tenfold income. But he will very knowingly repeat, "that's very well for a few pets, but it wont work with a *thousand* trees;" and he grows quite merry at the idea of persuading a farmer to stop his Spring plowing to fuss over his trees. "No! give them plenty of good manure when you set out your trees; cultivate them well, and Nature will take care of the pruning, only keep the top from getting too thick."

The innovator, out-talked—but not out-reasoned—plies his "*secatcur*" none the less vigorously, resolved to show the old fogies a thing or two. If he is young in his art, he will himself learn something by his experience. Fairly stated rules, all very plain, will not work as they ought, and perhaps the half malicious "I told you so," will issue from under the old slouched hat just seen above the garden fence, as he is contemplating a fine crop of blossoms whitening the ground, but leaving no fruit upon the branches. But thanks to the perseverance and intelligence of not a few good cultivators, we are in many parts of the country able to show *thousands* of both pear and apple trees, cultivated on a scale sufficiently extensive to refute the assertion that on a large scale, the highest cultivation and most strict attention to the various processes of pruning will not be practicable and profitable. It is not true that the proper attention to pruning occupies much more time than the half performed and tardily applied operations practiced by the farmers generally. A few minutes devoted to each tree while it is young, two or three times each year, is sufficient to establish a good form; when they are older they require much less labor and produce much larger crops than if neglected during the first year of their growth, as is the usual custom.

One of these labor saving operations is *Summer pinching*, which, as its name indicates, is performed in the growing season by breaking off with the *thumb and finger* the shoots to be disciplined.

The effect of *Winter pruning*, or that performed during the dormant season, is to stimulate into greater activity the buds remaining upon the tree; while the effect of *Summer pinching* is to deplete or debilitate the part thus checked, although in certain instances, the reverse of this would seem to be true. Summer pinching, the effect of which is to *interrupt the flow of sap*, is used to accomplish *four* objects.

1st. To prevent the suppression or weakening of the buds occupying the lower part of the shoot, and the undue developement of the upper buds. Fig. 1 is drawn from a shoot that was pinched in June, at just that point in its developement which prevented further growth. The buds below the break have become large and well formed. When the shoot is allowed to grow undisturbed through the whole season, the lower buds are weak, or become "*blind buds*;" and as the upper buds are cut off at the Winter pruning, none but the half developed lower buds would be left upon the branch. Very often, as in fig. 2, the first bud below the fracture will start to grow the same season, which is not an undesirable result, as this growth does not interfere with the developement of the buds below. The pinching for this purpose is generally performed early in June. The leader is generally allowed to remain unpinched for several weeks later.

2nd. To change the rapidly growing shoot into a fruit spur. This tendency is indicated in both the above figures by an increased number of leaves surrounding the buds, occasioned by the sudden concentration of sap upon them. Pinching for this purpose may be done as soon as six or eight leaves are formed, and if the buds start to grow, pinch again.

3d. To check the growth of any over luxuriant shoots. Summer pinching is an indispensable aid in preserving the equilibrium, when the branches on one side of a tree are stronger than on the other, or when in a pyramidal tree, the upper branches are too vigorous, overshadowing and preventing the equal growth of the lower ones. The former must be rigorously disciplined in such cases by Summer pinching, commencing as soon as the fault is discovered, and if they again shoot up too strongly, a second or even a third pinching may be resorted to. If, in a round-headed tree, a rampant shoot takes a perpendicular growth, and threatens to destroy the desired form of the tree, the same treatment must bring the straggler into subjection.

4th. To arrest entirely the developement of a shoot, either when it is growing too near to others, or in a wrong direction, as toward the center of

the tree. The pinching-back of such roots is frequently better than their entire removal, for they then have a tendency to form valuable fruit spurs near the center of the tree.

Town Horticultural Societies.

One of the good things of the day is the establishment of horticultural societies in towns. County and district associations of this sort are well enough in their way, but smaller clubs have some peculiar advantages not possessed by the larger. For instance, it is not enough for one to know what trees and plants are hardy and productive in the State, or even in that part of the State where he lives; he wants to know what are so in his own town. Trees are influenced, in respect to their vigor, growth and fruitfulness, very much by the peculiar climate and soil of the neighborhood. If the fruit-raisers, ornamental tree-planters and gardeners of a town meet together a few times each year, they can gain much useful information from each other. Above all things, call in the older farmers and gardeners, that they may tell the younger what experience has taught them, respecting the capabilities and wants of the soil they have so long tilled.

Such a society should meet not only for discussion of practical subjects, but also for occasional exhibitions of fruits, vegetables and flowers. Let a few persons in any town call a meeting of all persons interested in horticulture, draw up a few simple rules for their guidance, and at once their society lives! Meetings for discussions might be held monthly: and exhibitions might be given at least twice a-year. A show in June would present roses, pæonies, snow-balls, spiræas and a variety of other flowers—together with lettuce, peas, asparagus, radishes, early cherries, &c. Another in Autumn would furnish apples, pears, grapes, peaches, garden vegetables in great variety, perpetual roses, dahlias, phloxes, asters, and a multitude of flowers which we cannot enumerate. The time of holding these fairs would vary a little with the seasons, from year to year, but public notice could be given in time for every exhibitor to prepare himself. Of course, judges should be previously appointed to award premiums to successful competitors. We find in the *Rural New Yorker* a copy, in substance, of the By-Laws adopted by a Horticultural Society at Rochester, which, with trifling modifications, will answer for any similar society:

1. The payment of *one dollar* per annum constitutes a membership, and *five dollars* a life membership.

2. Competitors for premiums must either be members of the society, or pay one dollar on entering their articles.

3. All articles entered for competition must be grown by the competitor.

4. Exhibitors are requested to label correctly, as far as possible, all variety of fruits, flowers, plants and vegetables; specimens incorrectly named not being entitled to a premium, except at the discretion of the committee.

5 Committees shall have the power of withholding premiums on inferior articles, even if they be the best presented.

6. All fruit, flowers and vegetables, unless reserved by the exhibitor on entry, will be sold at the close of the exhibition for the benefit of the society.

7. Members and exhibitors shall be admitted free to all the exhibitions of the society.

8 The names of exhibitors are not to be attached to the articles, until the committee have made the awards.

It is usual to charge a small fee for admission to exhibition, of from one to two shillings.

Fig. 1.

Fig. 2.

Form of Quince Trees.

With comparatively few exceptions, the quince trees or *bushes* are the worst looking shrubbery found in the gardens or orchards all over the country. Fig. 2 above, as bad as it appears, is as well trained, if trained it be called, as a majority of the quince bushes—taken as they run. The two engravings, figs. 1 and 2, we have transferred from Thomas' American Fruit Culturist, to show the striking difference between what is, and what may be. With judicious pruning from the start, there is little trouble in producing the well-formed, beautiful tree, seen in fig 1; and this, in the end, pays the best in the superior quality and good yield of the fruit. Some persons prefer training two, three, or four stems up from near the ground. We do not like this so well as the single stem, but if it be done, each stem should be carried up four or five feet free from limbs, and all of them so pruned that the branches shall not interlock or interfere with each other, or with the free admission of sunlight.

Rose Slug (*Selandria Rosæ*).

WHALE OIL SOAP.

To the Editor of the American Agriculturist:

We have been plagued beyond endurance, for the last two or three years, with a small worm or caterpillar on our rose bushes. It is about the size of a darning needle, and half an inch long; color, light green. We generally find them on the under side of the leaves, but when feeding, on the upper side. They eat all but the veins. They are numerous enough to destroy all the foliage, which, of course, destroys all the flowers. A black moth or fly precedes them for two or three weeks, which, we suppose, deposits the eggs for them. What shall we do to save the Roses? We have tried the "pound of cure," in applications of lime, plaster, ashes, road dust, tobacco smoke, &c., &c., &c., and now want to get hold of an "ounce of prevention." LIBBIE.

Montgomery Co., N. Y., April 9.

REMARKS.

We are too well acquainted with this pest. The most effective remedy, and preventive as well, we have found to be a solution of Whale Oil Soap, dissolved in the proportion of one pound of soap to seven gallons of water, and applied with a hand syringe, having a sprinkler at the end. Poured from the rose of a watering-pot, the liquid does not reach the insects upon the underside of the leaves, but they can be dislodged with the syringe. We have never failed to destroy them with two applications, given at intervals of two or three days. Early morning is the best time to use this. The soap can be had at most agricultural and seed stores, at about 50 cts for a pot, containing about one gallon. Where it cannot be obtained, a strong solution of common soft soap and water is a partial substitute. The "black fly" is the author of the mischief, that being the form the slugs take after attaining their full size, and weaving and moulding themselves a "house" under ground. Several broods succeed each other during the season, the last remaining in the chrysalis form during the Winter

We have not the "secret" of making this soap but it is essentially like common soap, substituting for the ordinary grease, the lees or settlings o. whale or lamp-oil casks. This refuse oil can be obtained at any of the stores where lamp-oil is sold. The lees from a barrel or two put with potash, lye from wood ashes, or sal soda, would give enough of this "stinking soap" for using in an ordinary garden. The material for this soap used by the manufacturers, is obtained from clarifyers of fish oil.

Raspberries at the South.

J. H. A., St. Louis, Mo., writes that good raspberries are rarely seen in that market, the failure being attributed to their warm dry Summers. Our opinion is asked of setting the plants in an orchard where the trees will afford a partial shade. We approve of the plan, having had choice berries from canes which were tied to the branches of peach trees. We have tried a plot of raspberries growing almost entirely in the shade, which have fruited and ripened very finely. These were mostly the Fastolffs, one of the best home fruits, though rather too delicate for carrying far to market.

Moneywort.

We replied to a subscriber, last month, respecting this plant, that we could not ascertain its botanical name. A little further research has now brought it to light. It is *Lysimachia nummularia*, an evergreen trailing vine of 2 or 3 ft. in length. And we will add that, though perfectly hardy, the roots will not live through the Winter if left in an ordinary garden-vase. They should be taken up in the Fall, and planted in good garden soil in the open ground. It is well to have a patch of it growing all the time in the garden, for setting out here and there, and for giving away to those who will appreciate it. We know of no one having the plant for sale except Messrs. A. Saul & Co., Newburg, N. Y.

A Garden Fork.

This is a very convenient implement for ladies' use—and for men and boys, too, as for that matter. Our engraving shows the general form. The tines are flat, ½ to ¾-inch wide—rather wider towards the points than here shown—and five to six inches in length. The spread of the fork is three to five inches: the handle of wood, six inches long. This implement is admirably adapted to diging around vegetables and flowering plants, to root up weeds and loosen the ground. They usually cost about 50 cents each, at the agricultural stores. This Fork and the "Weeding-Hoe," described and illustrated last Spring (vol. XVI. page 87) are two almost indispensible things in the garden.

Winter Cherry.

To the Editor of the American Agriculturist

Last year I raised some of the Winter Ground Cherry, mentioned in the *Agriculturist*, seeds of which you are now distributing. I esteem them an excellent fruit—all that they are recommended to be. I made a substitute for honey after the recipe in the February No., of last volume, which was pronounced very good by all who tasted it

We made some into preserves of the first quality, while others were put away in a measure, and are now fresh and nice. I think it adds much to their value that they can be kept through the Winter. I have plants already growing for early fruiting. They will continue to bear until killed by frost.

I have another fruit which I bought at the N. H. State Fair. It may be the same mentioned on page 22, January No., of the current volume. Mine grew three feet high, with purple colored fruit, one inch or more in diameter, enclosed in a capsule like the Winter cherry. The berries are somewhat tart, and make excellent preserves.

A. H. GRINNELL.

Springfield, Vt., April 13, 1858.

REMARK.—We judge from the specimens sent, that this fruit is a variety of the Physalis, which is an extensive family. We have distributed many thousands of small parcels this year, and have still some seed left, though not of our own raising. All parcels sent out marked No. "2" on the back, were not of our own production. We hope they may prove equally good.—ED.

The Enfield Market Cabbage.

This variety was so highly commended that we imported what seed we supposed would be called for, but a very great demand soon exhausted it. If this cabbage proves valuable here, we will lay in a large supply for distribution next year. A subscriber in Peru, Ill., recently from England, writes of it as follows:

"I can speak as to the Enfield cabbage, as grown there. It is one of the best in the London Markets. The East Ham and Deptford, are also excellent and perhaps a little earlier, probably caused by a lighter soil. Enfield, or much of it, is a rich clay loam upon a strong clay subsoil. The town is about 10 miles north of London. East Ham is mostly a light sandy loam. The market gardens of Deptford, are on the reclaimed marsh or alluvial level of the River Thames. These cabbages are not what would be called large here; that is, amongst the Germans and Irish. In New-York, they would probably be found superior, but in these Western towns they want a cabbage as big round and almost as hard as a respectable grindstone, no matter as to flavor."

Chufas or "Earth Almonds."

(*Cyperus esculentus.*)

We have many inquiries respecting this plant, to which we are not prepared by personal experience or observation to respond. Mr. I. N. Kramer, of Linn Co., Iowa, writes that he started ten of the Chufas in a hot-bed, and afterwards divided them into 30 hills, planting one-third of a rod of ground. The yield was some 18 quarts of nuts. These he esteems highly as a substitute for chestnuts, of which there is a scarcity in his section of the country.

Another subscriber, on Long-Island, experimented with a few last season and gives us the following results. "I planted the tubers, one in a hill, hills 18 inches apart, in the open ground, about June 1st. They appeared above ground in about a week, with a grass-like top which spread during the season until each hill appeared like a grass mat as large as half a bushel. The tallest spires or stalks were about 2½ feet high, and they were killed down by the first frost. On digging I found an immense number of tubers, in shape like a mercer potato, but only about the size of a common chestnut, or say nearly three-fourths of an inch in length. In one hill I counted over 200 distinct nuts or tubers.

They are quite palatable, can be eaten raw or cooked, but are better roasted or baked. They are not equal in flavor to chestnuts which they somewhat resemble in taste. The name "Earth Almonds" is a *misnomer*, as they do not resemble almonds in any particular. Their greatest value will probably be as feed for hogs, these animals will of course do their own digging. They appear to contain considerable oil, which has been said to be a tolerable substitute for olive or sweet oil. Many have supposed them identical with the notorious "Nut Grass" (*Cyperus repens*) of the South, but there is a marked distinction. The nut grass grows much taller, sends out numerous creeping roots terminated by a roundish nut much smaller than the chufas. I shall not hesitate to plant them again, with no fear of their being a pest." C. T.

The Sweet Potato (*Convolvulus batatus*).

The engraving above represents the foliage of this plant, together with some of the tubers. A full chapter on cultivation, preserving seed, &c., was given in our fifteenth volume, page 164, but we add a few general remarks now, for those who may not have that volume. The sweet potato grows best in the Southern part of the Middle States, and further South. In this market they were formerly called "Carolinas," but since their more general cultivation, they are distinguished as "Carolinas," "Delawares," "New Jerseys," &c.

There is little difficulty in growing them as far North as 42° to 44°, by starting the plants in hot-beds. Good tubers have been obtained even in this latitude, by planting out the common market sweet Potato in the open ground, during the first part of May. It is better to start some of the plants in a hot-bed, early in April, and transplant into hills as soon as the soil is dry and warm, and the weather settled. It is now quite common for nurserymen and others to start a lot of the plants and sell them at a moderate price; and when but few are wanted, or where the early hot-bed starting has been neglected, it is safer to purchase them of those who make a business of starting them.

The sweet potato generally does best on a light soil. If not of moderately good quality, add a coat of rotten manure. It is advisable to put into each hill, say half a shovelfull of well-rotted compost, or rotted manure mixed with earth. The hills should be made large, broad at the top, and rounded up well to expose the sides to warmth. They should be 1½ to 2 feet in diameter, and 6 to 12 inches high. Let them be 3 to 3½ feet apart, where the tubers are planted, to make room for the long vines. If only single sets are planted out, one in a place, the hills may be 2½ to 3 feet apart. Transplant the sets carefully, keeping as much earth upon them as possible. Plant and water much the same as cabbage plants The after cultivation consists simply in keeping well hoed, and the hills well banked up. The plow may be used at first, but the spreading vines will necessitate the use of the hoe only, for the second and third hoeing.

Garden Hops.

In "old times,"—that is to say, thirty or forty years ago, when folks lived at home, and took care of themselves, a few hills of hops in some convenient place about the premises, were as indispensable to good housekeeping as the lettuce bed, or cucumber patch. Now-a-days, we are sorry to say, they have got very much out of fashion. "Small beer," for which they were used in the brewing, has got out of use, and "yeast cakes" have walked into the kitchen to take place of honest, old fashioned hop "emptyings" for bread making.

But, to our fancy, garden hops are just as valuable now, as ever, although not in such quantity. Every household ought to have them. If not needed for bread-raising, they are sometimes used medicinally, and the aromatic bitter of the hop is grateful, and refreshing. For an arbor, or to climb the posts of a stoop, porch, verandah, or over a window, they are beautiful. True, were they as scarce, and high in price as the Chinese wistaria, they would be considered "a choice, and appropriate climber." But being only "a hop," are of no account, and vulgar.

Its advantages as a Summer climber, are, first: they spring up from the ground, and in a week, or two, at farthest, mount, and run all over the place. Second; they are profuse in leaf, grateful in odour, and dense in shade. Third; they hold the color of their leaves; seldom harbor noxious insects: and although lacking variety in color, are, in reality, delicate in form, and appearance. Fourth; where the frost strikes them, they can be cut away, exposing the sun, and air to come in where they are needed—the heats of Summer being over—leaving the wood, or trellis work they recently covered, dry, and free from the damp, and decaying influence of the woody climbers and creepers so generally now in use. Fifth; they yield a crop of *hops*, which are worth something to sell, if not wanted in the house.

Cultivate, then, the hop, either about the porches, or a few hills in the garden. It is worth while to plant them, and after this fashion. Take a few roots from a hill as early in the Spring as you can. Let each root have a starting bud on it. Prepare the future hill by digging a hole full two feet—three is not too much—in diameter, in a good, dry soil. If it be a stiff clay, no matter—the hop will thrive in it. Mix with the earth thrown out a good supply of hay-manure—if you have not that, good barn-yard manure—and throw it back into the hole to within an inch of the surface. Then carefully lay in the roots, three or four of them, letting the buds be a foot apart in a circle, on a flat surface. This done, throw the remaining earth over the roots two to three inches deep; set the pole, and the work is done. Keep free of weeds afterward, and you may take an annual crop in perpetually, with an occasional shovel of manure forked in during the Fall, or Spring. We can name several costly vines, and creepers which are in great repute as climbers on porches, trellises, and arbors, far below the hop, both in real value, and appearance.

Flowers for the Lawn.

After what we said to the ladies, last month, about gardening, we presume that their lawns are rid of every thistle and vile weed, leaving nothing to grow except fine, short grass and white clover. A dressing of old manure has been applied and finely raked in among the roots of the grass. The walks are clean, and the edges nicely trimmed. If any one has neglected to cut out a few circular or other fancy beds in the turf, we again urge her to do it now.

If you have room for several of these beds, plant one with *verbenas* alone, arranging the colors as we suggested last month. As there is a great difference in the habits of different sorts, we will mention a few of known excellence. *Scarlets:* Robert Defiance, Brilliant de Vase. *Whites:* Glory of America, Madame Leflo. *Maroon:* Uncle Tom, Cazenovia. *Blue:* Cerulean Orb, Blue Bonnet, Blue Defiance (fragrant,) Rand's Blue. *Purple:* Purpurea Oderatissima (fragrant,) Rachel, Sarah (striped with white,) Hiawatha (reddish purple.) *Pink:* Striped Eclipse, Eva Corinne, Madame Lemonnier (pink and white striped.) Last, but not not least, Imperatrice Elizabeth, (crimson and white striped.)

Another bed you might devote to taller growing plants, such as lantanas, scarlet geraniums, petunias, heliotropes, pyrethrums and fuchsias. These, arranged according to their colors, and tied up to neat stakes, make a brilliant show all Summer. For the best effect, the bed of verbenas should be planted nearest the doors and windows of the house, and the lantanas &c., at a little distance.

Another bed may contain perpetual roses. The crimson June roses should not be set on the front lawn, but among the shrubbery, or in the side garden, of which we have before spoken. They bloom only once a year, and after that are unsightly. The perpetuals bloom, more or less all Summer, and by a little care, their foliage can be kept always neat. But to succed with this class of roses, requires some effort. The bed in which they are to stand must be trenched a foot and a half or two feet deep, and thoroughly manured. If the soil is naturally wet, it must have six inches of cobble-stones at the bottom for draining. The bed being prepared, set out the plants two feet apart, and tie them to neat stakes.

The family of perpetual or ever-blooming roses is composed of several distinct classes, viz: Bourbons, Tea-scented, Bengal or China, Noisettes, and Hybrid Perpetuals, sometimes called Remontants. Only the last named class are perfectly hardy at the North; and for those gardeners who have no means of protecting them in Winter, we hesitate about advising an indiscriminate planting of any but these. At another time we will tell what can be done with the tenderer sorts.

As we are now writing with Northern and Western gardens in view, we will give a list of those hybrid perpetuals which will give general satisfaction:

Augusti Mie; bright rose color.
Baron Prevost; dark rose, a strong grower, flower in clusters, an old favorite.
Baron Hallez; crimson purple, globular.
Caroline de Sansal; blush, very large, good.
Edward Jessie; pale red, constant bloomer.
Giant of the Battles; scarlet crimson, one of the very best, should be in the smallest collection.
La Reine; rosy lilac, quite large, flowers hang on a long time.
Lion of the Combats; crimson, fragrant, excellent.
Marquis Bocella; light pink, always blooming.
Madam Laffay; cherry red.
Queen Victoria; pale blush.
Prince Albert; rich crimson.

We shall venture to break our resolution to recommend *only* the hybrid perpetuals. A few of the tenderer sorts are so beautiful and so much more constantly in bloom, that we would advise to plant them, even if they perish every Winter.

It is not a difficult matter to protect them, however. Bending them down and covering with earth as raspberries, is quite sufficient.

Among Bourbons, we would particulary recommend Hermosa, pink, full, and always in flower, and Souvenir de la Malmaison, pale, large, very double, and exquisitely fragrant, perhaps the finest rose in the world.

Among Chinas, Mrs. Bosanquet, charming blush, perfect form, often called the "wax-rose," and hardly inferior to the Malmaison.

Among Noisettes, Aimee Vibert, dwarf habit, snowy white, double in clusters, a great bloomer; Caroline Marinesse, white, with a delicate pink shade, very beautiful.

Culture of the Dahlia.

Among autumnal blooming plants, few, if any, surpass the dahlia. It sends up so stately a stalk, its flowers are so symmetrical in form, so varied and brilliant in color, sporting into every shade except blue, that we wonder not at its popularity. Yet it is not without its defects. It cannot bear excessive heat and dryness, nor too much moisture, it suffers from the ravages of insects, it has no fragrance, and in the eyes of some amateurs, it is a little *too* regular. Still, it has great merits, and will never lack warm admirers.

It is a native of Mexico, and was first introduced into England in the year 1789. For a season little notice was taken of it. In 1804, it became more popular. But at that time, it was only a single flower, of two colors, purple and scarlet. Within the last twenty five years, florists have taken it in hand, and by long and patient cultivation, have produced the present almost endless variety of double flowers, of nearly every color and shade.

As this is the season for planting the dahlia, we will give some directions for the management of it. In preparing a border for the plants, spade it up a foot and a half or two feet deep, so that the plants may not suffer from dry weather in Summer. Enrich the soil with old manure, and if it is naturally heavy, add to it a good coat of sand, and incorporate the whole thoroughly together. Then set your stakes firmly in the ground where the plants are to stand. If staking is delayed until the plants are set out and growing, the roots will be badly bruised in the operation. For the free-growing sorts, the stakes should be not less than six feet from the ground, and an inch and a half in diameter. A neat way of managing stakes—where one has only a small number of plants—is to get pieces of pine sawed out, of the requisite length and thickness, then planed, and painted green. On the top of each stake, cover a small space with white paint, and on this write the name of each plant. These will last several years.

Dahlias are propagated in several ways; by seed, by cuttings and by division of the roots. Seeds sown in a hot bed, in April, will produce many flowering plants the same year. The new plants will not resemble the parent flowers, but will sport into an endless variety of colors, many of them single, in perfect flowers, and a few perhaps, of superior quality. Cuttings may be obtained by plunging the roots of last year's plants in a gentle hot-bed, and then taking off the young shoots as fast as they appear. Many plants can thus be obtained from a single tuber. The most common way is to propagate by dividing the roots.

Early in May set the old roots in a hot-bed, or cover them with dirt by the south side of a wall or tight fence, and in a short time the buds will start. Then take them up, and divide with a sharp knife, *making sure to leave a bud on each tuber.* A tuber without a bud is worthless. Set out the plants at the foot of the stakes, as before directed. As they grow, break off all but one stalk, and tie that carefully to the stake, and continue this tying up throughout the Summer, or the plants will be blown down and destroyed. If insects are troublesome in dry weather, sift air-slacked lime over the plants. If the Summer is very dry, a mulching of fine hay or straw will be useful, more so than frequent waterings.

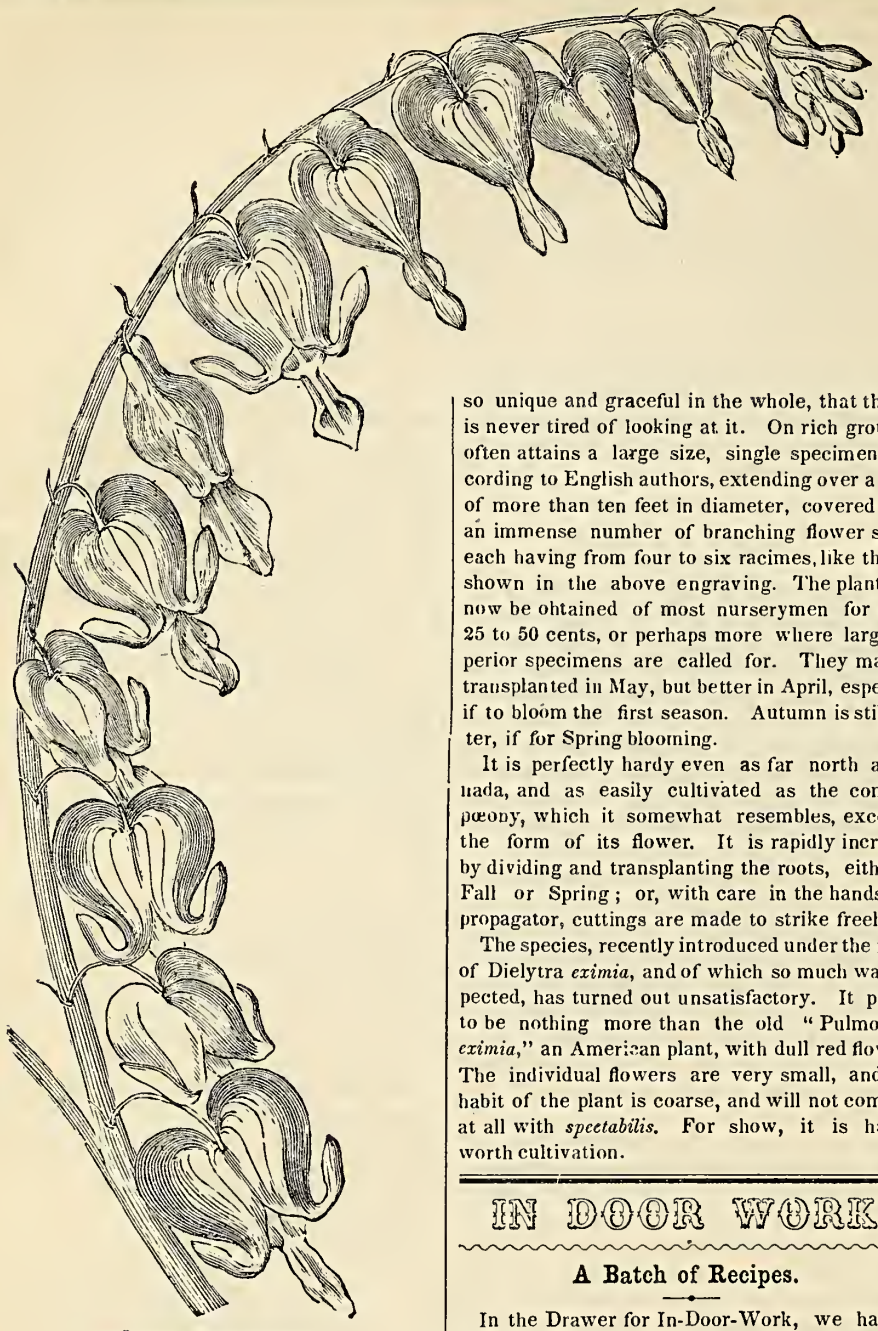
The above treatment is the best within our knowledge. Yet we confess that sometimes our most carefully nursed plants have yielded only an imperfect show of blossoms, while a few surplus roots set out carelessly by the fence, and tied up to any chance stick, have far outshone the most skillfully and tenderly treated favorites of the parterre—so capricious is this flower, and so variable are our seasons! Still, we are far from recommending careless culture; as a general rule, it would not succeed.

After the plants are cut down by frost in Autumn, take some pleasant day in October, for housing the roots. Cut off the stalks near the ground, leaving sufficient for fastening a label. Dig up the roots carefully, so as not to break them—a strong forked spade is an excellent tool for this work—and let them lie in the sun and wind all day, so as to become thoroughly dry. Before night, carry them into an airy cellar and spread them on shelves. If the cellar is damp, they will be apt to mold, if very dry they will shrivel up. They may be kept safely by storing them on bins of potatoes, partly covering them with the potatoes. This seems to keep them in a proper and uniform state of moisture. Perhaps, a still better way is to lay them in large, shallow boxes, and cover them with sand.

We shall hardly satisfy ourselves, or our inexperienced readers, without giving a short list of desirable dahlias. The following twelve may not be the newest and most fashionable varieties, but they can be relied on as firstrate:

Agnes, pure white, excellent.
Aurora, orange-buff.
Baron Alderson, bright orange, each petal tipped with white; large, full, constant bloomer.
Beauty of the Grove, salmon buff, tipped with purple.
Belle de Paris, pale lilac, edged with purple.
Bob, vivid orange scarlet, one of the best.
Claudia, violet purple, tipped with white.
Grand Duke, bluish lilac, globular, great bloomer.
Mrs. Hansard, yellow, tipped with white.
Sir John Franklin, buff, with salmon at the base of each petal.
Sir Robert Whittington, ruby crimson, superb.
Unanimity, scarlet and deep yellow in stripes; firstrate.

Grapes at the North.—R. W. T., Franklin Co., Me., asks if the Isabella grape will succeed as far North as 44½° by covering during the Winter: also the price of the Concord grape, &c. The Season is not long enough to ripen the Isabella thoroughly in so high a latitude. The writer of this has nearly ripened them in a neighboring county (Kennebec), in favorable Seasons, but they lacked the flavor of those grown further South. The Concord, which sells at $1 per vine is a good substitute and will probably do better in Maine. Delaware and Rebecca are also good varieties for the North, ripening earlier than the Isabella, and quite as hardy.



Dielytra Spectabilis.

e present above, an illustration of a beautiful plant admirably adapted to adorn the entrance to a house, as well as the door-yard, lawn, and flower garden. One of the prettiest objects we remember to have seen, was two of the Dielytras, set one on either side of the dwelling This beautiful perennial, which was described somewhat at length in our last volume, page 136, will soon begin to develop its brilliant and elegantly formed flowers, it being one of our earliest Spring blooming plants. It may be made to bloom finely during Summer, by cutting down the stems to within a few inches of the ground, immediately after the early Spring flower has faded. This induces the dormant buds around the crown of the root to start into growth, and though the spikes are not so large the flowers will be as abundant as in Spring.

The Dielytra is suited to any soil or location where it can have a fair share of the sun. It shows best when grown solitary, and on turf—and should rarely be planted in large beds or masses—a bed four feet in diameter, with seven plants in it, is as large as would look well. Planted singly, however, around a garden or yard, in any numbers, it is always pleasing—there is something so unique and graceful in the whole, that the eye is never tired of looking at it. On rich ground it often attains a large size, single specimens, according to English authors, extending over a space of more than ten feet in diameter, covered with an immense number of branching flower stalks, each having from four to six racimes, like the one shown in the above engraving. The plants can now be obtained of most nurserymen for about 25 to 50 cents, or perhaps more where large, superior specimens are called for. They may be transplanted in May, but better in April, especially if to bloom the first season. Autumn is still better, if for Spring blooming.

It is perfectly hardy even as far north as Canada, and as easily cultivated as the common pœony, which it somewhat resembles, except in the form of its flower. It is rapidly increased by dividing and transplanting the roots, either in Fall or Spring; or, with care in the hands of a propagator, cuttings are made to strike freely.

The species, recently introduced under the name of Dielytra *eximia*, and of which so much was expected, has turned out unsatisfactory. It proves to be nothing more than the old "Pulmonaria *eximia*," an American plant, with dull red flowers. The individual flowers are very small, and the habit of the plant is coarse, and will not compare at all with *spectabilis*. For show, it is hardly worth cultivation.

IN DOOR WORK.

A Batch of Recipes.

In the Drawer for In-Door-Work, we have a large accumulation of Recipes, &c., contributed by our subscribers. These we shall insert from time to time as we have room, without regard to the order of reception, and we hope our lady readers will keep the Drawer full. We print most of these about as received, endorsing or commending only such as we have tried and proved.

[An intelligent lady subscriber on Long-Island, (Mrs. Clementine H.) furnishes for the *Agriculturist*, the first four of the following recipes, each one of which she has tried thoroughly and can recommend as very good.]

Nahant Tea Biscuit.

Put in one vessel: 3 teacups of flour, 2 of sweet milk, 3 eggs, a little salt, and beat all together for fifteen minutes. Dip into cups, making them half-full, and bake twenty-five minutes in a quick oven. [This we can commend. The eggs make the biscuits light enough, and save the use of soda and cream of tartar, so objectionable to many persons. Ed.]

Election Cake.

Rub together 1 bowl of sugar, ½ bowl of butter and 1 teaspoonful of soda, and then add ½ pint of milk and 1 bowl of flour. When mixed well, add 2 nutmegs grated, 1 bowl of currants, and cinnamon or cloves to suit the taste. Bake in loaves. This cake will keep well for two or three months, or till "after 'lection."

Federal Cake.

Warm a pint of milk and stir in one tablespoonful of lard. Add one beaten egg, and flour enough to make a stiff batter, and one cup of yeast. Put in the pan in which it is to be baked, to rise. One hour's baking required. Serve hot—with butter of course.

Mountain Cake.

Rub 1 lb. sugar with ½ lb. butter. Beat together 6 eggs, one teacup of sweet milk, and ½ teaspoonful of soda. Mingle thoroughly 1 lb. of flour and 1 teaspoonful of cream of tartar. Then stir the whole of the above quickly but thoroughly together, and bake in loaves immediately.

Another Mountain Cake.

Mrs. E. H. Hoffman, Wayne Co., Ohio, encloses the following two recipes in a letter to the *Agriculturist*: Mountain Cake.—Stir to a cream 1 cup butter and 2 cups of white sugar; add the whites of 6 eggs beaten to a stiff froth; 1½ cups of butter-milk; 3 cups of sifted flour; ½ teaspoonful of soda; 1 teaspoonful cream of tartar; flavor to taste and bake in a moderate oven. It looks nice cut in slices. Domestic Cake.—To ½ lb. sugar and ½ lb. butter beaten to a cream, add 1 lb. flour and half a nutmeg grated; work to a smooth paste; roll to half an inch in thickness, and cut into square or round cakes; bake in a quick oven.

Corn Starch, Delicate Cake.

This we have tried 'at home' and like it. A 'friend' gives the following 'prescription': Beat 1 cup butter, with 2 cups sugar, to a cream; add 1 cup sweet milk in which is dissolved a teaspoonful of soda; beat the whites of 7 eggs to a stiff froth and stir lightly with the above. Mix thoroughly together 1 cup of corn starch, 2 cups of flour and 2 teaspoonfuls of cream of tartar. Then mingle the whole of the ingredients, beating quickly but thoroughly, and flavoring with essence of lemon or rose-water. Bake immediately in a deep dish.

Poor Man's Cake.

"A Cottage Girl," Dauphin Co., Pa., prescribes: "Put into 3 lbs. of common bread dough ¼ lb butter and ½ lb. sugar. Then mix in 1 lb. currants and 1 lb. 'candied peel.'"

Loaf Cake.

A Litchfield Co., Ct., correspondent offers the following: With 3 cups of milk, 1 cup of sugar and ½ cup of yeast, make a thick batter and let it stand over night. In the morning add 2 cups sugar, 1½ cups butter, 1 egg, and spice to liking.

Pork Cake.

Mrs. M. C. M., Stoughton, Mass., gives the following recipe: ½ lb. pork chopped fine; ½ lb. raisins; 1 cup molasses; ½ cup of sugar; ½ cup of boiling water; 1 teaspoonful cream of tartar; ½ teaspoonful soda; ½ teaspoonful each of cloves, cinnamon and nutmeg. [We suppose some flour is needed to thicken it, and even then we should suppose the mixture a pretty strong one for a weak stomach, or for any other—though, perhaps, no more so than the majority of "Suet Puddings." Ed.]

Indian Griddle Cakes.

Contributed for the *Agriculturist* by a subscriber at Mansfield Center, Ct. Mix 1 quart of new milk, 3 tablespoonfuls of cream, 3 beaten eggs, 1 tablespoonful of salt, and Indian meal enough to make a stiff batter; beat the whole well together and cook on a griddle the same as other griddle cakes, but with not quite so quick a heat.

Muffins.

S. L. Ward, Bristol Co., Mass., gives us the following: 1 cup sugar beaten with 3 eggs; a

piece of butter the size of an egg; 3 cups flour, and teaspoonful of soda; 2 teaspoonfuls one of cream of tartar mixed with the flour; 1 cup of sweet milk. Bake in muffin rings, in a quick oven.

Bread Pudding.

Contributed for the *Agriculturist* by a subscriber in Tolland Co, Ct. In the evening take a loaf of bread baked on the morning of the same day—one made with a pint of milk is about the right size—and crumble it very fine, especially the crust. Pour on new milk enough to barely cover the crumbled bread, and let it soak over night. The next morning mash it very fine; add 8 beaten eggs, a large pint bowl of raisins, about a tablespoonful of salt, and put into a 4-quart pan for baking with milk enough to nearly fill the pan. Bake 2 to 3 hours, according to the heat of the oven. To be eaten with warm, sweet sauce. [We think any loaf of bread, even two or three days old, if still *sweet*, might be used. Ed.]

Ready Made Yeast.

A housekeeper in Concord, N. H., of 20 years experience, recommends the following to the readers of the *Agriculturist:* Boil a handful of hops in 2 quarts of water and add 4 large potatoes boiled, mashed and strained. Scald 6 tablespoonfuls of flour in the liquid, adding 1 cup of sugar and 1 cup of salt. When cold add yeast to ferment it, thining the liquid to 2½ quarts. This put in well-corked bottles will keep six weeks in the hottest weather. Use half a teacupful for each loaf of bread.

Peppering Bacon.

Hervey Caldwell, Rush Co., Ind., recommends putting a good coat of ground black-pepper upon Bacon (hams) after it is smoked and ready to be packed away in Spring. He recommends 1 lb. pepper to 100 lbs. bacon. This he says will keep away skippers, and other vermin.

Cucumber Pickles.

Mrs. Cynthia Stanley, of Hillsdale, Mich., sends the following. It is taking a good deal of trouble for a dozen cucumbers, but those who eat this article, pickled or unpickled (we do not) may consider the pickles obtained worth the trouble: "Take 12 cucumbers, full grown, but not ripe; pare, quarter, scrape out the seeds, and sprinkle on a little salt, and let them stand five or six hours. Dissolve 1½ lbs. of sugar in 2 quarts of vinegar, heating and straining it. Immerse in the liquid a bag containing ¼ ounce each of cloves and cinnamon. Put the cucumbers, rinsed from the salt, into the liquid; set over a slow fire for twenty minutes; then pour the whole into a crock and cover tightly for twenty-four hours. At the end of this time pour off the liquor, scald, and return it, and repeat the process at the end of another 24 hours. Then cover tightly and set aside in a cool place, and they will keep for a long time.

Soap for Hard Times.

S. S. Moody, North Headly, Mass., recommends the following: Cut 1½ lbs. of common bar soap into thin pieces, and boil fifteen minutes in a pail of soft water with 1 lb. of sal soda. Pour the whole into a barrel, and fill two-thirds full with water. [This will make a solution of hard soap, but not a genuine soft soap. The latter can only be made with potash. The distinction between *hard* soap and *soft* soap is, that the alkali in the former is soda, and in the latter, potash.—Ed.]

Grease Spots.

Susanne, of Brooklyn, writes: "Tell the readers of the *Agriculturist* that many of these eyesores may be removed for a sixpence invested in French chalk." She gives, as an example, that her 4-year-old carried a nice edition of "Cowper" into the kitchen and dabbed it into the butter plate. She scraped some of the French chalk over the spots of grease, and in an hour afterward brushed off the powder and put on a fresh dose, leaving it three or four hours, when Cowper was himself again. "The same application operates equally well upon greased clothing, though, sometimes, two or three applications may be needed. The French chalk (clay) can be obtained at any drug-store."

Convenient Lye Hopper.

S. W. R., of Harford Co., Md,, sends to the *Agriculturist* a description of a convenient leaching tub, somewhat on the plan of the filtering apparatus, fig. 1, page 92, March No: "Take a common meat or fish barrel (a mackerel barrel is best,) and put brick, stone, or wooden blocks in the bottom, say 6 or 8 inches high; upon these put a false bottom of rough boards well filled with large holes, or lay in two or three pieces with openings between. The upper head may be used, by boring holes in it and notching the edge. Lay in some straw, and then put in the ashes, punching them down well with the end of a spade, to prevent the water from washing out the ashes. The water poured over the ashes will slowly settle through, and may be drawn out by means of a spigot or tap at the bottom. The opening in the bottom answers as a secluded reservoir, where the lye is prevented from being acted upon and injured by the carbonic acid of the air, and a constant supply of fresh lye may be kept on hand for use as desired. No more than is wanted need be drawn off at any time.

Coloring, Blue, Yellow, and Green.

Mrs. E. Gilbert, Lenawee Co., Mich., offers the following to the lady readers of the *Agriculturist.* We are not able to speak of their value as compared with other modes. Were they not from good authority we should "guess" (not assert) that the salt would not be a sufficient *mordant* to render the colors permanent.

"*To Color Blue.*—Dissolve 1 ounce Oxalic acid in half a pail of rain water. Put 1 ounce Prussian blue in an earthen bowl, and wet with some of the acid water. Stir till dissolved and then put the whole in the acid water. This is enough for 2 lbs. of cotton cloth. Dip the cloth into the water, wring out, and dry in the shade. Then rinse in a pail of rain water, in which a single handful of salt has been dissolved. *To color 2 lbs. of Cotton Yellow*—Dissolve 2 ounces sugar of lead in a pailful of rain water. Scald the cotton goods in this for 5 minutes. Take out the cloth, and then dissolve in the same liquid 1 ounce of Bi-chromate of Potash. When all is dissolved scald the cloth again for a few minutes, stirring it about all the while to keep it from spotting. Dry, and then rinse in salt water as for the blue color. *To Color Green*—First color yellow as above (without rinsing in salt?) and then dip in the Prussian blue dye, finishing with the salt water rinsing. These operations must he done in brass vessels. The above modes of coloring are much used for rag carpets."

Preserving Cans, and a Hint to Tinmen.

A fourth year's experience with the air-tight, screw-top, or self-sealing cans for preserving most kinds of fruits, has convinced us beyond a doubt that this mode of putting up fruit is not only more healthful, but in the end cheaper than the old fashioned way of "preserving" in sugar. When the fruit season comes round we shall advise our readers to put up their cherries, strawberries, raspberries, and by all means the peaches in air-tight cans. We have these fruits now as fresh and good as when they were picked last season. But large numbers of our subscribers wrote last year that they could not get the cans without paying double or treble the first cost, for transportation of such bulky articles. The main object of this note is to say that a better way for those living remote from large towns where these cans are made, is to secure a quantity of the covers with the screw caps attached, and have the main body of the can, that is the sides and bottom made by a tinman in your immediate vicinity. Or what would be better, perhaps, suggest to your tinman to get a gross or two of the caps, more or less, and prepare the cans for sale. This idea was suggested by seeing a quantity of the covers and caps being packed for a distant Western town. They are made on a large scale by machinery, and sold at about $1 25 per dozen, the same cover answering for a one quart or a two quart can. A dollar per dozen or at most $1 12, would probably cover the cost of making the body of the quart cans, and the transportation of the caps. This would bring them below the price ($2 50 per dozen), that they are retailed for at the head quarters. We are using some quart cans the fourth year, which reduces the cost to 5 cents a year, and this amount is saved in the less sugar required, to say nothing of the more healthful and more delicious sweet-meats thus secured.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as Notes *and* Replies *to* Correspondents, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

To Correspondents.—We have examined many hundreds of "laid over letters" the past month, answering them privately, or in the items below—some single paragraphs apply to a dozen or more letters. The remaining letters now on hand will be attended to next month, and as many new comers as possible.

Hot-Beds—Muck, Leaves.—T. Allen, Athens Co., O. Where muck cannot be had, get forest leaves, or the surface soil from the woods, scrapings from ponds, or turf and loam from the road-side to mix with manures. These are improved by being previously strewn over the stables to absorb the liquids. In making hot-beds with forest leaves, put them in dry. The moisture from the surrounding earth will be sufficient.

Trees—Deep Planting and Banking.—In reply to California subscriber and others, we advise to set trees as nearly as may be to the same depth that they stood in the nursery. The great aim in transplanting all trees should be, to preserve the original condition of depth, extent of root, &c. With regard to banking up, when a tree is first set it is well to add a good body of earth to keep it upright; but the surplus earth should be removed as soon as the ground has settled firmly.

Dwarfing Trees—How to do it—H. Sherwood, Niagara Co., N. Y. We can dwarf the natural stocks of apple, pear, cherry, &c., by heading back. They are usually dwarfed, however, by working on less vigorous stocks, such as the Paradise or Doucain, for the apple on the Quince, for pear; and on the Mahaleb and Morello for the cherry. These are usually *budded* low, or nearly in the ground, with the variety of fruit to form the top.

Pear Trees—What to Plant.—A. G., of Washington Co., N. Y., asks the above question, rightly proposing to confine himself to a very few kinds. He does not, however, state whether he wishes Summer, Fall or Winter fruit. For two trees of each we would name for Summer, one each of Madeleine and Benrre Giffard; for early Autumn, Bartlett and Fondante d'Automne; for late Autumn, Flemish Beauty and Louise Bonne de Jersey; for Winter, Lawrence and Winter Nelis. We would chose standards rather than dwarfs, though dwarfs of some varieties, if carefully nursed, do well for limited areas, and for fruiting soonest after planting.

Ashes on Peach Trees.—J. Webster, of Philadelphia, states that finding his favorite peach trees decaying, he dug around the roots with a trowel and discovered a number of white grubs. These he killed, and scattering among the roots about two quarts of strong wood ashes, he covered them with earth again, and spread on the surface two quarts of slaked lime. The grubs disappeared and the trees recovered, flourished and bore fruit for several years, until they were removed on another account. It is barely possible that the white grubs were one

cause of the injury at first; the ashes and lime doubtless benefitted the soil aside from destroying the grubs.

Buds from Nursery Trees.—A subscriber on the Pacific coast, inquires whether buds taken from trees or cuttings received from New York or the Atlantic States, are fit to use for budding. If obtained from reliable sources, the buds may be used for the desired purpose. Experienced persons can usually judge of the genuineness from the appearance of the wood, and especially from the leaves after they are well out.

Curculio Remedy.—Mrs. E., of Calhoun Co., Mich., writes that she gets full crops of plums annually, while those of her neighbors are greatly dimmished by the curculio. As long as the trees are in bloom, and for a week afterwards, she every morning, while dew is on, takes a pan of leached ashes and with the hand throws them through the foliage, taking care that some shall fall upon each flower.

White Pine from Seed.—S. Demsey, Essex Co., Mass. Collect the seed when ripe, and sow in the Spring on light, sandy loam, covering with very little soil. The bed must be kept moderately moist, and shaded from the hot sun.

American Weeping Willow.—Benj. Kerr, Lancaster Co., Pa., and others. This willow we have seen in the nurseries of Parsons & Co. See advertisement in page 72, March No. It is also for sale by other nurserymen, we suppose. There is another variety called the *Kilmarnock*, which is quite equal, if not superior to the American. These two are sold at 50 cents to $1.00 each, according to size, quality, &c.

Sowing Carrots.—A. D, Ulster Co., N. Y. Early sowing is preferable, say by the first of May. Guano and Plaster will operate well if mixed thoroughly with the soil so as not to kill the tender plants by contact. Fine bone-dust, or better, bone sawings, deeply mixed with the soil in the drills we have found a most excellent fertilizer for carrots, beets and parsneps. Last year we raised parsneps large enough and long enough for respectable bed posts, by trenching deeply and digging bone-sawings into the rows before putting in the seed.

Carrots *vs* Parsneps for Stock.—"Subscriber," Sidney Plains, N. Y. We think the long orange carrot is preferable to the Belgian, and better for cattle than parsneps. It is easier to raise and *dig* 100 bushels of carrots than so many parsneps. Smooth carrots, two feet long, are hard enough to get out of the ground, but "sprangly" parsneps, 2½ or 3 feet long, are only excelled in digging by *Chinese Yams* (Dioscoreas.)

Mandrake, or May Apple (*podophyllum peltatum*).—"Wisconsin" asks if these may not be improved by cultivation. We are not aware that the attempt has been made, and question whether anything of much value can be made of them. Some of our readers may have experimented with them. If so please report the results.

New Rochelle Blackberry.—J. J. B., Richmond, Va. This blackberry will doubtless succeed in your locality. We think they are already growing well in your vicinity, though we do not now remember who has them thereabouts.

"Squaw Corn."—J. S. Pulsifer, Schuylkill Co., Pa. The sample of corn you sent us, varying in color from white to mixed, red and blue, is probably a cross of the Tuscarora and some other kind. Single varieties seldom sport into divers colors when kept entirely by themselves.

Mixing of Corn.—"One of the Boys" at Independence, Iowa, inquires, if corn, planted at different periods, side by side, will mix. It will to some extent, although slightly if one is an early variety, and planted sometime before a later kind. So long as the bloom, of the late suckers even, falls upon the opening silk of another variety, the two will mix. Better plant the kinds forty rods or more apart, to preserve them pure.

King Philip Corn.—Horner A. Kidd, of Walden, Orange Co., N. Y., writes, that June 2nd, last year, he planted ¼ acre with seed obtained of us, on light, sandy soil, rows 2½ feet apart. It grew luxuriantly, was well plowed, and hoed twice, and was fit for roasting long before other varieties in the same neighborhood. When green it was sweet and luscious. It produced at the rate of 100 bushels of shelled corn per acre." At the date of his letter, Feb. 2d, Mr. K. had some seed to part with, and may yet have.

Tobacco Culture.—P. L. Buchanan, and other inquirers, will find a full chapter on tobacco growing, on page 54 of our last volume (March No., 1857). We cannot repeat the chapter so soon again, and we have little to add to that article, which was designed to be as complete as our space would admit. There are many articles in volume XVI., which, of course, cannot be given in the *present* one, and it would, doubtless, be worth while for new subscribers to obtain it. The volume, in numbers, is sent, post-paid, for $1.12; or furnished bound for $1.50. The bound volumes are rather large to go by mail, but may be so sent by pre-paying 42 cents postage.

Cucumber Bug Preventive.—Mrs. I. Hunter. Knox Co., Ill., says' that her cucumbers have never been troubled with bugs of any kind, since she has tried placing a tomato plant in the centre of each hill, when putting in the seed. The tomato plant is removed when the cucumber vines are too large for the bugs.

Eradicating Briars.—Hon. Wm. W. Valk, Somerset County, Md. Your vivid description of slovenly, careless farming is too true of many places all over the country. Perhaps the Lantern of Diogenes, may yet shine into some of these dark corners.—We know of no better implements to eradicate the thick growth of briars infesting your ground, than the plow, harrow or cultivator, and hoe. The roots of any plant will soon die if kept from breathing by allowing no leaf to exist above the surface. A few years since, a Western friend constructed a heavy small harrow, with long strong teeth pointing forward. A pair of handles on the rear end served to lift the implement up with, when clogged. The ground was first plowed deeply and then harrowed and cross-harrowed several times. By this means the briar roots were gathered and dropped in heaps wherever the clogged harrow was lifted, and they were then carted off. A couple of hoed crops following, subdued the pests.

Caraway.—Miss Lucy A. Watson, Orange Co., Vt., writes: Prepare and sow a small bed, and keep down the weeds for the first year. Then transplant to a large bed, and keep from weeds the second year, after which it will propagate and take care of itself, furnishing an annual supply. We have tried this plan, except the transplanting, on a small border of the garden. The only trouble was to keep it from spreading beyond due bounds.

Ferrets.—J. B. W., of Harford Co., Md., inquires where these can be bought. We do not know. Any one having them to sell would do well to advertise them.

Gophers or Ground Squirrels.—H. Platt, Whiteside Co., Ind. These animals on the prairies, like the chipmucks in woody regions, are often great pests, and various remedies have been proposed. One is to drive steam into their holes by means of a portable hand boiler, with a long nozzle or hose. This scalds, or drives them out, when they are caught by dogs. They may be poisoned with arsenic or strychnine mixed with meal and placed near their haunts. "It is said," that castor beans planted among vegetables will keep them at a distance (doubtful). Cats with half-grown kittens to provide for, make no small havoc among the gophers.

Potato Parings for Seed.—E. Remington Lycoming Co., Pa., writes that he experimented with potatoes last season, planting whole ones, halves, quarters and *skins* only. He cut the last as thin as possible, taking care however, not to wound the seed bud. They were dried by the stove until many of them were like chips, planted apart by himself, and the yield was fully equal to any of the others. This may have succeeded well in such a season as the last, but is not generally advisable. The more nourishment the young plant gets from the old tuber, the better start it will get, and it will do better in nine times out of ten, than if having only the thin paring.

Poultry and Cows in Minnesota.—M. Marks, of Rice Co., says, among other things: "....Our 23 hens laid 272 dozen eggs from the first of March 1857, to the first of Jan. 1858. They are still laying 3½ dozen per week....From three cows and one 2-year old heifer, we made 800 lbs. of butter from the fifth of March 1857, to the first of January 1858. We sold 700 lbs at 32 cents per lb., and raised 5 calves worth $40."

Melons, &c., in Kansas.—Mr. C. E. Blood, writing from Manhattan, Kansas Ter., says: I have seen no country that could excel this in the production of melons, squashes, pumpkins, &c. They all have a peculiar sweetness and richness of flavor.

Nebraska Agriculture.—J. S. M. We shall be glad to get condensed practical information from your Territory and all others. Thanks for your kind words of encouragement.

Improved Stock.—An advertisement in this paper announces some good stock for sale, by the Brothers Haines, of which a catalogue may be obtained as announced.

Twin Heifers, Free Martins.—H. G. Peach, Lake Co., Ind. Twinned heifers will breed as well as those dropped singly. The same may said of twinned males. It is only the "Free martin"—that is, a heifer twinned with a bull—that will not breed well.

Patent Office Seeds.—Jno. F. Driscol, Providence, R. I., Secretary to the R. I. Hort. Society, says: "I had some seeds from the Patent Office, labeled as flower seeds, which turned out Red-top Grass and Mullein, *which were a very great acquisition to my annuals.*"

Sawdust and Urine.—S. M., Luzerne County., Pa. If you can get sawdust delivered at the stable for ¼ cent per bushel, or even double or treble that price, by all means get and use it freely to absorb liquids in manures, and also as a mulch around trees, herry plants, &c. Some striking results from the application as a fertilizer of sawdust soaked in urine have been recently published in Great Britain. There is no doubt that sawdust saturated with urine, house-slops, or liquid manure is an excellent manure.

Bommers's Manure.—J. H. Foster, jr. (*junior Dispatch* Ed.) Tioga Co., Pa This is referred to in last volume, page 82. We do not consider the subject worth the room to discuss it in.

Farmers' Hand Mill.—W. B. Thompson, Meigs Co., O. The above mill you inquire after is still on sale, by Fowler & Wells, but they prefer not sending them out, unless the purchaser examines the machine, and is satisfied with it. It does not give the satisfaction which was expected.

Value of a Paper.—A Problem in Arithmetic.—J. L. J., of Montgomery Co., Pa, relates an instance where the knowledge obtained from a single copy of a paper saved a valuable animal. We mention this as one of hundreds of such instances that from time to time come to our knowledge. Reader, would you now really part with a tithe of all the information you obtained from even the poorest paper you ever subscribed for, for double the cost? Suppose you cypher it up.

Davenport City, Iowa.—Friend Hall will please accept our thanks for the map of Davenport—it calls vividly to mind the beautiful prospect we looked upon last Summer, as we were on the bridge crossing the "Father of Waters"—also for the sundry notes which are laid away for future use.

Schizanthus is pronounced as if written Ski-zanthus. The letters *ch* are pronounced like *k*, in Lys-i-mach-i-a, Esch-scholt-zi-a, Ar-is-ti-lo-chi-a, &c. Thanks to W. F. Bassett, Franklin Co., Mass., for his suggestions. The "Maple" topic some other time.

Three Wheels to a Wagon.—David Link Floyd Co., Va, writes: "I believe the *Agriculturist* indispensable to every systematic, well-regulated farm. I cannot say enough in commendation—am getting up a club. I would as soon do without one wheel to my wagon, as without the *Agriculturist*. It was certainly worth $20 to me last season."—That will do.

An Editor Feeling Very Badly.

A certain journal published near Philadelphia, is in a very bad way again—or rather its disease, which is constitutional, has broken out in a new spot. There are few Journals which it has not at some time, in a very *military* tone, bid begone from its august presence, or else salved them over with overweening praise *ad nauseum*. But Major Freas' last gun was a regular Paixhan which must have been loaded with *grape*. Not content with detailed denunciation, he now tells the whole "bamboozled country press" they are a set of ninnies, all of them having been, to quote his own words, "gulled by a certain artful New-York city agricultural monthly." From almost any other source we should have esteemed this quite complimentary, for we have spent most of our days in the country, and from our boyhood up to this hour we have had quite an admiration for any "New-York Chap," smart enough to get round us country fellows, especially when we had them on our own ground. But the compliment is of no account, since the "Country Press" in general, and that of Pennsylvania and New-Jersey in particular, have heard the Major's command, "eyes right," so often, that they leave him where the Shepherd boy, accustomed to cry wolf so often in fun, was left when the wolf *did* come. The Major goes on to condemn our advertisements as "*outre*" because they have been set up so as to accomplish the aim of all advertisements, viz: attract attention. We wonder how he had the conscience to say any one of our articles was ever re-written from another journal and printed as original. We pay over $3,000 a year for editorial aid, and have no occasion for this kind of plagiarism which the Major seems to himself understand, as he intimates further on that he feels as if he had a "rope around his neck," when he takes the New-York monthly in hand, since it is *copyrighted*, lest his propensity to take without credit should subject him to "prosecution."

Pray don't be alarmed Major; its only militia train-training day; the enemy are not *near;* sorry to see you run (drop exchange). We only expect to "prosecute" one Yankee and one Western editor, and not them if they

stop making up a whole broad-side of editorial out of the *Agriculturist*, without even so much as mentioning its existence. No, No, Major, don't be frightened at your own shadow. We are in a very patronizing mood just now, and as your journal is usually so devoid of good agricultural editorials, we by "special enactment" grant you a permit to copy from the *Agriculturist* into your paper one leading editorial every week, without giving a word of credit, since your ostensible cause of complaint is our "copy-right."

Why feel so bad Major, because we put a small picket fence (copyright) around our flower garden that costs so much care and anxiety, and money, just to keep marauders out. Come right round and we'll open the gate ourselves, and set out a table under an arbor, and bring out "coffee for two"—if you'll leave your "pistols" and sword at home. Come right round Major, we want to whisper in your ear a little about our private business matters which you don't seem to understand. What *did* make you think we got all our advertising done for little or nothing? Why that was a great mistake. You see we don't scarcely advertise at all, ourselves, Major. We sometimes for amusement draw up an odd sort of an advertisement just to see how it will look in the Times or Tribune, and sometimes a clerk gets up one, and one of the funniest ones was sent in by a subscriber. Well, it gets in one paper, and then along comes a dozen agents of the "country papers," (not *our* agents,) and they offer to insert that advertisement in ever so many papers at ever so low a price. There is one of these agents who is a real gentleman, and he has such a wining way that he generally conquers, and when he presents his "lowest terms" for 500 or 1,000 papers, we come down at once, and hand him over a few thousand dollars and say go ahead. So, Major, instead of advertising free, we have paid over $16,000 to "country papers" for advertising alone in a year or two past, though we have not attended to the business personally, and know not but all the publishers in the country are abundantly satisfied with the doings of their own agent here. He always shows us *their* bill for all *we* agreed to pay *him*. But advertising in any way pays, Major. Just try it. Come round on next mailing day and see the *tun* after *tun* of *Agriculturists* that we send to the Post Office every month. And then there is such a pleasure in these things, Major. Every number contains so many good suggestions from our worthy associates and correspondents; and there are so many engravings to both please and instruct the readers. Why, how could you call them "useless things," as you did the other day? You were not thinking of your own monotonous pages were you? There, there, now, put up that pistol—we meant monetary pages, or something of that kind.

Well, Major, can't we make up now? You once thought much of us, and we never did you wrong but once, and that we are very sorry for on *your* account, as it keeps you feeling so badly, though it was a good thing for *us*, that we went right into *your* domain and bought out the Penn. Farm Journal. We would be more sorry, but some how there are more than ten thousand Pennsylvania Farmers that seem to like the *Agriculturist* well enough to keep sending their money for it. But you see Major, they don't know so well as you do what is best for themselves, or they would heed your advice and leave all foreign papers, no matter *how good and cheap* and come and pay you two dollars for your home sheet, which contains so many interesting advertisements, all set in orthodox style (not "outre"). Pray don't feel bad again, Major, and write another such article as you did. Your dinner must have set very badly, or did you sleep poorly? Never mind, Major, never mind about those few thousand farmers that will persist in coming to New-York, for an "Agricultural Monthly." Let them go, and talk to the half a million who are not yet so unwise.

Good morning, Major, call round again.

To Farmers, Mechanics, and others,

IN NEW ENGLAND AND NEW YORK.

[We commend the following to the attention of our readers. It is truly a benevolent work to gather up and redeem, or save to society the hundreds of boys who would, unaided and uncared for, only grow up to be a pest.—Ed.]

It is well known to the public, that numbers of poor, homeless boys come to our office, or are brought in by the visitors, who want work and a home. Their ages range from 15 to 18. They are often strong, healthy lads, able to work well on farms or at trades.

Of their characters and past lives we generally know but little. We only know that they are unfortunate, and exposed in the city to all kinds of temptation. Here, they will soon be ruined. In honest work in the country they may become useful men. We desire to put it before the conscientious and religious consideration of our farmers and mechanics, especially in New England and New York, whether it is not their duty to aid us in the effort to save, for time and eternity, these poor lads. These are the Heathen at their own doors. Our experience shows what vast improvement the efforts of a patient Christian family may produce on the boys and girls of this class. If the experiment fail in any particular case, the employer can only feel that he was trying to serve his Master, and that the loss is no loss to his own soul.

We desire to send these lads to New England and New York, because the expense is so great in getting them to the West, though kind homes are always open there. We propose to pay the expenses of the journey, on condition that they be refunded if the boy remains. Each applicant must enclose recommendations from his Pastor, or the Magistrate of the town, and, if possible, references to responsible persons in New York. He should also give us his town, county and State and the nearest and cheapest route thither.

Address "J. Macy, Assistant Secretary, 11 Clinton Hall, Astor Place, Children's Aid Society, New York."

Who among our farmers and mechanics will lend a hand in this effort for the sinful and unfortunate?

C. L. Brace, Secretary.

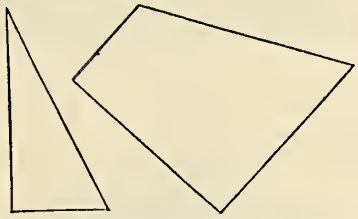
Boys' and Girls' Own Columns.

Answers to Problems.

These have come in like a torrent, and we must "suspend" New Problems for a month, to make room for some other matter which may interest our young friends as much as the problems. You may look for some new ones in the next number. We give below all the *correct* answers received up to April 18th.

Prob 25, 26—Chas. Young, Henry Co, Iowa, and "Vermont Boy, sent answers to these in March, but they did not get *here* until a long time after.

Prob. 27—To arrange 10 pieces like the following (5 of each kind) in a square.



There are several modes of doing this, of which the following is the one adopted by most of those sending us drawings.

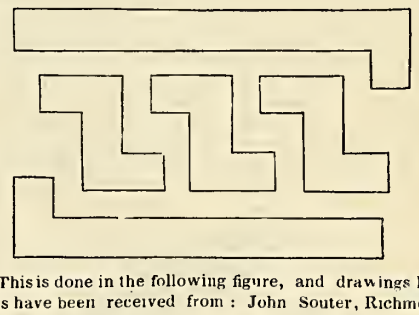
Answered thus: by Wm Creighton, Westchester Co N Y; Elihu Cox, Randolph Co, Ind; George Marston, Albany, N Y; Jane Stebbins, Wilbraham Mass; Frank and Eugene, Huron Co, O; Calvin H Brandon Carlisle, Pa; Harrison Flora, Stark Co, O; George W. Van Winkle, Hudson, N Y; J. M. Dayton, Hartford Co, Ct; Susanne, King's Co, N Y; George H. Clark, Orange Co, N Y; Joseph Mellon, Chester Co, Pa; D Webster Spicer, Jefferson Co, N Y; A. C. Whitmack, Somerset Co, N J; George A. Young, New Bedford, Mass; George A. Kenading, Windham Co, Ct; David B. Stewart Washington Co, Pa; Newell H. Haynes, Stoneham, Mass; Henry J. Bacon, Middlesex Co, Ct; C. C. Ingleside, Westchester Co, N Y (with mathematical demonstration); Jas Huffman, Hunterdon Co, N J; M. E. Luce, Ashtabula Co, O; F. W. Lockwood, Fairfield Co, Ct; Chas. M. Kinne, Onondaga Co, N Y; H. S. Gold, Washington, Ct; Isaac Tucker, Queen's Co, N Y; W. W. D., Mass; Mary Campbell, Delaware City, Ind; Fremont M. Hendrix, Howard Co, Mo; John Oliver, Brooklyn, L I; J Conklin Brown, Dutchess Co, N Y; W. M'Martry, Windham, N J; David W. Sharp, Seymour, Ct; J. G. S. Gutphen, Somerset Co, N J; H. F. Carter, Crawford Co, Pa; F. C. Bissell, Tolland Co, Conn; Jno. Souter, Richmond Co, O; Jacob Corlies, Monmouth Co, N J; Mary E. Lodge, Montgomery Co, Pa; Mary Y. Stout, Ringoes, N J; H. I. Jones, Grant Co, Ind; B. D. Sanders, Brook Co, Va R W. Anderson, York Co, Pa; Joseph W. Farquhar, Carroll Co, Md; G. H La Fetra, Clinton Co, O; J. S. Parent, Saratoga Co, N Y; J. G. and P. S. Guthrie, Decatur Co, Ind (different from figure above); Emma Woolley and Louis Pennington, Ripley Co, Ind (do); Chas D Morris, Bureau Co, Ill; Lester Winfield, Ulster Co, N Y; Andrew Beck, New Durham, N J; R. G. Adams, Worcester Co, Mass; Robert Winn, Hawesville, Ky; W. E. Guy, Oxford, Ill; Martin D. Young, Clinton Co, Ind; G P. Prindle, Charlotte, Vt; J. F. Coffin, Hancock Co, Ind. The next thought they were correct; but their figures were parallelograms instead of squares: G. W. T., Ct; E. W., N Y; A. W., N J; W. E. J., Wis; J. H. B., N J; J. D. S., O.

Prob. 28—Miscellaneous Enigma. (See page 90) *Ans.*—The motto of the *Agriculturist*—"Agriculture is the most healthful, the most useful, and the most noble employment of man." Words: Peoria, Fortune, And, Emily, Lilac, Elm, Albany, Table, Hudson, Otter, Fig, Us, Meat, Fish, Temple, Hoe, Cottage, Arithmetic, Moses, Home.

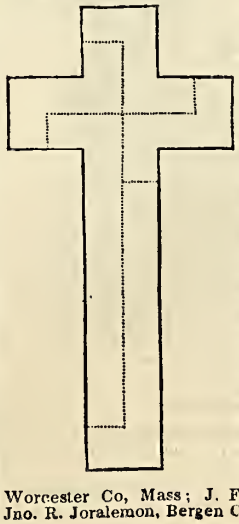
Answered correctly by:

Wm. A. Rogers, New Haven Co, Ct; Geo. W. Taylor, Fairfield Co Ct; Henry B Hinsdale, Kenosha City, Wis; Ezra S. Whitney Shelby Co, Mo; Emery Mills, Hamilton Co, Ind; E B. Treat, Hartford Co, Ct; Jasper N. Lantz (no address); Daniel E. Herrey, Essex Co, N J; Robert S. Titus and J Cornwell Mott, Queen's Co N Y; Jacob Flora, Stark Co, O; Jos. H. Butterfoss, Hunterdon Co, N J; Jane E Dibble, New Haven Co, Ct; Mrs E. Pierson, M'Henry Co Ill; M. E. Luce, Ashtabula Co, O; Robert Stobo, Wechawken, N J; W. W. D, Mass; H. S. Gold, Washington, Ct; T. B. Kelsay, Salem Co, N J; T. L. B. (no address); Wilson Stewart, Washington Co, Pa; Emma Oliver, Brooklyn, L I; Wm. A. Nelson, Adams Co, Wis; Ida G. Stothoff, Somerset Co, N J; F. W. Lockwood, Fairfield Co, Ct; Daniel Wing, S. Yarmouth, Mass; Chas. M Kinne, Onondaga Co, N Y; Geo. Vandestrand, Queen's Co, N Y; Willard S. Young, Herkimer Co, N Y; Wilson D West, Harford Co, Md; Eugene Johl, Brooklyn, L I; Mary Campbell, Delaware City, Ind; F. C. Jean, Lyons, Clinton Co, Iowa; Reed W. Anderson, York Co, Pa; J. Conklin Brown, Dutchess Co, N Y; G. H White, Columbia Co, N Y; J. M. J., Essex Co, N J; Richard H Stevens, Morris Co, N J; E. Cubberley, Hamilton Square, N J; Samuel Yates, N Y City; A. C. Whitenack, Somerset Co, N J; Frank and Eugene, Huron Co, O, John Lyles, N Y City; Wealthy A. Hathaway, Worcester Co, Mass; G. K O, Rockingham Co, N H; M. B I, Dedham Mass; F C. Bissell, Tolland Co, Conn; Jacob Corlies, Monmouth Co, N J; Hannah F Hastings, Dutchess Co N Y; Mary C. Lodge, Montgomery Co, Pa; H. F. Carter, Crawford Co, Pa; Abr. Myers, Ogle Co, Ill; Mary Y. Stout, Hunterdon Co, N J; Jno. T Ulick, Northampton Co, Pa; J G and P. S. Guthrie, Decatur Co, Ind; Chas. D. Morris, Bureau Co, Ill; G H. La Fetra Clinton Co, O; Ellen C. Barker, Litchfield Co, Conn; Edward Morehouse, Dutchess Co, N Y (yes); Chas. Torrey, Henry Co, Iowa; S. Armstrong, Columbia Co, Wis; E. P. Lowe, Jersey Co, Ill; W E Guy, Oxford, Ill; Martin V. Young, Clinton Co, Ind; "Vermont Boy" (The Editor admires your perseverence in getting subscription money. He has himself tried the same plan successfully).

Prob. 29—To arrange the following five pieces into a perfect cross:



This is done in the following figure, and drawings like this have been received from: John Souter, Richmond



Co, O; Selina and Thirza Pearce, Marietta, O; Eugene Moore, Schuylkill Co, Pa; G. H La Fetra, Clinton Co, O; D Etter, Darton, O; Jacob Corlies, Monmouth Co, N J; Wm E. Jones, Kenosha Co, Wis; Joseph P. Humble, Martinville, N J; H F. Mervin, New Haven Co, Conn; S. A. Dean, Bureau Co, Ill; J D. Shank Clinton Co, O; Mary Y. Stout, Hunterdon Co, N J; H. C. Jones, Grant Co, Ind; S D. M., Sumner Co, Tenn; F. A. Sanders, Brook Co, Va; R W Anderson, York Co, Pa; Geo. H. Clarke, Orange Co, N Y (beautifully drawn); Albert J. Caldwell, Westmoreland Co, Pa; Chas. D. Morris, Tiskilwa, Ill; Lester Winfield, Ulster Co, N Y; G. K O., Auburn, N H, Thos B. Kelsay, Salem Co, N J, W. C Stephen, 9th-st, N Y; W. C. Ashkettle, Hudson City, N J; I. E. Walker Worcester Co, Mass; J. F. Coffin, Hancock Co, Ind; Jno. R. Joralemon, Bergen Co, N J (nearly right).

NATHANIEL ORR

A Furt er Talk with the Boys and Girls about Engraving.

On page 59 (Feb.) we gave our young readers some account of "how pictures are made," which seems to have much interested them, and the older people too, and a great many of them are in a hurry to have us fulfil our promise to ask Mr. Orr to talk more on the subject. One who calls himself "an old boy, only 74 years of age," writes that "he reads the Boys and Girls columns the first thing in the *Agriculturist*, and enjoys them much, because he there finds the things that would also have interested him in his other boyhood." He further says: "I know the Editor has been a farmer's boy, for he gives the boys and girls just such information as *they* wish but cannot find elsewhere." But this by the way—Well, we did ask Mr. Orr, but he is a modest man, and preferred to let us do the writing, though he would willingly do anything to interest and instruct the young folks. (Would you not think so when you look at his countenance, which we take the liberty to insert on this page without asking his consent, as we obtained this good picture of him from an Art Association in this city?) Mr. Orr and his partner, Mr. Wood, kindly went with us through their rooms, allowing us to quiz the workmen, and pick up engravings used to illustrate this article—some of them they made specially for this purpose.

Engraving is done on wood, on stone, on copper, and on steel: On copper and steel, the lines are simply cut into the surface, when the plate is smeared over with ink, and this is all wiped off except what remains in the places cut

Fig. 1—THE STAG.

out. The paper is then laid on and subjected to powerful pressure, which causes it to pick out the ink remaining in the lines.

Lithographing is different from engraving. In this process, no cutting is done, but an oily ink is used for putting on the lines upon a peculiar kind of stone. The stone is then wet and an ink roller passed over. As the stone is all wet except where the oily lines are upon it, only those places take the ink, and give it off to paper when pressed upon it. To print in Lithograph, or on copper or steel, is a slow process, and since electrotype copper duplicates have been invented, most of the work formerly done on copper, is now first done on wood and transferred to copper. Messrs. N. Orr & Co. are now executing large amounts of work for Government, which was, until recently, done on copper plate, no better, and at many times the expense.

Common coarse engravings are made on maple or mahogany; and large show bills when engraved are even cut on pine, but all the finer wood engravings are upon a very hard box-wood brought from Turkey. Box-wood trees are usually small, but several pieces are glued together when a large block is wanted. The box-wood logs are sawed across into pieces just the length of printers' type. One side is then made very smooth and whitened by rubbing a moistened enamelled card upon it.

An artist then draws upon it just the lines, marks, &c., that are to be printed.

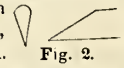


Fig. 2.

This is done with pencils or India Ink. The drawing or designing is a distinct art from engraving. We found half-a-dozen or more of these designers at work and learned that some excel on one kind of drawing, and others in other kinds—some succeeding best at landscape drawing, some at machinery, &c

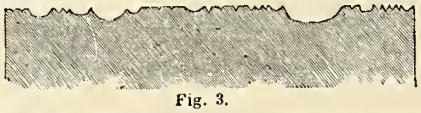


Fig. 3.

In the simplest kinds of engraving, the workmen merely cut away the wood, leaving the black lines remaining. We split an engraved block and looking upon the *side* of it the top appeared like figure 3. You can see the various points projecting upward to receive ink for printing. In fig. 2, we give a side and end view of the point of one the tools used for cutting away the block. As we have

Fig. 4—SHEPHERD'S DOG

before explained, many lines are so small that the engraver has a magnifying glass placed on a frame between his eye and the block he is cutting.

Many of the drawings, are simply uniform colors, as clouds, shading, &c., and here the engraver must exercise his skill to leave such points on the wood as will give the *expression*. Thus, you will see in figs. 1, 4, 5, and 6, very different kinds of lines to express the hair on the Dog and Stag, and the two kinds of feathers on the Wood Lark and Teal. To give these various expressions or tints correctly, requires not only skill and judgement, but long experience. To be a first class engraver a man requires something more than mechanical skill—he must have a *talent* for it, and this is the reason why there are so few first class engravers, as there are few real sculptors, painters &c.

You will see, then, that this Art is one to which machinery can never be applied in most of its details. Regularity would spoil almost any fine engraving. There are, however, certain kinds of "tinting" which a machine can do. Mr Orr has an ingenious machine with which he cut figs. 7 and 8 before our eyes, and in very little time. He also cut for us on this machine, the tinting in fig. 9. This is done with a kind of little plow which is passed over the block and given a vibrating motion as it moves along. The same machine can be changed to cut many different tints. The white letters of the name are cut out with the tools shown in fig. 2 This machine

Fig 5—WOOD LARK.

is much used for tinting bank checks, drafts &c. Just now it is applied to preparing blocks to print the whole outside of letter envelopes. A man's business card can be printed on tinted ground upon an envelop, so lightly, that the superscription or direction of the letter can be written right over the printing These envelopes printed in buff, and other colored inks, are very beautiful

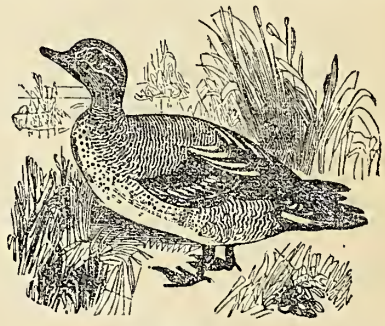


Fig. 6—THE TEAL.

There are many things connected with the art of engraving which we have not room to tell you of—but we know it will interest you to learn as much as possible of an art which contributes so much to your pleasure by exhibiting to the eye the appearance of plants, implements, and a thousand other things you have not seen and may never

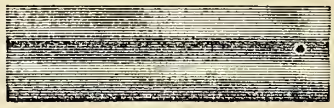


Fig. 7

see. One thing more we must tell you of, however. You will see that much depends upon the artist who make the *first* draft or picture of a thing. Until recently, this has in all cases been put upon the engraver's block with pencil and brush. But now they are beginning to make

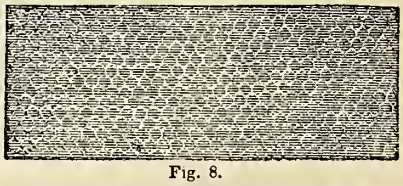


Fig. 8.

daguerreotypes, or rather photographs of objects directly upon the surface of the wood itself. Thus, the *portrait* above, was first pictured right upon the prepared surface of a boxwood block, and the cutting done immediately by an engraver. You will readily see that the outlines must

Fig. 9.

thus be more perfectly obtained, than if drawn by the eye with a pencil. Some of *our* pictures of trees, plants, flowers, and implements are thus obtained. The only difficulty in this process now is, that the surface of the wood must first be colored dark before applying the silver

solution for the photograph, and this prevents the engraver from seeing well how to cut very fine lines when required.

The Long White French Turnip.

Just as we go to press, we ascertain that we can get some of the seed of the turnip, described on page 134, and we therefore offer it as No. 4 of our Extra Premiums presented to those who procure and send in *new* subscribers after this date. This premium, by the way, is worthy attention. The amount of seed offered, with careful planting, will suffice for full *one eighth of an acre.* It may be late in the year to secure new subscribers (and this is one reason for giving at this season extra *premiums* not before offered). But "the times" are getting better, and many persons *can* subscribe now, who *could not* do so earlier. The person using a little effort now will accomplish a three-fold object; *first*, get the premium himself; *second*, benefit the person induced to become a reader of an agricultural journal, and *third*, promote the interest of the *Agriculturist* itself, since every dollar added to its finances furnishes additional means for improving its value to the reader.

EXTRA PREMIUMS,

offered *only* in return for time and services to persons procuring and forwarding *new* subscribers to the *American Agriculturist.* The subscribers obtained will themselves be entitled to receive the seeds offered in our regular list, No. 1 to No. 52. ☞ Only *one* of the following premiums will be given on the same new subscriber.

Premium No. 1.

When any person shall have forwarded *forty* subscribers, for volume XVII, at the lowest club rates (80 cents each) he or she will be entitled to a copy of WEBSTER'S LARGEST SIZE UNABRIDGED DICTIONARY (not the smaller University Edition). The Book will be forwarded to the order of the recipient at his expense for transportation after leaving this city. Its weight (7 to 8 lbs.) will prevent its going by mail.

Premium No. 2.

Any person forwarding new subscribers for volume XVII either at one dollar each, (or at the club rates in case of the formation of new clubs or additions to those already formed), will be entitled to One Pound of *pure* CHINESE SUGAR CANE SEED of the best quality, for *each new* name. The seed will be put up in strong cloth bags and delivered free of expense to any Express Company or to the care of any person in this city. The cost of transportation will of course be borne by the recipient.

Premium No. 3.

We still continue the offer of this valuable Premium, consisting of 18 varieties of new seeds, sent post-paid for new subscribers, at $1 each. ☞ For list and amount of seeds, and terms of Premium, see last page of April *Agriculturist.*

Premium No. 4.

To any person obtaining a *new* subscriber for 1858 (vol. 17), after May 1st, we will, in return for the favor, send (post-paid) *an ounce* package of the seed of the *Long White French Turnip*, described on page 134 of this number. An ounce will be given for *each* new name. The new subscriber will himself be entitled to select the usual packages of the seeds, Nos. 1 to 52, offered in our February number. The names may be sent at $1 each (or at club rates when for new clubs or additions to those already formed); but when the seed is to go to Canada or to the Pacific Coast, 14 cents additional will need to be sent to us for extra postage on each ounce of seed forwarded.

Sugar Cane Seed at a Low Price.

Owing to the difficulty experienced in getting seed last year, and knowing the great demand for it, we laid in a stock of over *three tuns* (6,900 lbs.) this year. A very large amount of this has been given away to our subscribers. As we expected, however, we shall probably have a few hundred pounds over, after supplying all subscribers who may yet call for it, as premiums or otherwise. This overplus, whatever it may be, we will part with at 12 cents a pound, or *ten* pounds for $1, putting it up in cloth bags, in any required amount, and delivering it free of expense to any Express Company, or other place in this city.

☞ The actual circulation of the Agriculturist to regular subscribers, is believed to be much larger than that of any other Agricultural or Horticultural Journal in the world.

Advertisements.

TERMS—(invariably cash before insertion):
Twenty-five cents per line of *space* for each insertion.
One whole column (145 lines) or more, $30 per column.
☞ Business Notices *Fifty* cents a line
Advertisements to be sure of insertion must be received at latest by the 18th of the preceding month.

ENGRAVING
N. ORR & Co.
52 JOHN ST. N.Y.

THE NEW YORK TRIBUNE.

1858.

THE TRIBUNE commences its eighteenth year on the 10th of April inst. It has nearly completed arrangements, by an outlay of more than $50 000 on a new Press and other machinery and adjuncts, to reduce to the lowest point the time which must e lapse between the making up of its forms and the reception of its issues by its patrons No expense or labor will be spared to render i s advices from all quarters as prompt, full, graphic, and reliab e as tho e of any rival. With correspondents at the most important points in either hemisphere, and an editorial staff cho-en from the best writers in our country, it endeavors to deserve the unequaled circulation which was accorded it some years since, and which, in spite of the hardness of the times, it still retains.

THE TRIBUNE'S course on the great questions of the day is guided by principles which will stand the test of ages. It wars upon Slavery, "not in the abstract merely, but in the United States," regardless of the fact that the slaves are a powerless caste, and belong to a loathed and down-trodden race, because it realizes th t unjust, oppressive laws are a curse, not merely to their immediate victims, but to the whole community which endures and upholds them. In the same spirit, it opposes Fillibusterism and every form of national rapacity or aggression profoundly convinced that "RIGHTEOUSNESS exalteth a nation," and that territory won by conquest or spoliation never did and never can truly strengthen the nation thus aggrandized. Regarding Freedom in Labor as the only safe, beneficent basis of national growth and prosperity, it contends for that Freedom not only in Kansas but on every acre of the Federal Territories, seeking no favor from and granting none to any party, interest, doctrine, or tribunal that would render them the nursery and home of Bondage. The varied development and diversification of Home Industry, the repression of Intemperance, Violence and Crime, the improvement, by every practicable means, of the condition of the needy and unfortunate, are among the objects to which our efforts are s eadfastly directed. In short, without assuming to be wiser or better than others, we aim to be found always the foes of Wrong, Abuse and Evil, and the champions of Truth, Virtue and Reform.

We hire nobody to obtain subscribers for us, employ no traveling agents, offer no premiums or prizes, but a simple copy of our paper to any one who, because he approves its general character and believes its circulation will exert a salutary influence, procures and sends us a list of twenty or more subscribers. If there be any who believe Republican principles would be commended and human well-being promoted by extending our circulation, we ask him to select some neighborhood in which our paper is not generally taken, and send us as many subscriptions as can there be procured. Those who desire specimen copies for this purpose will be gladly supplied.

THE TRIBUNE is printed on a large imperial sheet, folded in quarto form, and mailed to subscribers on the following

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SEMI-WEEKLY TRIBUNE.

One Copy, one year......$3 00
Two Copies, one year......5 00
Five Copies, one year......11 25
Ten Copies, *to one address*......20 00

WEEKLY TRIBUNE.

One Copy, one year......$2 00
Three Copies, one year......5 00
Five Copies, one year......8 00
Ten Copies, one year......12 00
Twenty Copies, to one address, and any larger number, at the rate of $1 per annum......20 00
Twenty Copies, to address of each subscriber, and any larger number at the rate of $1 20 each......24 00

Any person sending us a Club of twenty or more will be entitled to an extra copy.

Subscriptions may commence at any time. Terms always cash in advance. All letters to be adressed to

HORACE GREELY & CO.,
Tribune Buildings,
No. 154 Nassau-St., New-York.

New-York, 1858.

LINNÆUS RHUBARB.

BRINKLE'S ORANGE, FASTOLF AND HUDSON RIVER ANTWERP RASPBERRIES.

Newman's Thornless and Lawton Blackberry Plants, &c., &c.

The subscriber offers for sale a large stock of Rhubarb, Raspberry and Blackberry Plants, at the following low prices, viz:

	per dozen.	per 100.	per 1,000
Linnæus Rhubarb	$2 00	$8 00	$50 00
Brinkle's Orange Raspberry	2 00.	12 00	100 00
Fastolf Raspberry	1 00.	4 00	30 00
*Hudson River Antwerp do. (red)	75	2 00	18 00
White Antwerp Raspberry	2 00.	8 00	130 00
Newman's Thornless Blackberry	2 50.	15 00	120 00
Lawton (New-Rochelle) Blackberry	3 00,	16 00	130 00

* This variety is extensively cultivated on the banks of the Hudson River for Market; and produces yearly $200 to $300 worth of fruit per acre.

Also, Fruit and Ornamental Trees, Flowering Shrubs, Vines, Fruit Tree Stocks, Ornamental Tree and Shrub Seedlings, &c., &c., at moderate prices, wholesale and retail.

Catalogues furnished gratis on application.

GEO. D. KIMBER
Nurseryman, Flushing, L. I.

4th mo. 1st, 1858.

Sale of P. T. BARNUM'S

FLOWERS AND PLANTS

At IRANISTAN, Bridgeport, Ct.

TUESDAY, MAY 11th, at 11 o'clock, A. M.

Will be sold at Public Auction, at the above time and place, the rare and valuable Collection of Stove and Green House Plants belonging to the estate of P. T. BARNUM, Esq., and now in the green house at Iranistan, Bridgeport, Ct. Many of these plants were obtained from foreign lands at great expense.

The Catalogue includes the following:

6 Banana Trees, from 15 to 20 feet high, one of which is in fruit.
1 Astræa wallichii in tub, eight feet high.
1 Crinum amabile, in tub, large.
4 do do small.
2 American Aloes, or century plant.
10 Cactus different varieties and among which are some fine specimens of night Flowering Cereus.
2 Euphorbia splendens, each 6 feet high, and measuring 8 feet in circumference.
1 do triangularius, fine plant.
8 do ponticia.
3 Ficus Elastica or INDIA RUBBER TREE, each 8 feet high.
2 Cinnamon Trees, 8 feet high, rare.
1 Coffee tree, 7 feet high now in berry.
2 Russellia juncia one of them 5 feet high, and in flower.
10 Palm Trees, different kinds, among which are some fine specimens of Fan Palm, and one of which covers a space 20 feet in circumference.
2 Hoya Carnosa or Wax Plant, very fine.
8 Abutilon s riatum, a beautiful Bell Flower.
1 Bedfordiana, 8 feet high. Bell Flower
1 Hibiscus flore pleno splendens, 5 feet high.
1 Franciscea Catifolia.
1 Burchelia capensis, 5 feet high, and in full flower.
20 Heliotropium, splendid plants, and different varieties, some 7 feet high.
1 Solandra grandiflora.

4 CHOICE STOVE CLIMBERS, as follows,

1 Ipomœa horsfalii
1 Kennedya Camptosema.
1 Bignonia venusta
1 Tecoma jasminoides.
2 Pittosporum Tobira.
1 Rhododendron, 15 feet high, has had 33 fine flowers this spring, and is the finest plant in this country.
1 Auricaria imbricata, 18 feet high; a rare specimen of the curious Norfolk Island Pine.
2 Acacias, viz:
1 Armata, 15 feet high,
1 Alata, 15 feet high.
1 Double White Camellia Japonica, 12 feet high, and 15 feet in circumference, will bear 50 splendid flowers at one time.
3 Inga pulcherrima, a fine plant.
2 Lemon Trees, large, and bearing fruit.
1 Myrtle Orange Tree, in bloom.
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60 Tom Thumb Geraniums in pots.
200 yards of Strong Box for edging.
1,000 Flower Pots, assorted sizes.

As nearly all of the above plants are in pots and tubs, they can be moved without injury.

Will be sold at the same time and place, Lawn Chairs, Iron Settees, Vases, Fountains, &c., &c., &c.

Raspberries—Strawberries—Rhubarb.

BLACKBERRIES—CURRANTS, &c.—a choice assortment including

Brinkles Orange Raspberry.

A new variety, unequalled in flavor and beauty—also very vigorous and productive—is considered by many as the very best, also the THUNDERER—CUSHING—AND COL. WILDER—and

Strawberries very cheap.

HOVEYS Seedling—Boston Pine—Large Early Scarlet—PEABODY'S New Seedling, in any quantity.

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BLACKBERRIES—New-Rochelle and NEWMAN'S Thornless—Black Naples Currants, &c

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do	1,000 to	5,000	$6	do	do
do	5,000 to	10 000	$4 50	do	do.
do	10,000 and upwards		$3 75	do	do.

An extra charge made for Packing.

Apply at the Gardens of the undersigned at Yonkers, or at their office in New York.

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STRAWBERRIES CHEAP.—HOVEY'S Seedling—Boston Pine and Large Early Scarlets, very low in large quantities for field planting, &c. Also Peabody's New Seedling Hautbois. Address FREEMAN & KENDALL,
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The undersigned respectfully announces to his friends and customers that he is prepared to fill all orders for the genuine NEW ROCHELLE BLACKBERRY PLANTS, at the following greatly reduced prices:

ONE THOUSAND PLANTS,	$75,00	ONE HUNDRED PLANTS,	$10,00
FIVE HUNDRED PLANTS.	40 00	FIFTY PLANTS	6 00
THREE HUNDRED PLANTS.	25,00	TWENTY-FIVE PLANTS.	3.50

These plants are guaranteed to be the genuine New Rochelle Mammoth Berries, propagated from the original, and are cultivated at New Rochelle.

By ordering from the Subscriber, the genuine plants will be obtained, beyond a doubt, and purchasers will secure a fair crop of this delicious fruit the second Summer.

The money should accompany all orders, and the name and address should be distinctly written, as nothing can be made out of postmarks Address JOHN JANSEN,
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Garden, Field and Flower Seeds.

The subscriber offers a full assortment of Garden, Field and Flower Seeds of the growth of 1857 and of the very best qualities, and in addition to all the standard varieties, will be found many novelties, for sale Wholesale and Retail. Orders by mail attended to immediately.

PEAS—choice and new varieties, Extra Early Daniel O'Rourke Champion of England Carter's Victoria, Hairs' Defiance, Dwarf Sugar, Tall Sugar, Hairs' Dwarf Blue Mammoth, Harrison's Glory, Harrison's Perfection, Epps' Monarch, Epps' Lord Raglan, British Queen, with all other varieties.
CAULIFLOWER—Early Paris, Nonpariel and Alma.
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SPRING BARLEY, SPRING RYE.
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ASPARAGUS ROOTS—Cabbage, Cauliflower, Egg and Tomato Plants furnished in season.
Everything in my line furnished and at reasonable rates.

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Aquaria or River Gardens fully stocked, all sizes from $15 to $100 each. McILVAIN & YOUNG,
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HUNGARIAN GRASS SEED—PRICE 8 cents per pound in small parcels, 15 lbs. will seed an acre. Is cultivated like oats. May be sown any time in May, yields from 3 to 6 tons superior hay per acre Price by the sack or two to two-and-a-half bushels each $2 25 per bushel of 45 lbs.
HEDGES, FREE & CO.,
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TERMS—Thirty Dollars to insure a foal.

Nebraska is coming 6 years old; 15 hands 3 inches high; weighs over 1100 pounds; color, jet Black; fine flowing mane and tail; can trot a mile inside of 3 minutes with ease. For particulars or information Apply to
B. N. CLEVINGER, Agt. for the owner,
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I offer for sale three young Short Horn Bull's, all bred by Col. J. M. Sherwood, from his imported stock Also several females of the same stock. Having sold most of my farm. I will sell these animals at prices suited to the condition of the times. For particulars address the undersigned at Brook Farm, Auburn, N. Y. CHAS. P. WOOD.

DEVON BULLS FOR SALE.

The subscriber offers for sale his Imported Bull EXETER (198) five years old, 3d inst—bred by James Quartly.—See Devon Herd Book

Also four fine Yearling Bulls from Imported Stock—with pedigrees. EDWARD G. FAILE, West Farms,
March, 26th. Westchester Co, N. Y.

DEVON BULL FOR SALE.—A fine young full blooded imported Devon bull, very cheap, the owner having another. Apply to BRUNDRED & ROGERS,
60 Pine St., N. Y.

IMPROVED BERKSHIRE PIGS FOR sale by JOHN B. EDGAR
Rahway, New-Jersey.

SUFFOLK PIGS.

The undersigned has for sale choice Suffolk Pigs at fair prices. EDWIN MARSHALL,
Poughkeepsie, N. Y

SHORT HORNED CATTLE, HORSES, SOUTHDOWN AND COTSWOLD SHEEP AND SUFFOLK PIGS.

The subscribers will sell at public auction at 12 o'clock on Wednesday, June 16th at their farm at Elizabeth, New-Jersey, 25 head of Short Horned Cattle, comprising one half of their herd.

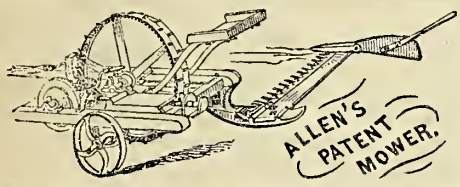
They will consist of one of the stock bulls MARMION 1843, or LORD VANE TEMPEST 2nd. 669, 10 young bulls and bull calves, the get of Marmion, Lord Vane Tempest 2nd, Grand Duke 2nd (12961), and Duke of Gloster (11342), and 15 cows and heifers.

Also, HORSES, BROOD MARES and COLTS, SOUTHDOWN SHEEP, bred from Jonas Webb stock, COTSWOLD SHEEP, and 40 head of SUFFOLK PIGS of all ages.

An Illustrated Catalogue containing a list of stock to be sold will be ready the first of May, and will be sent to all applicants.

B. & C. S. HAINES.

Elizabeth is 14 miles from New-York, by New-Jersey Railroad. Trains running every hour.



STRONG AND DURABLE.—LIGHT OF draft to the team. Will cut all kinds of grass better than it can be done with a scythe—leaving it spread—so as to save labor of spreading it. It can be worked at a slow or fast gait and by oxen if desired. It is easily managed and safe to the driver.

All we claim for it is admitted by those who use it and it has received their universal approbation.

I am making them for the coming season, when desired with a hoist for raising the finger board, a very simple and efficient addition, and can also furnish when desired a very simple Reaping attachment—which does not at all affect its simplicity or efficiency as a mower. R. L. ALLEN, 191 Water-st.

SYRACUSE PRIZE MOWING MACHINE.

BUCKEYE PREMIUM MOWER,

AULTMAN & MILLER'S PATENT.

Awarded FIRST PREMIUM GRAND GOLD MEDAL, as BEST MOWER, at the Great NATIONAL TRIAL, held at Syracuse, N. Y., July, 1857

The Buckeye Mower presents a number of new features, which are worthy the attention of every purchaser. It has Two Driving Wheels—A DOUBLE JOINTED, HINGED CUTTER BAR, which works independent of the frame and conforms to the make of the land, and in a moment is folded over the front of the Machine, which may then be driven on the road with as much ease as any two wheeled vehicle.

The arrangement is simple and beautiful. It is light draft free from side draft, works well in any grass, and is in all its parts complete.

Since its first introduction it has never failed to give entire satisfaction. ☞ EXAMINE THE BUCKEYE before purchasing. Circulars furnished on application.

For Sale by

SEARS, ADRIANCE & PLATT,
165 Greenwich St., New-York.

SUGAR MILLS

OF THE MOST APPROVED PATTERN,

(Three Iron Rollers in Iron Frames.)

MANUFACTURED BY

HEDGES, FREE & CO.,

CINCINNATI,

AND WARRANTED, AS FOLLOWS:

One-horse Vertical Mill presses 30, to 40 gallons juice per hour.....Price $56 00
Two-horse Vertical Mill presses, (double-geared), 45 to 60 gallons juice per hour..... 78 00
Two horse Horizontal Mill, with vertical shaft to apply lever to, and is worked by horses traveling around it, in the same manner as Vertical Mills, yields 45 to 60 gallons per hour..... 90 00
Two horse Vertical Mill, (single geared), yields 60 to 75 gallons per hour..... 100 00
Four-horse Vertical Mill, (single geared,) yields 75 to 100 gallons per hour..... 135 00
Four horse Horizontal Mill, (back gear,) suitable to attach to threshing or other machine power..... 125 00
Ten horse Horizontal Mill, (back gear,) calculated for engine or water power, all ready for the belt..... 265 00
Ten horse Horizontal Mills, (back gear) with endless aprons..... 400 00
Fifteen-horse Horizontal Mill, (back gear,) with endless aprons..... 600 00

☞ Round, Oval, Oblong and Square Kettles and Pans for furnace and for steam boiling; Furnace Doors, Grate Bars, Dampers, Skimming Dippers, &c.

☞ Pamphlets, containing printed diagrams and full descriptions of all of the above; also, an account of the most successful experiments of the past season, with the best general directions that can be deduced therefrom, and now in course of publication, and will be ready for gratuitous distribution by us after the first of March. Parties wishing them sent by mail, please inclose a three cent stamp. HEDGES, FREE & CO., Cincinnati, Ohio.

SCHOOLEY'S PATENT PRESERVATORY.

FOR PRESERVING MEATS, FRUITS, VEGETABLES, the products of the Farm and Dairy, and all perishable articles, WITHOUT DAMAGE from heat and moisture in SUMMER, OR COLD IN WINTER.

Invaluable for Farmers, Grocers, Butchers, Candle and Oil Makers, Hotels, Restaurant Keepers, AND IS THE BEST DAIRY OR MILK HOUSE IN THE WORLD

Milk can be kept sweet for weeks in Summer and Butter made with equal facility the entire season.

A MILK HOUSE on this plan can be kept at 40° the entire season, causing a perfect yield of cream, and the purest butter known.

For rights, plans, or estimates, apply to the undersigned.

H. C. Getty, at John Gobuey's, West Street, New-York, is acting in the City of New-York.

J. L. ALBERGER,
Buffalo, N. Y.

PIANOS! elegant 6¼ oct. rosewood Pianos new and perfect for $150; do. round corners $165; 7 oct. do. $185; do. inlaid with pearl and serpentine moldings, $210; warranted. Melodeons in proportion. J. M. EDNEY, 56 John-st. NY.

BURRALL'S NEW ADJUSTABLE MOWER AND REAPER.

It is known to the public that I have, for many years, been making improvements on various farm implements, and I may safely claim to have learned something from experience.

Ever since the exhibition of machines before the U. S. Agricultural Society at Syracuse, (it could not be called a trial, but more properly a race,) I have been busily engaged in re-modeling and perfecting my Mower; and to do this understandingly, I have carefully examined the construction and operation of all the best machines in the market. I have studied and compared their various parts and working qualities many of them excellent in some respects, but all deficient in others.

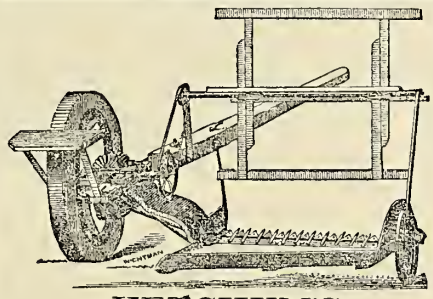
To produce a machine comprising all the requisites for perfect work, in the simplest form, has been my aim; and it is a true remark that the easiest way to do a thing well, is the last found out. I think the Mower now offered to the public an illustration of the fact, and will be found on trial

THE BEST IN THE WORLD,

unequaled in compactness, strength and effective power. It is all of iron is single geared, the draft very light, the cut perfect—guards strong and easily taken off for grinding and replaced in a few minutes. It works well on rough ground and discharges the grain in the rear or at the side; runs on a large caster wheel in front—has a loose pole and no bearing on the horses—it has a nicely adjusted counterpoise and balance wheel, and is thrown out of gear at pleasure. It has, in short all the best points of the best machines in use in the simplest form and in addition to these, one recent improvement, found in no other, by which the driver can raise the finger bar to its full height in an instant, for carrying a swath or travel on rough ground by a touch of his hand without leaving his seat or stopping his team! Nothing can surpass this beautiful movement, nor can its value be duly appreciated till seen in operation.

These Machines are thoroughly built, and Warranted in material and workmanship. Made and sold at Geneva, Ontario County, N. Y., (1858) by THOMAS D. BURRALL.

Contracts for building these Machines in the several States, reserving a premium on each, are offered for sale. Of all my numerous improvements on farm implements during the forty years in which I have been employed in making them, I deem this last my most valuable contribution to the farming interest.



KETCHUM'S

Combined Harvester for 1858,

Without any Frame, and with a Reel!

THE IMPROVEMENTS ON THIS CELEBRATED MACHINE for 1858, will render it the most desirable machine ever offered to the public. Among these improvements are the following:

1st—An expanding Reel, very simple, and ingeniously arranged so as to be readily attached, and is propelled by the main shaft.

2d—A new, strong and well-braced guard, which will not clog.

3d—An adjustable Roller with a lever, by which the driver, while in his seat, can elevate the finger-bar, and hold it in any desired position for transportation, to pass over obstructions, and to aid in backing or turning corners.

4th—A Roller in the outer shoe, on which the finger-bar rests, which obviates all side draft and very much lessens the direct draft.

The SIMPLE MOWERS have wrought-iron frames, with all of the other improvements except a Reel. With these improvements the draft of the KETCHUM Machine is as light as any machine known, and by the test with the Dynamometer at Syracuse, by the U. S. Ag. Society last July, the draft of the Reaper was more than one-quarter less than any other of the 13 Reapers on trial. This result is obtained by enlarging the main wheel for Reaping, which lessens the motion of the knives and the actual draft of the machine fully one-quarter.

The VERY BEST MATERIAL is used throughout, and no pains or money are spared to make the KETCHUM MACHINE what the farmer needs.

Sample machines can be seen at all the principal places, and persons are invited to examine them before buying any other—remembering that THE BEST IS ALWAYS THE CHEAPEST.

BUFFALO, N. Y., (near N. Y. Central Depot, on Chicago-st.,) April, 1858. } R. L. HOWARD.

HORSE Hoes—Carrot Weeders, Harrows, Seed Planters, and a general assortment of useful Farm Implements for sale at Agricultural Depot, No. 100 Murray St., N. Y. HENRY F. DIBBLEE.

PLOWS—A LARGE VARIETY OF ALL Sizes and Kinds. HARROWS—Field and Garden Rollers, Seed and Grain Drills—Wagons—Carts—Wheel Barrows—Forks Hoes, &c., &c., Horticultural Tools—Pruning Shears and Knives—Lawn Rakes and Scythes—Pruning Saws and Hooks, &c., &c. For Sale by R. L. ALLEN.
191 Water-St, New-York.

THRESHING MACHINES WITH FIXtures for hulling clover seed; also Mills for crushing the Chinese Sugar Cane. For Circular write to
W. W. DINGEE & CO. York, Pa.

BAKER'S ROTARY PLANER.—THE Cheapest and Best Planing Machine ever made. Six sizes. Prices $25 to 75. Address [for full information] H. H. BAKER. New-Market, New-Jersey.

THERMOMETERS, BAROMETERS, &c. of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by
D. EGGERT & SON, 239 Pearl-st

RUSSIA OR BASS MATS, selected expressly for budding and tying. GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by D. W. MANWARING, Importer.
248 Front-street, New-York.

FARM IMPLEMENTS OF MOST APproved patterns, made in best and most durable manner and at low prices. Our large assortment embraces almost every implement, tool or seed wanted by the Farmer, Planter or Gardener. For sale by R. L. ALLEN,
191 Water-st, New-York.

TO THE FARMERS HAY DEALERS, AND PLANTERS OF THE UNITED STATES—INGERSOLL'S IMPROVED PORTABLE HAY and COTTON PRESS, combines greater power and portability, requires less labor occupies less space, and costs less money than any other hand power machine for baling HAY OR COTTON ever offered to the public. It has recently been much improved, and is warranted to give satisfaction.

We have numerous letters from those who have seen and used these presses during the past season similar to the following from Wm. Thompson, Esq., South Londonderry, Vt., who writes Feb. 8, 1858 as follows:

GENTS: "I think your press, with the improvement you have made recently, will exceed anything of the kind yet got up, for it will press more in a day, with only two hands to work it, and do it easier, than any other press in New-England."

No. 1 Press—Weight of Bale 150 to 200 pounds.
No 2 Press— " " 250 to 300 "

Presses constantly on hand and other sizes and for other purposes made to order. For further information call or address the

FARMERS' MANUFACTURING CO.,
Greenpoint opposite New-York.

N. B.—The Brooklyn and Williamsburg City Cars run up to Greenpoint, and the New-York Dry Dock stages go to the Greenpoint Ferry.

Just the thing TO PLOW WITH.

HILDRETH'S IRON GANG PLOW

is one of the best things for plowing rapidly all kinds of land except "breaking up." Also for plowing in seed. A team goes over a large surface in a day. It is all iron, guides itself, cuts three furrows at a time, and does the work finely.

Farmers are invited to call and see one of these plows at 191 Water-Street, New-York City.

CHEVAL GUANO.

Manufactured under Letters Patent of September, 1856.

OFFICE,
NASSAU BANK BUILDING,
7 Beekman-street,
NEW-YORK.

MANUFACTORY, Barren Island. } { WAREHOUSES, Foot of 45th st., East River.

THIS PREPARATION, ONE OF THE most important discoveries of the age, is a highly nitrogenized Superphosphate of Lime, with Sulphate and Phosphate of Ammonia, Prepared Blood and Animal Fibre, being the most Concentrated Fertilizer yet offered to the Public.

It is adapted to every Soil, Climate and Crop. The advantages it holds over Peruvian Guano, and the various Artificial Manures that are in Market, is the fixed state of the Ammoniacal Salts, and the large quantity of nitrogenized matter, yielding Ammonia, all being in such a state as to come into action as it is required by the growing plant, and not wasted in the atmosphere, like the easily decomposed Guano or Superphosphate preparations mixed with Volatile Salts of Ammonia.

The proportion of Phosphate which this Fertilizer contains, is ample to supply the deficiency or absence of those necessary substances which are evidently withdrawn from the soil by the growth of vegetation.

In offering this valuable Fertilizer to the public, I would state that I have arranged for all the dead Animals, Blood and Offal of the city of New-York, which will secure to me a constant and ample supply of Animal matter from which, by my Patent Process I produce the Phosphates and Salts of Ammonia which form so valuable a part of this preparation.

The Manufacture of the Fertilizer being under the especial and immediate direction of a practical Chemist, and my facilities for obtaining the necessary amount, kind and quality of the materials, enables me to guarantee to the public a uniform and reliable article.

A Specimen of different lots were submitted for examination to Samuel W. Johnson, Professor of Analytical Chemistry of Yale College, New-Haven; W. Gibbs, Professor of the Free Academy, New-York; Lawrence Reid, Professor of Chemistry, and James R. Chilton, Esq., of New-York, gentlemen whose abilities are well known to the agricultural world. They pronounce it the best of all Fertilizers, and their analysis verifies that it contains an average of

8 per cent of pure Ammonia;
20 " Phosphate of Lime;
45 " Organic Matter

All applicants will meet with prompt attention, if addressed to JOHN A SCHWAGER, New-York.

N. B.—The above article may also be obtained at the Manufacturer's prices, of R. L. ALLEN, 191 Water street, and other Agricultural houses in New-York.

To Farmers and Gardeners.

THE LODI MANUFACTURING CO. offer 20,000 barrels of their new Improved Poudrette for sale the coming season. It is now well known as the best fertilizer in market for Indian Corn and kitchen gardens—is perfectly harmless when applied next to the plant, and yet quick and powerful in its effect. A pamphlet with instructions for its use, certificates, &c., will be forwarded, free of cost, to any person sending their address. The L. M. Co. have a capital of $100 000 invested in this business, and a reputation of 17 years to keep up—this is *some* guarantee for a good article. Price as usual, $1 50 per barrel for any quantity over 6 bbls.; 1 bbl. $2 00; 3 bbls $5 00; 6 bbls $9 50; free of cartage or other expense. Address

THE LODI MANUFACTURING CO.,
60 Cortlandt-st., New-York.

PURE PERUVIAN GUANO and other fertilizers, also a fine variety of Seeds for sale at Agricultural Depot, No. 100 Murray-st., N. Y. HENRY F. DIBBLEE.

PERUVIAN GUANO—BONE DUST—Superphosphate of Lime—Poudrette—Land Plaster—warranted of best quality. For Sale by R. L. ALLEN.
191 Water-St., New-York

FARMERS AND GARDENERS SENDing their P. O Address to us will receive by mail *gratis* an Almanac for 1858, and information concerning the CELEBRATED MANURES made by "The Lodi Manufacturing Co 60 Courtland St., New-York"

Contents for May, 1858.

Market Review, Weather Notes, &c.

American Agriculturist Office,
[New-York, April 24, 1858.

The Wholesale Produce Markets have exhibited some changes of more or less importance, during the month. The receipts of Breadstuffs have increased over those of the previous month, and the available supplies of Flour and Wheat have been, at least, equal to the requirements of buyers. Prices have fluctuated slightly; closing however, with a downward tendency. Corn and Oats have not been as plenty as they were needed, and they have advanced. The demand for Breadstuffs has been good for home use, and moderate for export. Canal navigation has not been fully resumed yet, and it is said the leading Canals cannot be opened for active business before April 26th. Meanwhile, the supplies of Produce awaiting purchasers at Buffalo are accumulating, and it is anticipated that the receipts at the seaboard will be largely increased in the course of three or four weeks from the time of the general resumption of Canal navigation....Cotton has been in fair request, at buoyant prices Our available supply is 62,710 bales, against 81,532 bales, same period last year. The receipts of all the shipping ports, to latest dates this season, have been 2,597,251 bales, against 2,706,414 bales to the corresponding period last season. The total exports from the United States so far this season have been 1,714,913 bales, against 1,764,912 bales to the same date last season. The total stock on hand and shipboard in all the shipping ports, at the latest dates, was 695,744 bales, against 473,975 bales at the same time last year. The stock in the interior towns, at the latest dates, was 98,139 bales, against 60,180 bales at the corresponding date a year ago. An active inquiry has prevailed for the leading kinds of Provisions, in part for future delivery, and prices have improved. ..Hay opened heavily and languidly, but it closes with renewed vigor....Hemp and Hops have been less freely offered and purchased at former rates....Grass seeds have been very quiet at our quotations below....Rice has been in good demand....Tobacco and Wool have been in moderate request at uniform rates....Rio Coffee has been very freely dealt in, chiefly towards the close, at full prices Teas have been in fair supply and demand, at unchanged figures. Sugars were plenty and heavy. Molasses was rather scarce and stiffly held, but was not active....Other articles of produce have presented no important variation from the previous month.

Current Wholesale Prices.

	March 26.	April 24.
Flour—Com'n to Extra State	$4 25 @ 4 60	$4 15 @ 4 50
Common to Fancy Western..	4 30 @ 4 55	4 15 @ 4 45
Extra Western..	4 35 @ 7 00	4 30 @ 7 00
Fancy to Extra Genesee....	4 35 @ 7 00	4 35 @ 6 50
Mixed to Extra Southern....	4 70 @ 8 25	4 55 @ 8 00
Rye Flour—Fine and Super.	3 00 @ 3 75	3 00 @ 3 60
Corn Meal....	3 00 @ 3 50	3 50 @ 4 00
Wheat—Canada White....	1 18 @ 1 35	1 15 @ 1 35
Western White....	1 18 @ 1 50	1 15 @ 1 45
Southern White....	1 25 @ 1 50	1 18 @ 1 43
All kinds of Red....	1 00 @ 1 23	98 @ 1 23
Corn—Yellow, new,....	66½@ 69	76 @ 77
White, new....	66 @ 68	74 @ 75
Oats—Western....	44 @ 46	49 @ 51
State....	42 @ 45	46 @ 49
Southern....	25 @ 35	38 @ 46
Rye....	68 @ 70	68 @ 70
Barley....	60 @ 70	60 @ 70
White Beans....	1 31¼@ 1 37½	1 31¼ @ 1 37½
Black-eyed Peas, per 2 bush..	3 12½@ 3 25	3 20 @ 3 25
Hay, in bales, per 100 lbs....	45 @ 65	50 @ 75
Cotton—Middlings, per lb....	11¾@ 12	12¾ @ 12⅝
Rice, per 100 lbs....	3 00 @ 4 00	3 25 @ 4 25
Hops, per lb....	4½@ 8½	5 @ 8
Pork—Mess, per bbl....	16 65 @16 70	18 10 @18 20
Prime per bbl....	13 50 @	15 00 @
Beef—Repacked Mess....	12 00 @13 50	1[illegible] 00 @14 00
Country mess	11 00 @11 00	10 25 @11 25
" prime....	7 00 @ 8 00	7 50 @ 0 25
Hogs, Dressed, per lb....	6¾@ 7¾	5¾@ 7
Lard, in bbls. per lb....	9⅞@ 10⅛	11⅜ @ 11⅞
Butter—Western, per lb....	14 @ 20	12 @ 20
State, per lb....	17 @ 24	18 @ 28
Cheese, per lb....	8 @ 10½	7 @ 9
Eggs—Fresh, per dozen....	14½@ 15	11 @ 12
Feathers, Live Geese per lb.	40 @ 45	40 @ 47
Seed—Clover, per lb....	7 @ 8½	7 @ 8
Timothy, per bushel....	2 00 @ 2 35	1 56 @ 2 25
Flax, Am. rough, per bush....	none selling	None selling
Sugar, Brown per lb....	5¾@ 7⅞	5⅞@ 7¾
Molasses, New-Orleans, prgl	31 @ 33	35 @ 36½
Coffee, Rio, per lb....	9½@ 11⅜	9⅝@ 11½
Tobacco—Kentucky, &c. pr lb	6 @ 17	6½@ 17
Seed Leaf per lb....	9 @ 35	9 @ 35
Wool—Domestic fleece, per lb.	27 @ 45	27 @ 45
Domestic, pulled, per lb....	20 @ 32	20 @ 32
Hemp—Undr'd Amer'n pr ton.	100 @110	100 @115
Dressed American, per ton....	140 @170	170 @185
Tallow, per lb....	10 @ 10¾	@ 10¼
Oil Cake, per ton....	36 00 @	36 @
Potatoes—Junes, per bbl....	2 50 @ 3 00	2 25 @ 2 50
Mercers, per bbl....	3 25 @ 4 00	2 25 @ 2 75
Peach Blow, per bbl....	3 50 @ 4 00	3 25 @ 3 50
Carters, per bbl....	3 50 @ 4 00	2 75 @ 3 00
Onions—Red, per bbl....	2 00 @ 2 25	1 50 @ 1 75
White and yellow, per bbl....	2 50 @ 4 00	1 75 @ 3 50
Apples—Russels, per bbl....	3 00 @ 3 50	3 00 @ 3 50
Spitzenburgs, per bbl....	5 00 @ 6 00	4 00 @ 5 00
Greenings, per bbl....	4 00 @ 4 50	3 00 @ 4 00
Turnips—Ruta bagas, per bbl	62 @ 75	40 @ 50
Poultry—Fowls, per lb....	10 @ 15	15 @ 17
Chickens, Spring, per pair....		75 @ 1 00
Ducks, per lb....	18 @ 21	18 @ 21
Turkeys, per lb....	13 @ 18	15 @ 18
Geese, per lb....	9 @ 11	9 @ 11

The total receipts and the total sales of Breadstuffs for 25 business days, ending with to-day, have been as follows:

	Receipts.	Sales.
Wheat-flour, bbls....	202,000	273,665
Wheat, bush....	56,250	323 950
Corn....	672,500	784,000
Rye....	35,000	61,100
Barley....	12 500	61,500
Oats....	56,150	

This statement affords the following comparison of the total receipts and sales in each of the last two months:

Receipts.	Flour.	Wheat.	Corn.	Rye.	Barley	Oats.
26 bus days last mon.,	90 124	20,707	662 340		2,531	63,756
25 bus. days this mon.,	202,000	56,250	672,500	35,000	12,500	56,150

Sales.	Flour.	Wheat.	Corn.	Rye.	Barley
26 business days last month	257,680	132,650	737,000	15,400	20,700
25 business days this month,	273,665	323,950	784 000	61,100	61,500

The following is a comparative statement of exports of the leading kinds of Breadstuffs from the port of New York, from Jan. 1, to April 19, both days included:

	1857.	1858
Wheat Flour, bbls.:	279,413	368,582
Rye Flour, bbls....	1,228	1 903
Corn Meal, bbls....	14,666	19,384
Wheat, bushels....	782,410	349,934
Corn, bushels....	1,324 719	1,062,627
Rye, bushels....	80,442	

Shipments from Milwaukee, this season, to April 12

Flour, bbls.....23,600 | Corn, bush.....10,000
Wheat, bush.....171,700 |

Shipments from Chicago, this season, to April 19.

Flour, bbls.....7,153 | Corn, bush.....184,157
Wheat, bush.....868,418 | Oats, bush.....35,132

Stock in store, at Chicago. April 19.

Flour, bbls.....70,000 | Rye, bush.....2,900
Wheat, bush.....1,154 800 | Barley, bush.....63,138
Corn, bush.....42,107 | Oats, bush.....120,175

N. Y. Live Stock Markets—Beeves—Receipts for four weeks ending April 21, were 11,562; differing but 150 from receipts for the same period last year. The average prices are, however, 3c. ℔ lb *less* now than then. Receipts and variations of prices were, for week ending March 31, (2,792) ¼ c. advance; April 7, (2,485) 1 c. advance; April 14 (3,105), ¼ c. lower; April 21 (3,180), ¼ c. lower, making an advance of ¼ c. @ 1 c. since our last report.—April 21, prices ranged on estimated net weight as follows: Premium cattle, 10¼c. @ 11c. ℔ lb; First quality, 10c @ 10¼c.; Medium, 9c. @ 9¾c.; Poor quality, 8c. @ 9c.; Average of all sales, 9c. @ 9¼c.

Sheep—Receipts have been even lighter than last month, or only 13,851 head for four weeks past. Prices have advanced to 5½c. @ 6c. ℔ lb, live weight, for good sheep, and 6½. @ 7c. for extra fat animals.

Hogs—Arrivals fair, and prices about as last month, or 5¼c @ 5⅜c. gross for corn-fed hogs, and 5¼c. @ 5½c. for still fed hogs.

The Weather.—Thus far the present Spring has been very favorable for fruit prospects, for grass and grain fields, and for preparing the ground and getting in crops. We have had frequent April showers, but no freezing, and farm and garden work have been performed almost continuously.—Our *daily notes* condensed read:—March 26, clear, mild and dusty; 27, clear A.M., cloudy P.M., light rain at night; 28, moderate rain; 29 to 31 clear and warm.—April 1 to 4, clear and fine growing weather. Farmers plowing, planting potatoes, sowing oats, &c.; 4, clear and pleasant; 5, showery; 6 and 7 clear and very warm; 8, cloudy; 9, thunder showers; 10, clear, pleasant; 11, light showers; 12, 13, heavy N. E. rain, filling cisterns, many of which had become empty during the dry Spring; 14, 15, clear and mild; 16, light rain; 17, clear and fine—peach trees beginning to bloom in the city yards; 18, 19, 20, N. E. rain; 21, cloudy A.M., clear P.M.; 22, clear and fine; 23, fog and light rain; 24 clear and fine.

Agricultural Editorial Convention.

We call the attention of our contemporaries to the circular on the third page of this paper (p151). So far as there has been opportunity for expression of opinion, the project appears to meet with general favor. It may be found impracticable to agree upon a *time* and *place* in season to secure a large attendance this year, but if even a small number get together at first, and break ground, we think good results will follow.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

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American Agriculturist in German.

Hereafter, beginning with the July number, the **AMERICAN AGRICULTURIST** will be published in both the English and German Languages. Both Editions will be of uniform size, and contain as nearly as possible the same Articles and Illustrations. The German Edition will be furnished at the same rates as the English. For Prospectus see page 192.

June.

"Good Lord! it is a gracious boon
For thought-crazed wight like me,
To smell again these Summer flowers,
Beneath this Summer tree!
To suck once more, in every breath,
Their little souls away,
And feed my fancy with fond dreams
Of youth's bright Summer day;
When rushing forth, like untamed colt,
The reckless truant boy
Wandered through green woods all day long,
A mighty heart of joy."

Every one comes to this beautiful month with a sensation of relief. To the citizen, pent up within brick walls, and driven with the cares of business, the Summer vacation is now in near prospect, when he may go forth to luxuriate in green meadows, to climb mountains and catch trout, to bathe in the surf and dream of sharks and man-eaters. He will soon bid adieu to blotters and ledgers, to omnibuses and cab-men, to croton-water and gas-light. He will taste the sweets of Nature in their unadulterated simplicity. He will seek the remotest haunts of rural life where people rise to meet the morning sun, and genuine starlight illumines all the streets. He will get away from this "everlasting whirl and bustle," read his morning papers, two days old, by the dim flare of a tallow candle, light himself to bed in the attic by the same, sleep in bounteous real goose feathers, and dream of purgatory. It will be—what all hearts crave—a change. He will leave behind many comforts, and many of the necessities of his artificial life in the city. But it is a mighty comfort to get away from comforts, sometimes; to miss your cup of Java, and be treated to burnt peas and ship-bread, in due proportions; to miss your hair-stuffed mattress, and swelter upon feathers and cotton sheets unbleached.

That majestic swell of the organ that so fills our souls with the spirit of devotion upon the Sabbath, might become as harsh and ear-breaking as the notes of the Italian music-grinder under our window, if it were kept up all the week. We get sick of dainties and crave something that is a little coarse and unsodden. The raw beef that was the rage among the ton in Paris, a while since, is only a natural outworking of this propensity. We do not always want beef "a la mode." We become disgusted with fixings, and cry out for food and raiment "*au naturel.*" No mode at all is much better than all the accomplishments M. Soyer can throw around a dinner.

Hence the annual hegira of our city population, who can afford it, to the rural retreats, to the "Springs" and to the "Falls," to the mountains and to the surf, to the coasts of Labrador, and to the head waters of the Missouri.

June also brings its sensation of relief to the cultivator of the soil, but there is much less, of the spirit of the untamed colt in him of which the poet speaks. Hard work and cares have subdued its friskiness, and he does not attempt to clear a seven rail fence, from the mere love of jumping, quite so often as the man fresh from town. His reputation for agility is well established, and he has no need to kick up his heels to prove that he has as much bone and muscle as his neighbor.

But the lord of the soil has his solicitudes and ennui as well as the citizen. The Spring rains and the cold easterly winds try his patience beyond measure. It did seem as if he would never get a chance to sow his oats, or plant his corn. The sheep looked thin, and he was fearful that he should lose half his lambs to be hung as a necklace upon his apple trees.

But June brings relief to many of his solicitudes. The seeds are sown, and are actually up; though he can hardly tell how they came up, it has been so cold and backward. Was there ever a season when this wretched climate of ours was not backward, in April and May? These two months seem to have been born with an extra amount of breeching. Their main office seems to be to hold back the advancing year. But June is a fast month, a true type of Young America. It is a great satisfaction to the farmer who has been broken off from his planting half the days in the week, to have clear skies and full swing to work. The corn is actually up, and not more than one kernel in ten has failed to come. The oats look well, the wheat and rye are promising; and the lambs and colts, whatever may be said of their owner, are frisky enough to suit the taste of the wildest uncaged youth of the city.

The season is fast coming to a crisis, and the farmer can already tell pretty nearly what its character will be. The hay crop is already determined, and with a few extra showers it would be more than an average. The wheat and rye crop are also within the range of calculation, and he has estimated the yield per acre. The yield of his herds and flocks are already before his eyes, and he has only the corn and potato crop to worry about, and to remind him that he has not yet reached Paradise.

Now, if ever, the husbandman can enjoy his labors; he has not yet reached the harvest, but is full of hope in regard to it. The pleasures of anticipation are his. He looks for a little better harvest than he ever gathered, and everything pushes along so rapidly now, that it warrants almost any prophecy concerning its future. The earth is in its greatest luxuriance, the forest has donned its Summer drapery and the meadows are fragrant with the blossoming grasses. The breath of June roses comes up to him from every garden, and a sweeter breath from the flowers and young olive plants that cluster around his table.

But let him not be too easy in his pleasing anticipations. We are never more liable "to count the chickens before they are hatched" than at this season. The hoed crops now demand constant attention. Cultivation is the great work of June, and we never come so near to being disciples of Jethro Tull, as when we see the luxuriance that follows the constant use of the hoe and the cultivator. Whether you believe in pulverization or not, keep these implements moving, early and late. A farmer cannot spend this whole month more profitably than in stirring the soil among the cultivated crops.

Frequent cultivation will bring all the elements of Nature to your aid, and make the most of the manure that you have worked into your soil. Hoe a row of cabbage plants every other morning, and another row only once a month, and you will see a marked difference, though the soil, manure, and treatment, are, in every other respect, alike. If the soil be not frequently stirred, the surface becomes crusted over. The rains do not run into it so readily, and the roots lose a large part of the benefit of the dews. The air cannot circulate beneath this crust with freedom, and the decomposition of the manures in the soil cannot go on so rapidly. The plant cannot sustain its highest vigor and take up that carbonic acid that is ever floating in the atmosphere and enters into the food of all plants so largely. They absorb it into their systems, and while the carbon is retained, they throw off the oxygen, and thus purify the air. The atmosphere is also charged with moisture, which is condensed by the cooler temperature of the earth at night-fall, and descends upon the soil. If this be fine and loose by recent stirring the moisture is absorbed at once, and is appropriated by the roots of plants. Cultivation is to the crops after they are up, what action is to oratory, the first thing, the second thing, and the last thing. Therefore, cultivate—hoe! *hoe!!* HOE!!! HOE!!!

Calendar of Operations for June 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 35° to 45°; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, later for the North, earlier for the South.]

EXPLANATIONS.—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus: *ff* or *mm* or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated; thus, work marked *fm* indicates that it is to be attended to from the first to the middle of the month.

FARM.

June is emphatically a growing month, both for vegetables and weeds. Plows, cultivators, horse and hand hoes will all be called into requisition now, to keep down weeds and loosen the soil about growing plants. Some late crops are yet to be put in and failures in the corn fields need replanting. No spot on the farm should lie waste. Plant or sow such spots with some soiling crop, put in buckwheat or turnips, anything rather than leave them idle to grow pestiferous weeds. We do not believe in the idea that soils need *rest*. A good *coating of manure, deep plowing, and clean tillage* are the best "rests" that exhausted lands can have.

Towards the latter part of the month the ringing of the scythe and the clatter of the mowing machine will be heard in the meadows, and hay-making will be the order of the day.

Barley *may* still be sown. ff, if omitted till now.

Beans—Plant, ff, any not already in, among corn or by themselves.

Bees send out most of their swarms in June. Watch them closely and have hives in readiness to place over them as soon as they settle in clusters. See Apiary and Wonders of the Bee-Hive, in the present number; also on "Clustering Bees."

Beets—Sow Sugar and Mangel-wurtzel, ff, for stock, unless all were put in last month.

Buckwheat—Sow, ll, or even first of July, that it may fill its kernels in the cool weather of Autumn.

Cabbages—Plow and hoe early ones, ff, m. Plant, m, l, among early potatoes and elsewhere for late use. Use tobacco dust, lime and ashes sprinkled over the plants to keep away insects.

Carrots—Hoe and thin early. Much after labor may be saved and a better crop secured by taking the carrot, turnip, and beet patch in hand before weeds get a start. Thin out liberally. Four to six inches apart in the row is near enough for carrots.

Corn—Replant, ff, where insects, crows or blackbirds have taken the seed. General planting may also be done now. Very good corn was raised last year from grounds planted as late as the 10th of June. Put in a good supply for Summer feeding of cattle. Plant at intervals of two weeks, ff, m, and l. Plow and hoe former plantings.

Fences—Do not tempt cattle with poor ones.

Grain Fields—Select a seed patch and go over it, f, m, removing cockle and other foul stuff.

Grass—Some fields will need cutting, m, ll, according to latitude. Begin early, especially if the weather is fine and you have no mowing machine. Have a quantity of hay caps in readiness for wet weather, and all of your tools and wagons or carts in order.

Hoes should be kept bright by constant use during most of this month. Get the most improved horse hoe and make horses do the work of many men. Push the hoeing, and weeding so as to be in readiness for hay and grain, now rapidly coming forward.

Manures—Dig out a portion of the muck swamp before haying, and have it dry for Fall use. Mix lime or ashes with the muck if convenient. Keep cattle yards covered with muck or loam and scrape up the fresh droppings each morning and mix with compost materials under cover.

Millet—Sow, ff, m, for soiling, and as a grass crop.

Onions—Hoe, weed, and thin early before the weeds get a start. Much after labor will thus be saved.

Pastures. See article on another page.

Peas—Sow late crops, ff, previously scalding to destroy bugs unless they have left the seed.

Potatoes—Keep free from weeds but do not use the plow among them after they commence blooming.

Poultry require little attention if running at large, save feeding a little grain and collecting eggs. Where it is necessary to confine them in buildings or yards it is always well to let them out for a short time about sundown. Keep roosts dusted with plaster, charcoal or muck, scraping up and barreling the contents frequently for guano. See article.

Pumpkins may yet be planted, ff, either among corn and potatoes or by themselves. We have raised splendid crops, by sticking the seeds with the thumb and finger, over the corn field after a second hoeing even.

Sheep were probably washed and perhaps sheared last month. If not wash, ff, and shear in about ten days afterward.

Sorghum—Drill in a quantity, f, m, for soiling purposes.

Stock of all Kinds—Seek to improve by saving the best calves, lambs, pigs, &c. Why not keep and raise cows that will give 24 quarts of milk per day and command $75 to $80 or even $100, any day rather than be at the same cost of keeping those which give 8 to 12, or 15 quarts of inferior milk per day, and which will scarcely bring $30 in market.

Swine—Where there is an orchard or small pasture accessible, hogs may properly have the range of it, but by all means keep them from the highways and dooryards. If shut up, give them weeds, turf, and other green stuff daily, keeping their pens and yards well supplied with manure absorbents.

Tanners' Bark—In hemlock and oak localities bark may be pealed, m, ll.

Tools for hay and grain cutting, should all be procured and put in working order, ff, m. With a large quantity of hay and grain to cut, a mowing machine will doubtless pay, besides securing it in better order.

Turnips—Sow, ll, or in next month. Read articles,

Weeds—Keep them down while small, if you would save heavy labor afterwards, and secure good crops.

ORCHARD AND NURSERY.

If properly cared for last month, the orchard needs little attention now, other than destroying insects, pinching in, and Summer pruning. Weeds and grass should also be kept from growing about the trunks, and fruit thinned out where it has set too thickly.

Hoeing will be the chief business in the nursery, assisted by the plow or horse cultivator.

Budding may be performed, ll, in some cases of early growth, particularly on plums, pears, and roses.

Budded Trees—Remove suckers, and tie up buds inserted last year. Where buds have become well established, and the new shoot is growing in an upright position, old stocks may be rounded off, ll.

Caterpillars—Destroy, ff, mm, any suffered to live till now.

Evergreens may still be transplanted with care, ff, watering and mulching.

Grafts—Examine and loosen any bandages cutting into newly grafted trees. Replace cement or grafting wax where it has pealed off. Rub off suckers.

Hoe nursery rows often, using the plow and horse hoe to lessen the labor.

Inarching—Commence, m, l.

Insects—Wage incessant war upon the insect tribe, now that the gun of the sportsman has destroyed or driven away your most efficient aids in the business, the small birds. Caterpillars, apple, and cherry worms, borers, &c., all want looking after. Those who wish to have abundance of good fruit must be at some expense in obtaining it. See articles in present number, illustrating pear, and cherry slugs.

Layer, ll, new growth of deciduous and evergreen trees.

Mulch, ff, newly planted trees, especially if the weather be dry.

Peach Trees—Cut back or pinch in this year's growth. The peach is largely benefitted by this heading back.

Pear and Plum Stocks—Budding may be commenced, ll, on those stocks which give indications of completing their growth early.

Plums—Cut away all appearances of black warts. Destroy the curculio by suspending a lantern among the branches at night with a dish of soapsuds underneath, by jarring the tree and catching the insects as they fall upon sheets, placing chicken coops under the trees, &c.

Shade tender seedlings of evergreens, magnolias, holly, &c., from the mid-day sun.

Stake newly planted trees unless they are so well furnished with low branches and a stalky trunk, as not to require it. We much prefer trees that do not need staking.

Summer Pinching, or Heading Back—Perform, m, l, especially upon peach and pear trees, to check a lengthy growth and form fruit spurs. See page 116 of the April *Agriculturist*.

Thinning Fruit—This should be done, m, l, upon trees which are heavily loaded. Better have a less quantity of really fine fruit, than a large amount of a small size and poorly ripened.

Water evergreens and other newly planted trees needing it, if the month proves dry.

Weeds—Keep down, both in nursery and about orchard trees.

KITCHEN AND FRUIT GARDEN.

With planting and transplanting late vegetables, thinning, hoeing and weeding early ones, harvesting strawberries and early cherries, the gardener will find very little idle time in June. Everything is now growing rapidly, and if weeds are not kept down at this season they greatly increase after labors, and diminish the prospect of a good cultivated crop. The first plantings of radishes, lettuce, spinach &c., are now ready for use or for marketing, while rhubarb and asparagus continue to yield a full supply. These, added to the early bed of strawberries and the plentiful yield of "greens" allow the market gardener to frequently send away for sale a load of his productions, and thus begin to reap the rewards of his toil. Crops were, or should have been so arranged that he may now send a load of something to market every few days until far into the Winter, or Spring even.

Asparagus—Keep beds well stirred and free from weeds. Cutting should be ommitted by the middle or latter part of June.

Beans—Early Kidneys, and Limas even, may still be planted, ff, m. See that runners are poled.

Beets—Sow the remaining Summer crop, ff, and, m, l, for Autumn and Winter use. Hoe, weed and *thin* early beds, using the young plants for "greens," for which they are excellent, "roots and all."

Blackberries—Stake up, ff, if not previously done. It is better to stake both these and raspberries before the new foliage comes out. Hoe carefully, to preserve the new shoots for a future crop.

Borecole, Brussels, Sprouts, Broccoli. Kale &c—Plant out for late crops, f, m.

Cabbage—Plant out, f, m, for Autumn use, and ll, for Winter. Examine former plantings and replace failures. Hoe early ones often. Search out and destroy cut-worms.

Capsicum—Plant out, ff, m.

Carrots may still be sown, ff, m. Earlier sowing is preferable, however. Hoe and thin those put in last month. On no account leave the patch until weeds hide all the carrots before putting hoes and weeders into it.

Cauliflowers—Plant and treat as cabbages. Early ones will soon be forming heads. Bend some of the leaves over to shade the heads from the sun.

Celery—Set plants for a general crop in trenches, m, l, watering and shading for a few days.

Corn—To keep up a good succession, plant sweet varieties, f, m, l, at intervals of ten or twelve days.

Cress—Sow, f, m, l, for a constant supply.

Cucumbers—Plant, ff, m, and even, l, for pickles. See the article on another page, "To repel Bugs from vines.'

Egg Plants—Set out, ff, for full crop, and, m, l, for late plants.

Fruit—Collect any now ripening, and thin overbearing trees or bushes.

Gooseberries—Keep well hoed, or better, mulch with salt hay, tan bark or saw-dust, which will prevent weeds from growing and keep the ground moist.

Grapes—Rub off superfluous shoots and pinch back bearing branches. Destroy caterpillars and other insects beginning to prey upon the vines.

Herbs—Cut and dry as fast as they come into full flower.

Hoeing is the important operation for June, and needs following up closely. It is almost rain and manure for the garden.

Insects—Allow them no peace in the vegetable or fruit garden. They have increased largely of late years and require persevering efforts to combat them. Bugs, borers, caterpillars, slugs, curculios, &c., all want looking after and meeting on their own ground. Read articles on pear and cherry slugs, currant bush borers, and on Repelling Bugs from vines on pages 179, 180 and 182.

Lettuce—Sow and plant out at intervals of a week, during the month.

Melons—Plant, ff, both Water and Nutmeg varieties.

Okra—Plant, ff.

Onions—Hoe, weed and thin, ff, m.

Parsneps—Weed and thin, f, m. Do not leave them too crowded.

Peas—Sow the best varieties you can get, f, m, l, at intervals of about ten days to keep up a constant supply. Bush when a few inches high.

Potatoes—Hoe and weed thoroughly. Plant late cabbages among early potatoes to occupy the ground after they are dug.

Radishes—Sow as lettuce, among and between other vegetables, ff, m.

Raspberries—If not already done, tie to stakes, ff, m. See illustration and article on page 182

Rhubarb is now yielding a full supply, and the Linnæus and Victoria varieties may be pulled during the entire month. The Linnæus variety continued good and was used by us last year up to the middle of September.

Spinach—Sow often, as lettuce. Early crops may now be cleared off and the ground appropriated to something else.

Squashes—Plant, ff. m. Protect from bugs as Cucumbers. See page 182.

Strawberries—Clean beds and straw or mulch with saw-dust, or tan-bark, ff. They will soon be in full bearing.

Thinning out both vegetables and fruit should be attended to early. Plants are usually left too crowded

Tomatoes—Plant out, ff, m. Hoe and bush or stake early ones.

Transplanting—Perform, ff, m, selecting cloudy or wet weather, or water and shade after the operation. Remove with the plants as much unbroken earth, and undisturbed root fibers as possible.

Turnips—Sow flat and early varieties, f, m, l, to keep up a succession. Sow rutabagas, &c., ll, for Autumn and Winter use. For White French Turnip, see page 134 May number.

Water plants recently set out, strawberry beds, if not ripening fruit, fruit trees, &c., if the month proves dry. From the wet state of the ground now, it does not appear that much watering would be necessary.

Weeds—Pull, hoe and root out with plow and cultivator. Give them no room in the vegetable garden—not one of them.

Winter Cherry (Physalis)—Set out plants, ff, m, treating as tomatoes. See page 149 May number. Plants nearer than one foot, transplant to new ground. Make the most of them, for you will want an abundance of fruit in Autumn and seed for yourself and neighbors next year.

FLOWER GARDEN AND LAWN.

At this, the blooming season, the Flower Garden is expected to make a fine show of a large number of the perennial and biennial plants. Most of the Green-House, and many of the Hot-House plants have been transferred to the open border and with their rich colors lend attractiveness to the grounds

Annuals—Many of the quick growing varieties, such as Asters, Balsams, Mignonette, Larkspur, &c., may still be sown, ff, m.

Bedding Plants—Complete putting out, ff, using verbenas, geraniums, petunias, pansies, daisies, &c.

Box Edging—Plant still, selecting a moist day, or watering and shading. Cuttings may also be made, f, m. Shear old box, selecting damp weather if possible, for the operation.

Bulbs are mainly out of bloom and those which are to be reset may be lifted and dried, m, l. If the bed was made last Fall they need not be changed this year.

Carnations, Pinks and Picotees—Shade the choice ones in bloom to prolong the season of flowering. Layer and pipe (make cuttings), m, l.

Climbers—Regulate, or train upon lattice work and trellises, f, m.

Dahlias—Plant out, ff, m, watering if needful. Stake up early shoots.

Evergreens may still be planted upon the lawn and in the borders, ff, m, watering and mulching. In exposed situations they may need confining to stakes to prevent their being swayed by the wind.

Flower Stalks—Cut away as fast as they are out of bloom. They have an unsightly appearance when left in the flower border.

Geraniums—Plant out, ff, m, either singly or in masses.

Gladiolus—Plant, ff, m. Stake, ll, those put out last month.

Grass Edging or Borders—Shear every few weeks leaving them smooth and even.

Gravel Walks—Keep free from grass, and weeds, raking and rolling frequently.

Hedges—Clip, m, l, rapid growing deciduous hedges.

Hoe often among and around plants to loosen the soil and induce moisture, as well as to keep down weeds.

House Plants—Bring out remaining ones intended for the open air and plant in borders, or arrange in a sheltered situation leaving them in pots. Water often.

Insects—Destroy Rose Slug as directed on page 149 of May *Agriculturist*. The same remedy will apply to the leaf hoppers (*Tettigonia Rosæ*). Caterpillars, green fly, rose bugs, &c., all need looking after.

Lawn—Mow and rake every two or three weeks. Keep grass from growing about the trunks of newly planted trees.

Oranges, Lemons, Oleanders and Myrtles—Plant out in the open borders, ff, m, or place out in their tubs.

Potted Plants will need frequent waterings unless turned out into the border. Shield from high winds.

Roses will be in the hight of bloom during this month, and show themselves in their true position of "queens of the flowers." The amateur has a just pride in his rich collection, showing a profusion of attractive colors and appealing equally strong to another sense by their sweet odors. See illustration and article on page 184. Read under insects above.

Stake flowers and shrubs requiring it.

Transplant, m, l, annuals sown last month, retaining earth about the roots if possible. Water and shade, unless a damp day is chosen.

Verbenas—Plant out, ff, m, singly, and in masses. They are a choice flowering plant, being in bloom most of the season. Set out a good supply of a variety of colors

Water plants retained in pots often, especially during dry weather. Evergreen and other shrubbery, with transplanted annuals require water unless it rains frequently

Weeds—Keep down, ff, mm, ll.

GREEN AND HOT HOUSE.

So many of the plants usually kept in these houses are now in the open air that we have included the care of the two in one calendar, neither requiring fire heat any longer. In extensive collections, the more tender plants are better managed in than out of the house, and on that account are still kept upon the shelves. They now require abundance of air and plenty of water. The upper ventilators should be kept open during fair weather. Opening both upper and lower would dry the atmosphere too rapidly. Measures should now be taken to increase the stock of Winter blooming plants; and many of the seedlings and cuttings, will need repotting. In carrying out and arranging pots in the open air, place them in a neat orderly manner, convenient of access. The situation should be so sheltered that the plants will not be blown about by high winds.

Azalias are now making a rapid growth and need abundance of water, and some pinching in.

Bud. m, l, oranges, lemons, citrons, shaddocks, &c.

Camellias do quite as well in the open border, to which they may be carried, ff. If retained on the shelves in the house, water and syringe often. Watch for and check the approach of insects.

Cuttings of Chrysanthemums, myrtles, hydrangeas, fuchsias, geraniums, &c., may he made and potted. f, m.

Fuchsias—Repot to make fine specimens for Winter blooming.

Geraniums are in full flower and require liberal waterings. Increase the stock by cuttings and layers.

German Stocks—Plant in borders, ff, m

Grapes—The early houses will now be ripening their fruit and the syringings overhead must be omitted. Some of the later crops need a further thinning. They all want abundance of air with a free circulation.

Insects are particularly troublesome at this season and require much care to forestall their depredations. Keep them in check now, unless you wish to be overrun with them in Autumn.

Layer and Inarch woody and other plants which do not root readily from cuttings.

Pines require abundance of air and less water as the fruit approaches its ripe state.

Potting—Continue, f, m, l, and provide a supply of prepared earth for extensive use next month.

Roses—Plant in borders, ff, any remaining in the houses. Syringe with oil soap to destroy slugs.

Seedlings—Transplant, ff, m, to borders or pots as after culture renders necessary.

Verbenas—Get up a stock for Winter blooming by layering, inserting cuttings, &c.

Water—Give as is needful. With small pots in a dry atmosphere, a little may be necessary both night and morning. Examine pots after heavy rains to see if the drainage is perfect.

THE APIARY IN JUNE.

BY M. QUINBY.

Any stock of bees failing to increase in number as it should, ought to be examined now for the cause. The most common difficulties are: Diseased brood, and want of queen. While examining the stock for worms, the presence of a queen can always be determined. There will usually be a few, and sometimes many immature bees found on the floor of the hive in the morning. One or more indicates her presence. When this is the case, some other cause for this thriftless state of things must be sought for. A thorough examination of the common hive can be effected only by the aid of smoke. Blow some under the hive, then turn it bottom up to admit light among the combs more smoke will drive the bees away from the brood. Pick the sealing off from some of the cells that appear the oldest—if any bees are of a dark color while they are in the larva state, the stock is diseased, and the bees should be at once transferred to a new hive, and the honey, if any, kept from the bees as much as possible. If there is no brood, there is probably no queen. If there are bees enough to protect the comb from worms a queen may be provided from some of the swarming hives. *Without bees to assist there is no possibility* of saving the contents of a hive from the moth. Empty combs are attacked very quickly in warm weather, after the bees are gone, or very much reduced. Whatever is saved must be secured in advance of them.

Whenever the bees of old stocks or new swarms are crowded outside during the yield of honey, whether before or after swarming, they should be furnished with surplus boxes without delay, which may be removed as fast as filled, and empty ones put in their places. No second or after swarms need be expected from a stock later than 18 days after the first—watching for them longer is unnecessary. A part of the stocks that stand close together, will lose their queens from fourteen to twenty days after the first swarm. It is indicated by the commotion of the bees the next morning after the loss. They should then receive a queen or queen cell from some other hive. A spare queen may be often obtained from an after swarm. A queen cell may usually be procured from a stock that has cast its first swarm within a week. To get the bees out of the way, operate as above with smoke—with a knife cut out, without bruising a cell, (for description, see fig. 9, page 41 of this volume—Feb. No.) and introduce it into the stock in its natural position. This is often the only means of saving the stock.

Continue the warfare with the moth-worm. Protect the hive from the sun in very hot weather.

Summer Fallows.

This branch of farm operations has antiquity in its favor. The Romans practiced it for a long period in their history, and in all parts of their dominions. The practice originated, probably, in the idea that land after several years' use, required absolute rest; and that it would thereby recruit its energies. Experience, too, doubtless showed that it was more productive after this season of rest; and hence it was supposed that the advantage was derived from the mere cessation of raising crops, and not—as the fact was and is—chiefly from the decay of vegetable matter growing wild upon it and from the absorption of nutritive gases from the atmosphere.

British husbandry makes great account of fallows. It practices "naked fallows" and "green fallows." Naked fallows means the plowing and cleaning of the land for one Summer without taking any crop from it. Green fallows means the growing of hoed crops on soil usually devoted to some kind of grain. The object of the latter is to clean the land, by hand and horse cultivation, and to bring it into fine tilth. In England, stiff soils and those which have become infested with weeds are most commonly treated to fallow. The land is thrown up into ridges in the Fall, so as to shed water quickly, and to get the benefit of the Winter frosts. In the Spring, it is cross-plowed, and during the Summer it is worked over as often as needful, to pulverize it well and eradicate all weeds. When the land has become full of couch grass, they practice "paring and burning." They have an implement called a breast-plow, with which they take off a few inches of the surface and throw it into heaps. This, on becoming dry, is mixed with rubbish and then burned or charred and afterwards scattered over the soil. This keeps the grass very much in check, and furnishes a rich top-dressing for the land. If the grass continues troublesome, the ground is broken up again and a "grubber" put into it, which brings the roots to the surface, from which they are then raked off and burned. This thorough work prepares the land for any crop.

In some of our Southern States, we see that the old Roman mode of Summer fallowing is still in vogue. Large fields we have observed, grown over with mulleins, thistles, and various other rank weeds, and scattering their seeds far and wide. Now, is not this land nearly as much exhausted by growing these immense crops of weeds, as it would have been, under good management, in growing regular crops? Consider, too, the injury sustained by allowing the soil to become so infested with weeds.

The common practice throughout the Northern Middle States is better, though even this may, perhaps, be improved upon a little. Many farmers plow their grass lands intended for wheat, in May or June, and let them lie until September, when they cross-plow, harrow and sow their grain. This course is generally pursued, without reference to the nature of the sod turned under. But is not this second plowing objectionable? Whatever gases are evolved by the decomposition of the grass should be left undisturbed, so as to fur

nish food for the young wheat; whereas, by this second plowing, they are brought to the surface and dissipated in the air. Then, again, all the roots of the grass are not killed in so short a time, and this second plowing lays them back in their original position, and they begin to grow again, very much to the injury of the wheat. Would it not be far better to use a set of light "gang-plows," which break up the surface sufficiently, without disturbing the inverted sod?

Again: might we not more generally adopt the English system of green fallows, so far as to take off some such crop as peas or beans, whose broad leaves, drawing most of their food from the air, would not exhaust the soil, and yet the cultivation of which would tend to clear the land of weeds and to bring it into fine tilth? Clover land, instead of being devoted to the usual Summer fallow, might be allowed to remain unplowed until nearly the time of sowing wheat. The sod then turned under, would afford a rich repast for the growing wheat. Sandy or loamy soils and those not infested with weeds, may often be treated in this way to great advantage.

Getting Rid of Rocks.

AN AMUSING EXAMPLE.

In our primary soils, where large rocks are imbedded firmly in the soil, and lie thickly on the ground, they are a great incumbrance to the cultivation of the land, and if to be got out of the way, are a great expense in their removal. Many of them are worked into stone fences, but as better stones for such purposes usually abound on the same premises, these huge rocks are little less than a nuisance, to be got rid of in some way—and that usually by blasting, picking up, and carrying away altogether, when they can be devoted to no useful purpose.

There is another way of getting rid of them, which we can best illustrate by a case in point. Some years ago a wealthy townsman bought a country-place, a rude farm, rather, having good capabilities for a fine residence, a few miles out of town, and went to work to improve it. In laying out his building grounds, a huge granite rock, of several feet in circumference, lay deeply imbedded in the light yellow loam where he purposed to have his lawn. That rock he must have out of the way, and as he had no tools to blast it with, he set to work with his half dozen laborers, and two or three yoke of oxen, to remove it. The owner "bossed" the work himself; but as he knew much more about merchandise than moving rocks, the work went on but badly. He ordered levers and handspikes; the laborers shoveled a hole on one side, to get the levers under the rock; they dug holes on the other side; and they dug holes on all sides; the chains were wrapped around it, and hooked, and the cattle whipped up and bawled at by the teamster, all to no purpose. The chains broke, the workmen gabbled, the teamster scolded, and the "boss" fumed and fretted. It was no go, decidedly, after toiling at the rock half a day. There it lay, heavy, sullen, immovable.

As they were about leaving for dinner, a lank, lounging Yankee came traveling along, with a stick over his shoulder, and a bundle tied in a cotton pocket handkerchief hanging on the end of it. Hearing the "muss" over in the field, he turned from the highway to the fence near where the men were at work, and took a look to see what they were about. The men had now scattered, leaving the owner of the premises still at the rock, where he quietly stood, apparently musing on the ill success of his morning's labor. Singing out to him, our Yankee exclaimed; "Say, neighbor, what ye dewin' on?"

Feeling exceedingly nettled, yet still willing to receive comfort from almost any quarter, he muttered, half angrily, yet somewhat coaxingly: "I've been working here all day with a lot of stupid fellows, and a couple of teams, to get out this rock, and here it lies just as fast as ever, and I believe I shall have to abandon it after all."

"Dew tell! I never!" said the Yankee, climbing over the fence, and approaching the proprietor—where he carefully laid down his bundle, containing probably the most of his spare wearing gear—"and what *dew* ye want to dew with it?"

"Nothing in the world but get it out of sight, some-way-or-other, so that I shall never see it again."

"Sartin? Never want to see the rock agin, so?"

"Yes, out of sight; that's all I care for."

"And heow much'll ye give, to put the pesky thing where ye wont see it agin—never?"

"Why, I've fooled away five dollars on it already; and I'll give five more to any one who'll do the job."

"Sartin?"

"Yes; *sartin*!"

"Well, throw in my dinner, for I'm plaguey hungry, and keep them pesky fellows out of the lot, and give me a good shovel and I'll dew it for ye this arternoon."

The bargain was struck, the Yankee given his dinner, and about one o'clock, p.m., he was seen, coat off and sleeves rolled up, of a pleasant day in the month of April, shovelling away like "all-possessed," in sinking a huge hole on one side, and partly under the rock aforesaid. The owner, of course, was not far away, directing his men about other labor which they prosecuted with more apparent success than at their morning's work. Long before sundown our Yankee sung out to his employer, and beckoned with his hand to come to the spot. He was there in a moment, and found a huge hole which would furnish a cellar for a moderate sized building.

"Say, mister; yew jest take hold o' that e'end of this 'ere pry, and bring it round *here*, while I throw round t'other e'end, so's to give the rock a jintle *tarve*, and I guess we'll fetch it."

So the "boss" now playing the workman, did as he was bidden, and the lever was laid so that when the Yankee had thrown out a few shovels full more of earth the stone was nicely balanced upon it, and a stout lift would throw it directly into the pit.

"But don't we want some help? Stay a minute, and I'll call my men to help you."

"Not a single head on 'em 'thout yew want 'em buried in that pit—the best possible use such an idolatrous set o'critters can be put tew! We'll do it ourselves."

So saying, our Yankee just eased the further end of his lever, while by his direction his employer, with a hand-spike on the other side of the rock, gave it a gentle lift, and over went the enormous boulder into the pit, with its upper side laying full two feet below the surface of the adjoining ground. Seizing again the shovel, before the sun was fairly set, the stone was covered in, and the surface leveled. Our Yankee rolled down his shirt sleeves, put on his coat, and gravely turned to his employer, remarked:

"Neow, Squire, that 'ere five dollars, if you're willin'? Fair bargain, ain't it? You'll never see that 'ere stone again, 'nless you dig for it."

"Certainly, here's your money; and if I had to pay you twenty it would be knowledge cheaply gained. I shall know what to do with the rocks on this place hereafter."

"Not with them pesky bog-trotters about ye! I guess this arternoon's work 'll set me on about another hundred mile to'rd the West, and I'll be joggin.' So, good night, Squire."

And away trudged our hero toward the far West, and to competence, leaving our newly instructed farmer to vex and fret himself with his workmen as occasion might offer.

Sinking is the best method to dispose of moveable rocks when not wanted for other purposes. We have, indeed, seen stone wall inclosures six feet thick at bottom, two feet at top, and six feet high—for no other purpose, apparently, than to get rid of the stones which lay imbedded, or loose about the fields. Land of course must be valuable at the extravagant cost as the removal of such quantities of stones require, and it can only be done in the vicinity of a dense population where agricultural products are in demand at high prices. Our whole sea coast for many miles back, north and east of New-York, with few exceptions, presents a rock-bound surface; yet the soil is usually warm, dry, and productive, when once cleared, and with good cultivation will yield remunerating crops. Our seaboard, too, along that territory is populous, and remarkably available for commercial and manufacturing purposes; and the time is not far distant when almost every desirable position will be brought under cultivation, and devoted either to the residences of wealthy people in retirement, or to the current agricultural demands of the populous towns and cities lying on the bays and rivers, and railways.

Within our own recollection, sterile, rock-bound farms, which were considered comparatively worthless, are now converted into productive and beautiful estates, paying remunerating interest on their cost; and so it will be with thousands of others, as in England; population, wealth, and luxury availing itself of everything near at hand which can, by a fair expenditure of money, be made serviceable to the enjoyment, the comfort, or the pleasure of human-kind.

Small Stones in Ditches.

To the Editor of the American Agriculturist:

Some agricultural writers recommend filling drains with small stones without any water-duct beneath. I have seen practical farmers following these directions. To satisfy myself of the utility of this practice I filled up the end of an open drain the past Winter with small stones raked from gravel that had been spread upon a meadow. They were from the size of a hen's egg to that of a man's fist, and were raked quite clean. According to the theory, they ought to pass water readily. About a rod was thus filled in. I have carefully observed the condition of the water above and below the stones, immediately after heavy rains, and at times when no rain has fallen for several days. The water is from three to six inches higher above than below the stones; showing that a drain thus filled must always keep the water line several inches nearer the surface than it would be with a free duct.

Of course if the drain had been filled the whole length, instead of a rod near the mouth, the case would have been much worse. The passage of the water is hindered by its friction against the surfaces of so many stones, and by the filtration of dirt from the sides of the ditch.

I am persuaded from this experiment, that it always pays to make a *duct* of some kind at the bottom of a drain. The labor is but a little increased, for after the channel is covered with flat stones, the small stones may be tipped from the

cart directly into the ditch. With a passage-way beneath, the small stones perform an excellent office in making a larger passage for the water in time of heavy rains, and in furnishing the roots of plants with air and moisture in dry times. If the filling in with small stones retains the water in only three inches of the soil, at the bottom of the drain, the farmer loses a part of his labor. There is so much dead, inert sub-soil over the whole area of his field that would be available if the drainage were properly performed. I would advise to use small stones only *over* drains and not *in* them. *Connecticut.*

The Mowing Machine Discussion.

A BIT OF A CHALLENGE.

To the Editor of the American Agriculturist.

Being a subscriber to the *American Agriculturist* (through the Chester County Agricultural Society) I see communications in the Feb. and March numbers over the signature of "H. L." who appears to be very much interested in some particular mowing machine other than the *Prize Mower*, and its *half-brother*. Why does he not come right out and let us know who he is? I will just inform him that I have both the *Prize Machine* and its *half-brother*, and if he thinks he has a machine that will beat either, in any respect, all he has to do is to come to Chester Co. near West Chester, and I will be ready to give him a trial, in any kind of grass—and let the farmers be the judges; we have some of the tall grass in Chester Co.—and heavy too. I will mow with him in *lodged clover* as well as in *straight Timothy*. EDGE T. COPE.

East Bradford, Chester Co., Pa.

[If H. L., or any other correspondent, prefers to discuss the merits of a public trial without proclaiming their own personality, there can be no objection to the course. It certainly argues well for the fairness of H. L's criticisms that neither Mr. Cope nor any one else, so far as we have heard, is able to judge from his articles *what* machine he is interested in—if he be interested in any one. In order that what he might say should appear in connection with Mr. Cope's letter we forwarded him a proof of the above, and received what follows. —ED.]

To the Editor of the American Agriculturist.

In reply to Mr. Cope's proposition, I will briefly say, that as announced in my articles, I am an amateur in this matter, and cannot personally enter the lists, but I will, with great pleasure, find a friend to meet Mr. Cope on the following conditions:

1. At any nearly half-way ground he may choose between my residence and his; or, if more convenient to him, in the immediate vicinity of Albany or New-York cities. Such place to have wet meadow (fresh or salt) as well as dry, with pure clover growing on some of them, and mixed grasses on others, so as to be able to give the machines a fair test. I to have two weeks notice through yourself, and the trial to come off during the month of July.

2. He to select five acres of different kinds of grass and on different kinds of ground, and my friend to do the same; and these different lots to be divided as equally as possible between them for the performance of the respective machines.

3. Whichever machine is judged to do its work best—with the greatest ease to the team and driver, with the least injury and wear to the machine, with the fewest stoppages and least extraneous assistance—to be declared the victor.

4. The time allotted for cutting the grass to be at the rate of one-hour-and-a-quarter per acre.

5. Each party to bring two judges with him, and if they cannot agree, they shall then select a fifth from among the spectators of the trial to act as umpire.

6. Whichever party is beaten, to pay all his own expenses and those of the victorious party—the same not to be over $300. The latter sum to be deposited with yourself in advance, to be forfeited to one party in case the other should infringe on any one or more of these conditions.

7. My friend will select one of the following machines which received *no* prize at the Syracuse Trial; viz., Ketchums, Allen's or Burrall's, as he may think proper. H. L.

Syracuse, May 19th, 1858.

Do Potatoes mix in the Hill?

One would suppose that this question had been settled long ago; yet it continues to be asked. We repeat, therefore, that they do not and *cannot* mix in the hill. Why not? Because it is an invariable law of nature that one variety cannot be crossed with another except through the flower and fruit. All plants of the same family can be hybridized with each other, if they blossom at the same time. This crossing often takes place naturally, i. e., without the use of any artificial means. The wind often blows the pollen from the stamens of one plant-flower upon the pistils of another, and an intermixture ensues. This is also done by bees and insects, and it may be done by the hand of man. Potatoes can be "mixed" in this way. But remember that the mixing does not take place between the tubers under ground, but in the blossoms and subsequent seed balls on the top of the plant. Plant two kinds of potatoes in adjoining rows, and if they blossom at the same time, the pollen of one flower will undoubtedly be carried to the pistils of another. In the Fall, save the seedballs and plant them and your potatoes will be a "mixed" variety. But if you continue to plant the tuber (the potato itself,) you will get no change of variety.

It is in this way that corn, melons, cucumbers and squashes become mixed with other varieties. The hybridization goes on through the flowers, and appears in the seed, and not in the root.

Potato Experiments with Sundry Fertilizers.

John Perene, of Montville Ct. sends an account of five experiments last season in which he planted the "Silver Lake, or Mercer potatoes" on five plots of ground, 24 feet square, manuring in the hill with different fertilizers—6 lbs. of the several manures to each plot.

No. 1 with Coe's superphosphate yielded 49 lbs.
2 with De Burg's.....37 "
3 with Peruvian Guano.....29 "
4 with broken bones.....23 "
5 with no manure.....20 "

The vines in No. 3 were green after the others were dead, and previous to digging he had decided in favor of the guano, but was disappointed at the final result. Such experiments are seldom satisfactory, at least until they are continued through a number of years. The very next season, on another soil, the results are likely to differ materially. The manures manufactured under the same name are seldom uniform in successive years. The guano may have been too much condensed in the hill. The bones, if merely broken, would produce very little effect, while if *finely* ground they would perhaps have excelled all the other manures. Coe's superphosphate when made of dissolved *unburned* bones, was doubtless good, and for aught we know it may yet be made thus. A succession of experiments like the above would, in the course of years, impart valuable information—if the manures should continue uniform.

Root Crops for Stock—The positive Side.

To the Editor of the American Agriculturist:

Your correspondent, L. F. A., is quite certain that roots will not do for stock. If I had a four year old steer that would consume eight bushels of roots in one day, or even four bushels, I would drive him off my farm, as not worth keeping. Mr. L. F. A., says he was determined to give his animal a fair trial. I think he did try him at *swallowing*, but not as to flesh and tallow.

This story puts me in mind of a four year old Durham bull I once knew, that ate a barrel of Indian meal in one night. The owner thought him lost, but by running him in the street he got clear of the meal after a while. I presume Mr. L. F. A., had to do the same with his steer to save his life. The barrel of meal did the bull no good, nor would the eight bushels of roots do the steer any good.

Flesh and fat are what we want to make good beef, which takes time to put on. Among several others I may note one yoke of oxen which I put to stall feed, and noted particularly how I fed them, and how much. I commenced in October, after they had worked on the farm all Summer, and kept them up three months. I gave them one bushel of rutabaga turnips each, daily, about one peck of oats in the straw, each, and as much good hay as they would eat. I gave them some potatoes to slightly scour them, and no water. I put five inches in girth on them, and the beef was covered with fat and well mixed.

Large quantities of roots should not be given to stock at a time. The weather and size of the cattle should also be taken into account. It is better to feed them in warm weather and during the warm part of the day. I think 1½ bushels of roots is as much as should be given to a seven feet girth ox, with a few potatoes if he dont scour enough, and 1½ peck of oats, or half the quantity of Indian meal. I know but little about theory in agriculture, but claim to know experimentally and practically, about farming in our section.

U. D. WITHERSPOON.

Butter Island, Me., April 23, 1858.

"Poke Root" for Garget in Cows.

To the Editor of the American Agriculturist:

I saw in the May number of the *Agriculturist*, a request from J. & K., of Mason Co., Ill., for a remedy for what you, I think justly, called garget in the udder of his cow. I had a cow affected like his for some length of time, until I read in an agricultural work that garget or poke root, (*Phytolacca decandra*,) put in the dewlap, the same as a rowel, would effect a cure. We accordingly tried it about one year ago, and found immediate relief. We made an incision in one side of the dewlap a little forward of the breast bone, sufficiently large to put in a piece of root of the size of a man's finger, and half as long, then inserted a couple of stitches and in a short time the dewlap commenced to swell, and the swelling in the udder began to subside. Since that time we have had no trouble with her. I. G. D. B.

Coxsackie, N. Y., May 12, 1858.

Hen-Manure.

More than one correspondent has lately asked: How shall I prepare hen-manure for use, what crops does it most benefit, and how and when should it be applied? To which we reply: Have on hand a lot of old barrels, and shovel the hen-manure into them, mixing it as you go, with twice its bulk of loam, muck or sand. It is an excellent plan to scatter fresh dirt or plaster under the hen roosts every few days. This compost thoroughly mixed together, may be applied by the single handful to every hill of corn. Forty bushels of the mixture will thoroughly manure an acre. It may be applied not only to corn, but also to cucumbers, melons, squashes, grape-vines, and indeed to everything growing in a garden. It is quite as active a fertilizer as Peruvian guano.

Poultry Raising is Profitable....II.

To the Editor of the American Agriculturist.

In a former number the question is asked "Will Poultry Pay?" Here is an answer: A few fowls well taken care of will pay as your "Connecticut Yankee," has shown by figures. My account for last year ran as follows:

	Dr.
To cash for 7 Fowls (Jan. 1857)	$1.75
To cash for Feed during year	$6 86
Whole cost	$8.61
	Cr.
To Jan. 1858. By 67 dozen Eggs	$12.56
Market value of 34 chickens used	8.50
Market value of 33 Fowls on hand	8.25
Total	$29 31
Deduct cost	8.61
Leaves a net Profit of	$20.70

My old hens stopped laying about the first of November, and shortly after I killed four, leaving only two old hens on hand. On the 8th of December, my early Spring chickens commenced laying, as was proved by my gathering from 3 to 6 eggs a day through the month of December. My 34 fowls eaten have thus paid me near 30 cents per pound for the privilege of eating them. In this city (one of the great grain markets), wet grain and all kinds of feed can be had very cheap, which reduces the expense.

Oswego, N. Y. YOUR CITY FOWL.

Ashes and Plaster for Corn.

We only remind farmers, of what most of them know already, that if they wish to help forward their corn crop, they would do well to apply, at the first and second hoeings, a handful for each hill, of plaster and ashes. Mix them at the rate of one part plaster to five of ashes. The effect of this application will be most conspicuous on dry, sandy soils; but it will not be invisible anywhere. Don't forget to give your Chinese Sugar Cane the benefit of this treatment.

A Carrot Hoe.

Dr. Gill, of Dutchess Co., N. Y., writes: As weeding carrots is the great drawback to their cultivation, I'll give you a description of a hoe I had made which nearly does away with the hand-weeding. I removed the blade of a common small sized push, or "scuffle hoe" and cut out of an old saw a blade turned up the side. This turned up piece acts like a coulter, and you can run it within half an inch of the plants without disturbing them. Use it as soon as you can see the plants, and your hand weeding is almost nothing. Try it!

Agricultural Schools—Morrill's Land Bill.

Though frequently and strongly urged to do so, we have not seen our way clear to give the warm support of this Journal to the Bill before Congress, introduced by the Hon. Justin S. Morrill, of Vt, which proposes to donate portions of the public lands to the several States and Territories, for the support of Agricultural Colleges. This Bill has already passed the House of Representatives, and is now before the Senate for consideration, and may pass that house before this reaches the reader. That such a scheme might and should be beneficial to agriculture, we have not the slightest doubt, but *would* it he, has been the question with us. If we are guided by what has transpired hitherto, in the attempts made by the General Government to aid the cause of agricultural improvement, we shall have little hopes of any benefit to be derived from the passage of such a Bill.

All this, however, is based upon the idea that if the lands were not thus donated to agricultural colleges, they would be *sold* for the benefit of the general treasury, and thus lessen the direct or rather indirect tax upon the people. But as the lands are now going, one million of acres to this enterprize (private speculation), two millions to that one, five millions to another, and so on, we confess ourselves, at last, to be decidedly in favor of the proposed donation in favor of agricultural schools. Some good may come out of it, we will hope much; but still we warn farmers themselves that in case the lands are granted, unless they take the matter in their own hands at home, the proceeds will mostly go to build asylums for broken down politicians, or to the beneficiaries of political parties, and that the, so called, agricultural colleges to be erected, will be nurseries of scientific nonsense, and promotive of more injury than benefit to real improvement in practical agriculture.

But without saying more now on this topic, we present below some extracts from a minority report of the Congressional Committee on Public Lands, for the purpose of giving a synopsis of what has already been done in reference to agricultural schools both in this country and in Europe. The minority report was drawn up and signed by the Hon. D. S. Walbridge, of Mich., and concurred in by Hon. Henry Bennett, of N. Y. The length of these extracts and our crowded columns make it necessary to use small type:

* * * About one-half of the entire free male population of the United States over fifteen years of age, according to the census of 1850, are directly engaged in the cultivation of the earth, and a large proportion of the balance are indirectly so employed; yet this large part of our population are notoriously less instructed in those branches of scientific knowledge directly connected with the proper and economical managment of their own pursuits than any other class of citizens in their peculiar occupations.

The undersigned is unwilling to believe that the cultivators of the soil are as a class, naturally less intelligent or less able with the same facilities to acquire knowledge than others, and of necessity must attribute their lack of scientific and practical information to the want of the opportunity of obtaining it.

The establishment of schools and colleges for the instruction of youth in scientific and practical agriculture, although of comparatively recent origin, and as yet but little more than commenced in this country, is not an experiment. Such schools and other institutions of a high grade have been established by most of the European governments, and their utility and importance fully vindicated.

In Russia the subject of agricultural education is committed to the charge of the minister of public domains, who through his subordinate officers has the supervision of the whole matter. Eight colleges of a high order are established in the Empire, possessing 28,220 acres of land, an endowment of $37,000 each, and an annual support from the government of $11,250 each. In 1849, they contained an aggregate of 706 students; more than fifty minor schools and model farms are established in various special schools for instruction in some special branch of agriculture, as flax culture, &c., &c.

The government encourages by liberal appropriations of the public funds the Imperial Independent Society of Rural Economy, which is charged with the duty of publishing reports, periodicals, and other works on agricultural subjects. This society also sends agents over the empire and abroad in search of scientific and practical information, to be again disseminated by the society through its publications.

In Prussia, agricultural education is perhaps most thoroughly incorporated with their public administration.

Prussia has five agricultural colleges of a high order, twenty-eight elementary colleges of a lower grade, and fifty-seven special schools for instruction in particular branches of culture. There are seventy-two model and experimental farms in the kingdom. In these schools and colleges are taught the various systems of husbandry, farm management, book-keeping, cultivation of arable and grass lands, horticultural and agricultural technology, mechanics, natural philosophy, botany, mineralogy, a knowledge of soils, agricultural chemistry, veterinary surgery, breeding, raising and management of animals, and in fact every branch of education necessary to the intelligent agriculturist.

These efforts, made by the governments of Russia and Prussia, in behalf of agricultural education, are claimed by those governments, and admitted by all who have witnessed their operations, to be a great success.

In France, in 1848, agriculture was embraced as a system by a general law comprehending the whole Empire. Provision was made by that law for the establishment of agricultural schools in each of the departments. A higher order of colleges was established in districts, each containing several departments, and the National Agronomic Institute was established at Versailles. The whole system is subordinated to the appropriate ministry. The number of such colleges and schools in France now exceeds one hundred, and the beneficial results of agricultural knowledge obtained at them is said to be entirely satisfactory.

In all, or nearly all the German States, more or less encouragement is given by the governments to the establishment of agricultural schools, and the general dissemination of scientific and practical knowledge among the people, with, it is believed, satisfactory results.

Spain, Portugal, and Turkey, it is believed ignore the subject quite as much as the government of the United States.

Agricultural schools are established in various parts of England and Scotland, but are principally supported by private enterprise and charges for tuition; but in Ireland the government of Great Britain contributes liberally to the support of such schools, and its effect is seen in the increased productions of the island, and the comparative content and improved intelligence of the people.

These efforts on the part of the governments of the Old World, to improve and elevate the condition and intelligence of the toiling millions, stimulated by the pervading spirit of the age, have turned the attention of the people of our own country to the subject of a more comprehensive and perfect system of agricultural education, and in a few instances the State legislatures, being nearest to, and first partaking of the popular impulse, have made partial provision for carrying out their wishes.

The State of Michigan has a constitutional provision requiring her legislature to establish an agricultural college, in obedience to which the legislature of that State, in 1855, made an appropriation of fifty-six thousand dollars for that object, with which a tract of land of near seven hundred acres was purchased, and buildings erected. In 1857, the legislature made a further appropriation of forty thousand dollars for the use of the institution, and in May following, the first class of students was received. The college is under the supervision of the State Board of Education, and the faculty consists of a president and five professors. At present there are one hundred students in attendance. The design of the institution is to receive the student direct from the common schools of the State, and give such a thorough English and scientific education as will render him an intelligent citizen, an accomplished farmer, and qualified to discharge any duty his country may require at his hands. Mathematics, agricultural chemistry, the natural sciences, the application of science to the industrial arts, veterinary practice, horticulture, and indeed all such studies as are usually taught in such institutions, and can be embraced in a four years' course, will be pursued. Labor is inseparably associated with study, and physical is combined with mental education in the institution, and it is one of its objects to make the cultivation of the soil instructive, varied, interesting, and attractive, as well as profitable. The trial has been successful, and the expectations of its founders, the faculty, and students have been realised as far as so limited a test will allow.

The Farmers' High School of Pennsylvania, was incorporated in 1855. The design is similar to that of the Agri-

cultural College of Michigan. It is located near Bellefonte, Centre Co. Its resources consist of $5,000, a legacy of the late Elliot Cresson, $10,000 subscribed by the citizens of Centre Co., $10,000 appropriated by the State Agricultural Society. The legislature have appropriated $25,000 absolutely, and $25,000 on condition that further subscriptions to an equal amount shall be obtained. A building is in process of erection which will accommodate three hundred students. The present intention of the trustees is to open the institution within the current year with sixty to seventy students....The faculty will consist of a president, with four or five professors. The experimental farm consists of four hundred acres, two hundred of which is the noble gift of one of Pennsylvania's noble sons—Gen. James Irvin, of Centre Co.—and two hundred sold by him conditionally, the institution being obliged to pay interest only upon the fixed valuation. The whole farm, except about sixty acres, is under cultivation.

The Agricultural College of the State of New York is located at Ovid, between Seneca and Cayuga lakes, and on the banks of the former. The farm consists of 686 acres. The resources of the institution are $40,000 loaned by the State. A college building is in process of erection, which will accommodate 350 students, capable of being enlarged to contain five hundred. The design, plan, and course of study will be essentially the same as those of the other institutions named. It will be under the control of a board of trustees.

The People's College of the State of New York was chartered in 1854, and is located at Havana, Schuyler Co. It would seem, from the perusal of a pamphlet issued to the public from the institution, that it is the intention of its managers to give instruction in agriculture and the mechanic arts, in connexion with a regular literary, or in such one or more branches of knowledge as the students may prefer. Connected with this institution is a farm of two hundred acres on which the college buildings are being erected, and on which it is contemplated to erect buildings for carrying on various mechanical operations, in which, or on the farm, students may, in their discretion, labor a portion of their time; thus acquiring a practical knowledge of the particular branch of business they propose to follow, while contributing largely, or perhaps wholly, to their own support and tuition while acquiring an education. The institution is to be controlled by a board of directors, with a president and competent number of professors.

In Maryland $50,000 has been subscribed by public spirited individuals for the establishment of an agricultural college. The State has appropriated $6,000 per annum for its perpetual support. Proposals are issued for the purchase of a suitable farm The institution is to be managed by a board of trustees chosen by the stock holders.

The details relative to management, course of studies, &c., not yet determined upon.

Massachusetts, in 1850, authorized a board of commissioners to report a plan for the establishment of agricultural schools. Professor Hitchcock, one of the commissioners, made an elaborate report relative to agricultural Colleges in Europe, and the board recommended a plan to the legislature, but no further action was ever taken upon the subject.

In Tennessee, Franklin College, near Nashville, was organized in 1854, with the design of making it an agricultural college, uniting culture of the soil with intellectual training. Physical labor was made optional with the student. That feature was finally abandoned; and the institution is now converted into a classical college.

The Union Agricultural Society of Virginia and North Carolina have established an experimental farm near Petersburg, at a cost of $30,000 which is now in operation under a practical overseer. An application to the legislature of Virginia for the endowment of an agricultural institute in connection with the farm failed of success.

In Mississippi a State agricultural bureau has been established by recent enactment.

The State of Ohio has established a State board of Agriculture, the object of which seems to be to collect agricultural statistics, but to what extent or with what especial object the undersigned is unable to learn.

Connected with a classical institution at College Hill, near Cincinnati, is a scientific department and experimental farm, where are taught various branches of learning directly connected with horticultural and agricultural pursuits.

In Georgia there is an agricultural professorship connected with the University of that State, with an endowment of $20,000, a donation of one of her public spirited citizens, where the sciences directly connected with agricultural pursuits are taught in regular courses of lectures, with, as the undersigned is informed, much advantage to the agricultural interests of that State.

Scientific schools and agricultural professorships have been established in connexion with very many of the universities and colleges of the country to, in some degree, satisfy the irresistible craving and demand of the age for more thorough and practical instruction in the arts and sciences that bear directly upon the industrial occupations of men. * * *

From the census of 1850, we learn that the entire free male population of the United States, over fifteen years of age, was 5,371,876. Of this number, 2,389, 013 are returned as farmers and planters, while in the professions of law, medicine and divinity, 94,515 are employed. To educate these 94,515 men for the *learned* professions, 234 colleges are established, endowed by many millions of dollars, and two milions of dollars are actually expended every year in the education of 27,000 students. * * *

The Weather.

May has had its usual prevalence of cold, sour, easterly weather, and to all people of short memories, has seemed the most wet and nasty of all Mays upon record. But, fortunately, there are records of the weather. Kindred spirits with the philosopher of Brooklyn Heights make note of the passing changes, and hand down to posterity the tables. The blossoming of peach, cherry, and apple trees is put down in many an almanac in the farmer's home. Frequently the apple has not bloomed until the 25th of May, and occasionally not until June 1st, in this latitude. The season is rather more than an average for its earliness. It has been wet during the month. But it should not he forgotten, that Mav of 1857 had twenty-one dark, cloudy days, with more or less of rain. Many seeds have probably rotted, and the usual amount of objurgation has been bestowed upon the worms on that account. It is not yet too late to plant many of the field and garden seeds a second time. Cucumbers, melons, squashes, and sweet corn make nearly all their growth after June 1st. It is still in ample season to plant corn and potatoes in the field. Replant in all cases where there has been a failure.

The Late Planting of Corn.

No farmer should despair of a good crop, whose seed is not yet in the hill. Corn fails to come up from poor seed, and from too early planting, oftener than from all other causes combined. In places north of this latitude, June 1st is as good as any earlier date. One of the premium corn growers of Connecticut plants uniformly June 6th, or as near that date as possible He never fails to grow a good crop, and at much less cost than the market price per bushel.

Hay Caps.

These articles we wish to keep before the people. We are persuaded from our own experience and observation, that no small investment, in tools to work with, will pay better than hay caps. Hay cured in the cock is much better than that overdried in the sun. With these articles on hand, the farmer is master of his circumstances, and can throw the old adage, "Make hay while the sun shines," to the winds. At least, he can stop making it before the juice is all evaporated, and can put his hay into cock, without fear of rain, to finish the curing process in the best manner. A single shower will often damage a ton of half-dried hay, four or five dollars. The hay-caps, to save it, would not cost much more. They are almost certain to pay for themselves every season they are used, and in some wet seasons they will save several times their cost, They can be got up for from twenty to forty cents apiece, according to size and quality. For an ordinary cock, weighing about a hundred pounds, a cap one yard and a-half square is plenty large enough. It is well, however, to have a few of two yards square, for extra sized cocks, for the tops of stacks, and for shocks of grain which are not put up to stand the weather. The objections to hay caps are generally made by persons who do not understand the use of them. They are best put on with loops at the corners, and pins; and with a little experience in handling, the ordinary force upon a farm in haying time will be able to secure a morning's mowing against all showers that give any notice of their coming. It is very little work to make them, they need no painting, and they do *protect* the hay. Get them in season that you may not have to suffer the upbraidings of conscience, when you find yourself caught with six tons of hay down, all wet and mouldering, for want of a few dollars' worth of cotton cloth, which is now sold at an unusually low price.

White French Turnips—Prince Albert and Black Mercer Potatoes.

To the Editor of the American Agriculturist:

I am glad to see by the May number of the *Agriculturist* that you have secured some of the Long White French Turnip seed, and offer it for distribution among your subscribers as a premium. This is a hardy variety, a late keeper, and approaches the Ruta-baga in size and shape. As for flavor, either raw or cooked, I never tasted of any other sort equal to it. No member of my family likes boiled turnip, but on my asking each one of them to try this, the other day at dinner, they found it so rich and sweet in taste, that all ate heartily of it, and voted it must henceforth be one of the dishes of our table. I only regret these luscious turnips are not to be had now in our market. The above is my experience; how others will find it I cannot say—for we know that all root-crops vary much in flavor, dependant something on the season, the soil, and the manure. For example, take potatoes of the same variety, and as near alike as possible, and plant some on a dry limestone or gravelly soil, without manure, and the others on a rich, moist loam, or on land highly manured from the barn-yard, or with sea-weed, or any rich, putrescent fertilizer, and the crop on the dry soil without manure will be far superior in flavor and mealiness to those grown under the other circumstances mentioned

While on the subject of potatoes, allow me to say that in respect to the *Prince Alberts*, I disagree entirely in opinion with your correspondent, Mr. Stephens, page 100, of your April number. This potato requires a *warm* season to ripen well in this climate, and further North, and then it is one of the very best varieties within my knowledge. Last season, it is well known, was very *late* and *cold*—all of a fortnight later than usual. Then the Summer was not only unusually cool, but quite wet. Hence, some of those grown last year have got the reputation, according to Mr. S., of "boiling wet and soggy." It was the *season*, the *soil*, or the *manure* which was in *fault*, depend upon it, and *not the potato.*

Of all the varieties of potato I have had on my table, I prefer the *Black Mercer.* It is the best keeper, and the most nutritious and mealy. I have had them as late as the fore-part of July, and even then preferable to the new *Bermuda, Norfolk*, or any early sort grown in this neighborhood. The only objection to it is, shy bearing. But it is not in the nature of things to produce so large a crop of dry, mealy potatoes from a given area of land, as of the coarser fiber, and more watery kinds, like, for example, the *Red Merino* the *Rohan*, and others I could mention.

A. B. Allen.

New-York, May 6th, 1858.

The Long White French Turnip.

After our notice of this, last month, we received further samples of the turnips, which we submitted to several parties for trial, and they all unite in calling it the best they have ever tasted. See preceding page. The proprietor of one of our city hotels intends to raise a large crop for his own table. Several correspondents from different parts of the country write that they have received seed from Rhode-Island friends hitherto, and have found this turnip all that we have represented it to be, and more; and they express gratification that we are bringing it before the country. One subscriber in Ohio, says: "if the *Agriculturist*, during its whole existence, accomplished nothing more than to introduce this turnip generally, it would be well for the country that it had existed." This is speaking in stronger terms than we can endorse, though we hope much for it. The seed can be sown at any time from the middle of June to the first of August—better not till July, for a main crop. A plot of one-eighth of an acre, will give a fair chance for trial, and furnish a supply of excellent table turnips for all of next Winter and Spring, besides some for feeding stock. We have had numerous requests that we should sell the seed, but we have none to part with in that way. What we have will be given out in premiums for new subscribers, of which the particulars are noticed elsewhere under business notices. (Extra Premium No. 4). It will be easy to secure one, two, three, or more ounces *free of cost*, by simply securing that number of subscribers for either the English or German editions. An ounce will plant fully an-eighth of an acre, with careful sowing.

Critique Upon the Farm Building Articles.

To the Editor of the American Agriculturist:

I have read with interest the article in your March number giving a model for a "laborer's cottage." Most persons of ordinary common sense will agree with what is said about useless ornament, useless breaks, and ziz-zag roofs which invite leaks, &c., and in condemnation of the many pretentious, foolish, frail, inconvenient and expensive structures which have been "perked up" all over the country. Perhaps it would be well to inquire how much of the fault justly found with them, should really be laid at the door of the architects, and how much with persons who have dispensed with an architect altogether, or if they have employed one have departed from his plans, or hampered him with instructions which have only hindered him and resulted to the injury of his employers; or whether those who have employed architects, have taken the trouble to discover whether their architect has really been one who had a right to that title, or an ignorant pretender who has appropriated it. What your article hints at is certainly true, that many an excellent carpenter and mason has been spoiled, to make a bad architect. The only way in this free country to have beautiful things is for each one to study for himself what is beautiful in Nature and in Art. Then those who have occasion for the services of an artist will know how to distinguish between the false one and the true; will know bad work from good; bad ornament from good; will know that good ornament if misplaced, becomes offensive; and will appreciate the beauty which lies in simple lines, and in the fitness of things. The series of articles, therefore, now coming out in your valuable paper, it is to be hoped will, by their boldness and force, do much toward bringing about such a result.

But while most of your readers will approve of what is said in the particular article in question, to advocate simplicity, and to dispel the vulgar error that ornament is necessary to make a structure pleasing, yet I think that at the same time all must admit that the cottage given as a model is not pleasing. Now, since beauty is not incompatible with simplicity or convenience, could you not give us a cottage which will be just as cheap and just as convenient, and yet more pleasing in its appearance? Almost all of us are sensitive to a pleasing or a disagreeable *result*, though we cannot all analyze our feelings and tell just what it is which affects us, or why it gives us, as the case may be, pleasure or annoyance. I may not be able to tell *why* each of the following points in the model has a disagreeable effect, neither is it to be expected that those who have given the points no previous thought, will all find the same special faults that I do, though they may all agree in thinking the whole ugly.

These objections are not based upon the appearance of the model only as shown in the engraving, but upon the result of observations of thousands of similar cottages scattered all over the country.

1. Almost every one must have noticed how peculiarly ugly is the very common arrangement which is adopted for the model of a main building with the eaves to the road, and a lean-to behind. A lady who has a large property in a neighborhood where they are especially plentiful, calls them "the thorn in the side." They always have a mean, pretentious, best-foot-foremost look, standing like a slatternly woman with her dirty hands—of which she is half ashamed—behind her. There are two old-fashioned arrangements of the lean-to, both quainter, cosier, and equally convenient.

2. I have always noticed when a cottage or an unpretending farm-house has the door on one side, instead of facing on the public road, that it has a pleasanter and more complete-in-itself sort of look. They can still have the windows in front through which the good wife is able to see the "passing" while she is at work.

3. The chimney in the model is too small and too short. I am no advocate of fancy chimney-pots, tops, shafts &c.; but we all like comfort and everything generous that suggests it.

4. The use of extending the lean-to beyond the rest of the house is not apparent, and presents a peculiarly distasteful specimen of "broken lines and ziz-zag angles."

5. As the porch has no seats and scarcely room for any, it seems a rather useless appendage for such a humble cottage; besides, it is too high and too narrow. Would it cost much more to make it pleasant to sit in, and pleasant to look at?

6. The lean-to must be very dark. The only window is put just where it can give least light.

7. Everybody must have noticed how annoying it is to see a window stuck in one corner of a house, and no window, nor anything else in the other corner to balance it. Sometimes this cannot be helped, but almost always, by a little forethought, it can. It can in this instance, and without more expense; for by putting the bed-room behind (where it had better be, otherwise people could look in the front window and see the occupants dressing themselves), and the buttery and stairs in front, the front window can remain where it is, and the one window in the side of the house be placed in the centre, under the ridge instead of in the corner.

8. Would it not be well if that shelf-like look of eaves could be avoided? And is it intentional, or the fault of the engraving, that the house appears to be set close down on the public road?

In conclusion, as others besides myself take an interest in the subject, will you not be good enough to mention in your next number, where we can find the log cabins in architectural works? And also please to describe a log cabin, as usually made by choppers, and oblige

AN ATTENTIVE READER.

REMARKS.

Our correspondent is a little hypercritical in the above strictures upon our "laborer's cottage;" but they shall be briefly noticed with all due respect to his (or her?) taste, as differing from our own. In the first place, the engraving *is* a bad one, and not a true copy of the drawing we sent to the engraver,* but we were obliged to use that, or postpone the article for another month or two. The drawing did not give that "shelf-like" appearance to the roof, which in reality combs over the front and gables, giving the cottage a cosy, hospitable look. As to the internal arrangement, it may be altered to the builder's taste or convenience, there being nothing arbitrary in that; and windows may be inserted at pleasure, either in number or position. We gave the sketch as *suggestive*, mainly, intending more to lay down a *principle* of construction in the class of cheap cottages, than to dictate a particular plan of accommodation.

As to some other alterations suggested by our correspondent, we only answer that our tastes, both in convenience and utility, differ. It is a "laborer's cottage," simply, and only a hundred and fifty, or two hundred dollar affair, at that. The porch is but a *hint*, and may be omitted altogether, or stretched along the whole front as a verandah, which last, as a thing of taste and appearance, we would prefer, as giving the structure a more finished and complete look. The chimney is but a vent for the smoke of a single stove-pipe—therefore, why so large and high as our correspondent demands?

Build that cottage *back from the highway*, not on it, according to our *description*—not the *cut*; throw a verandah along the entire front, with a few climbing plants spreading their shade along its columns, and the thing would look pleasant. Our own built and inhabited model does so, even without the porch. We might enter into a labored argument with our correspondent, moved thereto by his, or her suggestions, but this is not the place for it.

In answer to the inquiry, "Where are the log cabins in architectural works?" we say, page 116 in Vaux's Villa and Cottage Architecture, with four pages of Essay in connection. We have seen "log cabins" in another work or two of the kind, not now recollected. We have "carried up" many "a corner" of these log cabins in our early frontier life, lived in them for years, and know somewhat of their appertainings. We may describe one another day.—ED.

*Let us say, once for all, that in this entire series of "Farm Buildings," the engravings are entirely unsatisfactory—more so, on the whole, than anything else we have had to do with in this line. They have in each case been returned too late for new cuts to be made. The first one criticised above, was received from the writer but a few hours before going to press, and of course was hastily cut. The remaining ones were given out to new parties who had executed some good work previously, but with this experience we shall be compelled to return to our long-time engravers, who have seldom disappointed us in the character of their work.—*Publishing Editor.*

Farm Buildings....IV.

A WORKSHOP, CARRIAGE-HOUSE, AND STABLE.

We do not know that we can better dispose of these three indispensable appendages to a well-conditioned farm establishment, than to throw them together in one combined structure, within convenient distance of the chief dwelling house. Our elevation and ground plan are both easily understood, and simple in arrangement.

The main building is 40 feet long, 24 feet wide, and the posts 14 feet high. A lean-to stable is added, 24x14 feet, with 8-feet posts on the outer side, and a shed roof with slope of six feet, or a trifle less than a quarter pitch—that of the main building being one-third in slope. On the left is a workshop, 16x24, with a front door and two side windows. A flight of stairs is near the further inner corner, leading to the timber-loft above. A joiner's work-bench may stand on the side between the windows. Here may also be the tool-chest, and racks, and pins on the walls to hang the larger tools, and various things put in for safe keeping. Over head is a lumber-room, with a door-window hung on butts or hinges, to take in lumber, and a glass window in the gable to light it. A door leads from the shop into the waggon or carriage-room, 24 feet square, entered by two large double doors. Two windows light the room, in the rear, and a flight of steps lead to the hay-loft above. A harness-room and feed-bin may be put up in the opposite or left hand corner, if required, and the affair is complete. This, and the workshop rooms are 9 feet between joints, leaving a hay-loft over the carriage-room, of 4 feet upright on the sides, and the whole pitch of the roof above, with a couple of blind-doors to receive in the hay and straw.

The stable, by an error, as laid down in the the plan, is 16 feet wide, but in reality should be only 14, that being wide enough for common use, with either horses or cows. A loft is over it to store the straw for bedding. A window on one side, as shown in the drawing, and another at the further end, not seen in the cut, give it sufficient light, and serve also to let out the manure and litter It contains two double stalls of 8 feet each, and a single one of 4 feet, besides a side passage of 4 feet from the carriage-room. A line of mangers with rack above is in front, occupying 2 feet. We give no plan of racks and mangers, as they are exceedingly simple in construction, and almost every one has his peculiar fancy in arranging them.

It will be seen that we have thrown the broad, or hanging roof over the building as usual, the eaves projecting 2 or 2½ feet over the walls. The stable roof in front comes out on a line with that of the main building, and running up immediately under it the effect is not incongruous. This plan, indeed, is almost an exact copy of a building of our own, which we planned, for like uses; and we are so well satisfied with its arrangement, throughout, that we would not alter it.

COST.

This will depend altogether on the manner in which it is built and finished. It may cost $300 or $600, built of rough boards, or planed—with plain cornices, as in the cut, or with brackets, as in our best farm-house appendages. The expense and particular manner of the building, in labor and material, depend so much on the taste and means of the proprietor, that we need not go into it, supposing him to have sense enough to regulate that matter.

In the color of all these outer buildings, where washed or painted, we prefer a light, *Quaker* drab. with the *body* of the paint chiefly white lead. Any

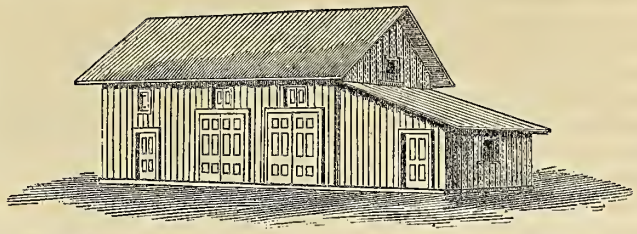


Fig. 10.—CARRIAGE HOUSE, STABLE AND WORKSHOP—ELEVATION.

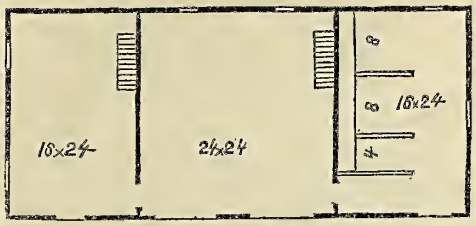


Fig. 11—FLOOR PLAN.

good painter knows the proper ingredients. That color is strong, durable, and agreable to the eye, and comports well with the natural hue of surrounding rural objects. We may, perhaps, as well say here as anywhere, that all farm outer buildings should have a cheerful, light color, instead of the dark and dingy shades which modern innovators and fancy architects have so freely introduced. We are not in favor of a clear white, as too glaring, but a subdued, neutral color—neither yellow, red, dark brown, nor sooty.

A small ventilator may be thrown into the roof, as in the carriage-house of the dwelling, if desirable, but in a building of this kind it is more of an ornamental appendage than absolute utility.

It may be objected against putting the stable on as a lean-to appendage, but it is advantageous so to do, instead of its forming a part of the upright building. The floors and sills being more or less damp, from the continual droppings and stale of the animals kept in it, are liable to decay, and must be replaced, which is more easily done in a lean-to than otherwise. Besides, the lean-to appendage gives the building a snug, comfortable look that rather adds to the homelike appearance of the place—an expression, as we think, more in character with the farm than buildings wholly upright in all their proportions.

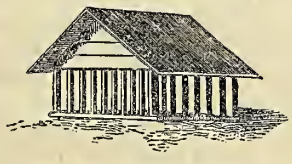


Fig. 12—TURKEY COOP.

Fig. 13—HEN COOP.

These coops are to confine the mothers, and chickens when young. The turkey coop is 3 or 4 feet wide, and 6 or 8 feet long, as may be chosen, and three feet high from the sill to the eaves; the gable boarded up, and a broad roof thrown over the whole.

The hen coop is 4 feet long, and 2 feet wide, and two feet high at the peak of the roof, which is of boards, lengthwise, from top to bottom, and slats nailed perpendicularly, or crosswise, at option.

It is not necessary to describe these further. being so simple that any one can understand them. They are moveable, and may be made in the very roughest manner, and small wooden troughs or earthen, tin, or iron dishes set down to feed in.

We have used these kinds of coops many years, and find them, altogether, the most convenient and economical of any. When not in use, they can be piled away in the waggon-house, or laid up, one over the other, next a fence—the cheapest possible good contrivance one can have of the kind.

The hen coops are the best things for a goose to sit under, during the season of incubation, as she is secure from disturbance, and by raising the coop daily, a few inches, she can pass out freely to her food and exercise; and when again on her nest, it can be shut down. Where several geese are sitting at a time, such an arrangement is by far the best, preventing mistakes in getting into into each other's nests, and quarreling, which, otherwise, they would be apt to do.

Tim Bunker on Curing a Horse Pond.

MR. EDITOR.—Your readers have already heard something about Jake Frink, and how he took the Premium on carrots over me at the Hookertown Fair. Perhaps they would like to hear something about a horse-pond that Jake used to own, about half way between my house and his. It was full a quarter of a mile from his house, but as it was the nearest water that Nature had provided, it had always been used to water Jake's horses and cattle, when they were not in the pasture. It lay by the road side at the foot of a gentle hill, and the water for all the wet part of the year flowed off over the adjoining lot, making it a sort of quagmire, except in times of drouth. An animal would mire in any part of the lot up to its knees. It never occurred to him, that he could bring water into his yard at a little expense, and save this daily journey of his cattle to the pond. He never thought how much manure was wasted along the road, and what a nuisance his cattle became to his neighbors, as they were often turned into the road, to get water, and to take care of themselves. He never thought, that the horse-pond spoiled two acres of the best land on his farm, and that it cost him at least twenty dollars a year to keep up this watering place. The quagmire did not pay him the interest on twenty dollars a year. It ought to have paid him ten per cent. on two hundred.

The horse-pond I did not care anything about, but Jake's cattle, geese, and pigs, always drawn up my way by this water, were a perpetual torment to me and to my neighbors. I thought I had a right to abate the nuisance. So I hailed neighbor Frink one day, last Fall, about selling the two-acre lot near the horse-pond. It was before the Fair, for since my remarks about stimulating the carrot crop with *horse manure* he has been rather offish. Ever since I put down the tile drain in my garden I have formed a great idea of curing wet land, and I thought this piece of sour, unprofitable pasture might easily be turned into a productive meadow.

Says I "Mr, Frink. What will you take for that bit of swamp land at the foot of the hill?"

"It is worth about twenty dollars an acre, I suppose. You hold a note against me for about what the land would come to. Give me the note. and I will give you a deed."

"That is rather a hard bargain, neighbor, the land does not pay you the interest on half that sum. But as I want the land, I will take it."

The deed was given, and I took possession last November. We had a wonderful mild Fall and Winter, and I went right to work upon the land The old broken down wall by the road side tha

had always been an eyesore to me, I immediately dropped into a four foot ditch, making a covered sulvert of the stone. There was fall enough to take all the water clean from the bottom of the ditch, and carry it off at the lower side of the adjoining lot. I cut four ditches at right angles to the ditch by the road side, and put in tile at the bottom. The depth, to which they were laid, varied from three to four feet, as the surface was not exactly even. I had no sooner cut the main drain than the horse-pond all run away, leaving the bottom at least two feet above the water line in the adjoining drain. The change in the looks of the land this Spring is astonishing even to myself. Here, where cattle have always mired as they went out to crop the first grass of May, there is now a firm foothold. I have already plowed the most of it and have put in a crop of early potatoes. The drains are just thirty feet apart, and the tile at the lower end constantly discharge water, and will probably continue to do so, until mid-Summer.

But my astonishment was nothing compared to Jake Frink's, when he came along and saw his horse-pond entirely evaporated.

"My goodness, Squire Bunker, what does this mean? What am I going to do for a place to water my cattle in?"

"Hold, neighbor Frink. Did you sell me this piece of land?"

"I did."

"Did I promise you that I would not improve it?"

"No you did not, but who'd have thought, that you was going to knock a hole in the bottom of my horse-pond in this style?"

"Water will run down hill, neighbor Frink, and I can't help it. The same law, that enables me to drain this swamp, will bring water from the hillside right into your yard and house. You then can save all your manure just as I do, and your cattle will not have the trouble of going after water in the cold of Winter, and you will not have the trouble of scouring all Hookertown, to look them up. Your cattle will no longer be a nuisance, and you will save yourself a world of fretting and scolding. I have really done you a kindness in drying up this pond hole. But as you may not look upon it in that light, I will give you the muck that lies in the bottom, at least a hundred cords of the wash of the roads, and the droppings of your cattle for the last twenty years. It is better manure, to day, than a great deal that you cart out of your yard."

Mr. Frink, took my remarks in dudgeon at the time, and hardly spoke to me for a month. But this Spring the lead pipe was laid, and he has now as good a watering trough, fed with living water, as any of his neighbors. The muck, too, is not despised, for as I write, I see Jake's cart, well loaded, going up to the yard where muck has hitherto been a great stranger. In short, I have strong hopes of making something out of Jake yet, though he cheated me out of the Premium. But whatever may be true of his reform, the horse-pond is thoroughly cured, and if you will come up here on the glorious Fourth, to help us celebrate, I will show you as handsome a piece of potatoes as ever grew out of doors.

Yours to Command,

TIMOTHY BUNKER, Esq.

Hookertown, May 15, 1858.

Well done for Squire Bunker. There is no need for further evidence that the *Agriculturist* is doing a good work Just turn back and read Mr. Bunker's letters two years ago, and see what improvement *he* has made. Who would have thought it? Then he was a cautious, conservative farmer afraid of "book farming;" but being inveigled into taking the *Agriculturist*, he has, under our tuition, become not only an apt scholar, practicing what he learns, but he is now quite a missionary in his own neighborhood, shedding abundant light and truth, by his example at least. Good speed to Squire B., and to many others like him, all over the country.—ED.

Wonders of the Bee Hive....XII.*

SWARMING.

One of the most curious things we have to tell about the bee, is the process by which families or stocks of bees are multiplied. It would be a problem difficult of solution for one ignorant of the mode. Here is a family consisting of one mother, and her offspring; the former living several years, while the common bees are short-lived. She cannot bear the presence of rivals in her hive; her own departure would occasion great commotion; she is utterly unable to go out alone and lay the foundation of a new colony; and ten thousand bees without her would not be able to produce any brood or keep their number good. And against any scheme of colonizing is the strong instinct that brings the foraging bees directly back to the old hive, and the persistence with which they cling to their stores of honey and their brood comb.

But God has given them other instincts which come into operation at the right moment, and make a certain number perfectly willing to abandon their home and fellow-workers, never more to return. Early in the Summer, perhaps about the time some of our readers receive this number of the *Agriculturist*, the hives begin to be uncomfortably full of inmates, and preparations are made for swarming. Royal cells are constructed like those described on page 41 of this volume, and the occupants are nicely cared for. This is for the benefit of those to be left in the hive, for the mother-bee is herself going to emigrate with a large number of workers and drones. Perhaps scouts are sent out before hand to see if quarters can be secured in the neighborhood for a term of years; such at least is the opinion of eminent naturalists. At length, on a pleasant day, and usually not far from mid-day, the occupants of the hive are all found to be in great commotion; some of them are filling their bags with honey, and others are loitering around, like people in the streets of a city when a regiment of soldiers is expected to come along. By and and bye with a great rush and whirl they pour out of the hive, as if the house was on fire, and fly off in a cloud, and settling down in a cluster on the branch of an apple tree, they speedily come to order and consult as to the next step. After remaining there an hour or two, if not taken care of, they will perhaps start off in a bee-line for their new home, which may be miles distant. While clustered on the tree, they may be handled without injury, as their abundant supply of food makes them docile, and if then provided with a home they may accept the offer of hospitality and forego their own plans. Sometimes, instead of pausing at all, or hovering around in circles, they dart away at once in the direction of their new home. Sometimes also in an apiary they are glad to take possession of an empty hive, if one stands ready for them, and if it is well stored with comb, it is all the better, and more attractive. In some places, the attempt has been made to arrest the flight of swarms by the ringing of bells, the beating of tin kettles, and similar noises; but this probably has no effect upon them, and the custom may have arisen at first in villages where the discovery of a swarm in motion was announced by bells, that the owners might look to it and be able to identify their own bees.

The swarm of bees going out in this way is able to maintain itself. The workers are provided with food for several days, and can at once begin the manufacture of comb; and as soon as the new cells are made, the mother-bee is ready to lay eggs in them, and prepare for an increase of the population. On the other hand, those that are left behind, have abundant store of honey and of comb; the brood in the cells are maturing every day, and from the royal cells, they may be sure of at least one queen, to take the place of the one that left. Should two of these come to maturity, however, there must either be a duel between them, or one of them must go off with a second swarm, giving way to her rival, and still further reducing the strength of the stock.

It is supposed that those who have gone from the hive in this natural fever, lose entirely the instinct which had before impelled them to return to the old home, and readily adapt themselves to their new hive, whether it is placed two feet or two miles from the old stand.

We leave the subject for the present, with this perhaps the greatest of wonders. It is to the bees as if Queen Victoria, with a portion of her subjects and as much treasure as could be caught up hastily in their hands, should some day leave their homes, their gardens, their palaces, their all, and take ship for Australia, to found there a new kingdom, entirely separate from the old. But in these instincts and in all the wonders of the hive, the hand of God is seen. We admire these things most, as exhibitions of His workmanship, and providence and wisdom. His hand is seen in the structure of the bee; His controling power in the impulses by which it is led to act. The cunning work in wax, the economy in the use of material, the treasuring up of stores for Winter's use and for human comfort, the provision for an increase of numbers, the harmony and industry of the workers, and all the curious things which have been observed for centuries, turn our minds from Nature to Nature's God. He only is from age to age; but all His works praise Him, and blessed be His glorious name forever and ever.

All these things are made for man. Dominion is given to our race over every beast of the field, and everything that creeps and flies. And for what end is man made in the image of God? and why has he received authority and power? Is it

* We present above an *original* fancy sketch of a rustic hive, and the departing swarm, suggested by something we have somewhere seen. The hive is a section of a hollow tree which the bees had chosen as their home, sawn off into the length here represented.

that he may be like the brutes that perish, indifferent to God, forgetful of his Maker's will? or like the horse and mule that have no understanding, whose mouth must be held with bit and bridle? Nay, but rather that he may everywhere read the revelation God has made, in Nature as well as in scripture, and reverently, in a meek and child-like spirit, may learn "to think the thoughts of God," and do his pleasure. Herein is human greatness; herein can man be made like his Maker.

To Make Bees Cluster in Swarming.

To the Editor of the American Agriculturist:

In this section of country there are knotty bulks growing on the sides of trees and saplings, which resemble clusters of bees. I cut one of these to the size of a small swarm, bore a hole in it, and drive in the handle. For convenience, I have three of these—the handles ranging in length, from 10 to 20 feet, to suit the hight of the shrubbery near the bee-house, on which the bees will be likely to settle. When bees have commenced settling elsewhere, I have frequently set the pole near them, shook them off the limb, and caught them on the knot, and then carried them to the same scaffold from which I have hived more than 20 swarms the last Summer. I spread a cloth over the scaffold, set the box on four blocks 1½ inches high, and shake the bees down at the sides of the box. They generally need to be swept down gently off the box, with a small leafy branch, and they will go into their new home.

JOSHUA EDWARDS.

New Grenada, Fulton Co., Pa.

Observing Bee-Hives.

In order to study the habits of the honey-bee, and to attain personal knowledge in respect to many strange things which are told of it, it is necessary that we should have a hive so constructed as to be open to inspection at all times. Having derived much instruction and satisfaction from the facilities afforded by an observing-hive, we comply with the request of several correspondents to give some account of the mode in which one can be made.

An observing hive is essentially a common hive with glass sides, but made so narrow in one direction that it will contain but a single comb. This form gives the observer a chance to look in upon the bees at work, and see both sides of the comb at any time. We insert two of Mr. Langstroth's engravings as the readiest means of illustrating our views, though they introduce one peculiarity, to be spoken of presently, that is covered as we suppose by his patent right, and that consequently can be used only with his permission and in connection with his common hive.

All that is essential in an observing hive, is simply a frame work sufficiently large to hold one piece of honey-comb, with glass sides, and arrangements for entrance and for ventilation.

Fig. 1, is a side view, and fiig. 2, an end view, of such a hive. As the dimensions are not essential, except when used in connection with Langstroth's hive, we shall not adhere to those stated by him. The material may be pine boards, seven-eighths of an inch thick. The base-board *a*, is 24 inches long, by 4 wide; *b*, the bottom of the hive, 17½ by 2½; the front and rear are formed of two posts, *c*, *c*, 11½ by 2½; *e*, is a movable cover, 21 by 4, while on each side is a thin strip *d*, an inch wide, and as long as the hive. If then the bottom board *b*, has a rabbet made in each of its upper corners, ⅜ each way, and the inner corners of the posts be rabbeted in the same manner, up and down, they will give room for two panes of glass, 11 by 18, which will come up flush with the cover, and may be kept in place by brads or tins. This allows just an inch and a half between the glasses, a space sufficient for one sheet of comb, and for the passing of bees over its surface.

For ventilation two holes, an inch in diameter, may be bored through *a* and *b*, 1½ inches apart from center to center, the wood being cut out between them. Similar holes may be made in the posts *c c*; and all these are to be covered, *on the inside, with wire cloth.*

The entrance is made by boring a hole ⅜ of an inch in diameter, 3½ inches deep into the end of *a* above *g*. One inch from the end of *b*, start a similar hole and bore slanting so as to meet that in *a*. An alighting board *g*, may be added, 4 by 4 inches, and, if desirable, clamp on the cover *i*, *i*.

In our engraving another inside frame appears; this is moveable, and is intended to sustain the sheet of comb. This is one of the peculiarities alluded to in Langstroth's patented hive, in which it is intended that each comb shall be built on a separate and movable frame. Of course it is not essential to the observing-hive, but it greatly facilitates the ease and pleasure of experiments, enabling us at any moment to stock an observing hive, or to furnish it with brood, honey or comb, at pleasure.

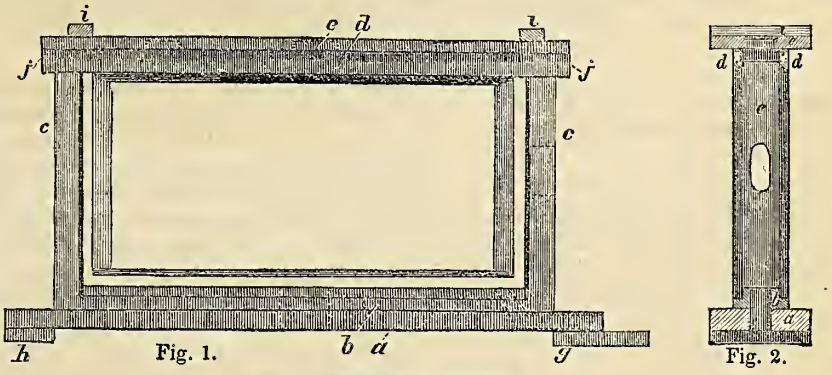


Fig. 1. Fig. 2.

OBSERVING BEE-HIVE.

It is an exceedingly simple thing when one has Langstroth's frames and an observing-hive to match, to start a new colony, and that, without serious injury to the stock from which it is taken. A single frame containing comb, honey, pollen, eggs, brood and bees, is lifted out from the main hive and let down into the observing-hive from above. The cover is immediately put on and the entrance hole stopped. Sufficient air comes in at the ventilators to keep the bees from suffocation, and after ineffectual attempts to escape, they very soon begin to form queen cells. They do not even need to be kept in a dark place. If removed a mile or two, the entrance hole may, at once be opened: otherwise, they may be kept prisoners for two or three days, after which time they will not all desert their new locality. Before they are released, the hive may be set on a table before a window, where a curtain protects it from the direct rays of the sun, and yet the bees can come and go freely without entering the room. Sometimes it may be convenient to remove the glass of the hive, for a few moments, in order to get at the comb, or to secure the mother-bee for exhibition.

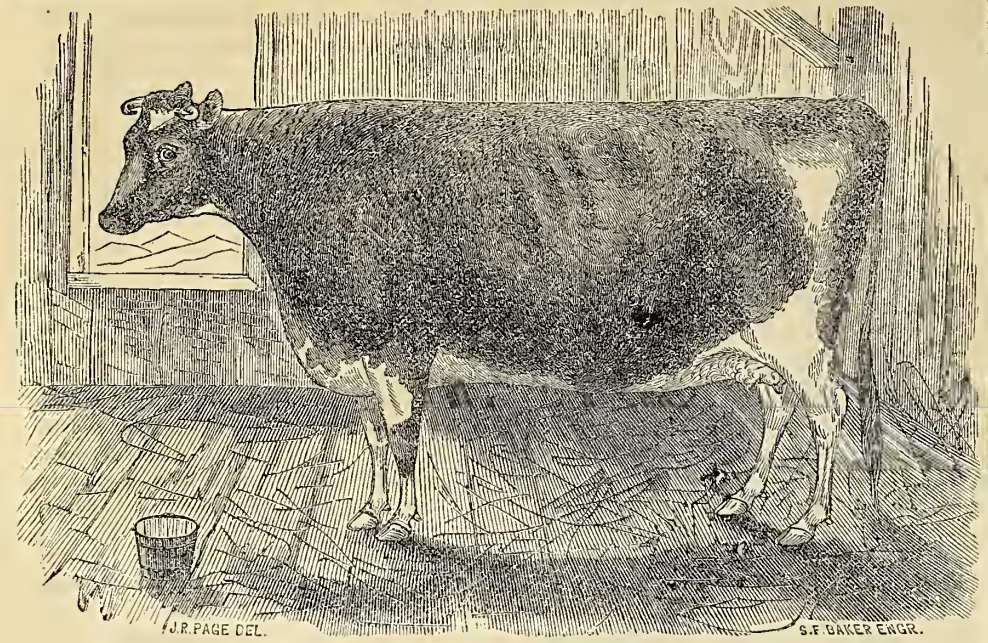
Two things are essential: first, to get a sufficient number of bees *into* such a hive; and secondly, to furnish them with a queen, or with comb containing worker eggs. We are loth to recommend what we have not tried, and yet we would risk this experiment this month. On the issuing of a first swarm secure the queen and clip her wings. Removing the cover, invert the hive here illustrated, and let enough bees follow the queen into it to fill it half full. Exclude the rest, and remove the hive to a quiet place. Those unable to enter will return to the old stock, and will go out probably as a second swarm in a few days after; while those in the new hive, being provided with a queen who cannot fly away, ought at once to begin cells and make themselves at home. After two or three weeks, or even sooner if eggs are laid in the cells, she may be removed and the efforts to supply her place will, of course, be watched with the greatest interest. Late in the season the whole colony may run out, but the observing hive will pay in entertainment and instruction, more than other stocks pay in honey

A feeble after swarm might be treated in the same way, if one does not care to risk the loss of a first swarm.

And at any time, if one sufficiently bold and skilful can cut out a piece of comb containing eggs or young brood, and firmly attach it to the cover of the observing hive, he may, by driving or smoking, get enough bees out of the common hive into it, to carry on the operations already alluded to. This would demand time and judgment, and we hardly advise any one to attempt it. With Langstroth's hives the whole work may be done in three minutes, and at the end of the season, the comb can be restored to the hive whence it was taken.

Green Corn for Summer Fodder.

As every farmer knows, there is a season in mid-summer when pastures become parched and brown, and cows fail both in flesh and in milk. Some consider this a necessary evil, against which no provision can be made, but all do not so consider it. Some farmers, as we happen to know, provide against this time of scarcity by planting corn for Summer feed. They often use the Southern yellow flat corn, manure the ground well, sow in drills three feet apart, leaving it so thick in the drill that no stalk will grow more than an inch in diameter. In this way, they secure fine, succulent feed for their stock, from the last of July to the middle of September. The cows keep in good flesh, and the butter and cheese show no abatement. This corn answers well also for dry fodder, though the difficulty in curing will prevent its general use on a large scale. The advantage of this corn over the common Northern varieties is that more of it can be raised on the same ground, and that it grows faster. Plant about the middle of May, June 5th, and June 20th, for a succession of tender feed through the Summer.



ALDERNEY COW "SYLPH."

American Cattle....IV.

[*Continued from page* 133.

THE ALDERNEY, OR JERSEY.

This quaint little body, of the cow kind, on her first appearance to those who have been accustomed to the fine proportions and imposing front of the Short-Horn, or the beautiful and graceful Devon, may provoke a smile of derision at her plebian dimensions, and meek, and quiet demeanor. We shall not soon forget the outburst of a huge and brawny Kentuckian, who, in ranging over the cattle quarters of a great Western Agricultural Show, and gloating over the broad dimensions of the Short-Horns as he passed them, one after another, fell upon a quiet little Alderney cow, with her timid wee calf at her side, coming to a full halt, and throwing up his hands aghast: "Well—*well*—if that *theer* thing ar'n't a *smasher!* If I should come across such a varmint as that in a field of mine, I'd pitch it over the fence sooner'n I 'ould a 'possum! I say, stranger," addressing himself to the late Roswell L. Colt's herdsman, whom that fine old gentleman had sent all the way from New-Jersey to Ohio to show the good people there the lacteal qualities of his cherished little Alderneys—"if you can't find no better biz'ness than tending such a critter as that, you'd hetter job yourself out to shucking corn on a river bottom!" and on he rolled, wondering "what corn cribs was good for, if nothing bigger nor better lookin' than *sich as that* was made to eat 'em!"

Inferior and diminutive as she seems, the Alderney is a *gem* among cows. She is the pet of ne English aristocracy, who prize her creamy milk and golden butter beyond that of any other British cow, be her looks and lineage what they may. And, holding in admiration equal to any other, the grand and graceful qualities of the larger breeds, we feel bound by truth, economy, and good taste to do justice to this meek and unpretending little beast.

HISTORY.

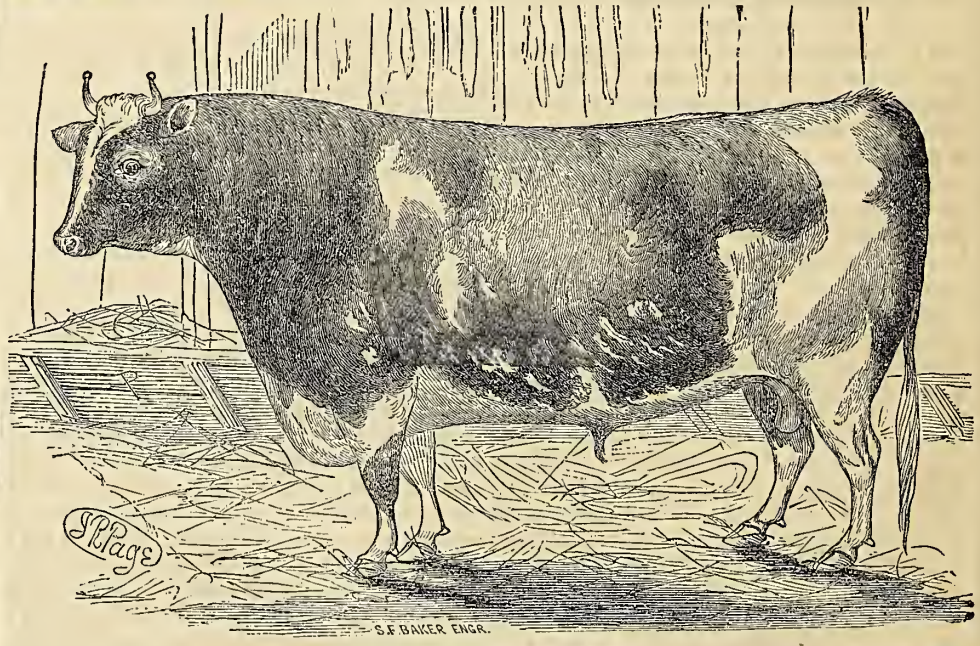
The coast of Normandy, in France, and the Channel Islands of Great Britain, Alderney, Jersey, and Guernsey, are the original soils which long have bred that race now popularly known as the Alderney. They abound there now; and on the Channel Islands they are improved and bred with a care superior to which no breed of cattle in England itself has received. On the English coast of Hampshire, too, they are kept in the parks and lawns of the gentry as a favorite milking cow, and considered an ornament to their pleasure grounds and paddocks. They were carried more than two hundred years ago, from Normandy, by the French settlers, into the Gulf of the St. Lawrence, and planted on the settlements about Quebec, where they are now found—rude, and uncultivated, to be sure; with colors and appearance less distinctive than their English congeners, but still rich in their lacteal qualities, and highly prized by the simple *habitants* who esteem them above all others. They have for some years past found their way to the United States in the packet ships from England, and will, we trust, long remain with us, cherished and esteemed, as a household convenience, and a thing to care for.

DESCRIPTION.

The Alderney Cow is small in size, peculiarly deer-like and delicate in head and feature; a falling, ewe neck, having little dewlap; a prominent, lean shoulder; a flat, falling rib; a sway back; hony hips; a narrow loin; lean rumps, terminating at their points with a tail rather gracefully set on. Her chest is not wide; her brisket not prominent; her belly rather broad for her size; her flanks not full. Yet her bone is fine. She stands tolerably well on the fore legs. Her hind legs are crooked, and her thighs lean, yet standing well apart, disclosing a large udder of remarkable smoothness, set well forward, and running well into the twist, covered with soft silky hair, and terminating in delicate, smooth, taper teats. All these points, many of them ungraceful when considered apart, yet combined, give the Alderney a peculiarly blood-like, and aristocratic appearance; showing distinctly that although she may fail in comparison of carcase with the valuable traits seen in most others we have deseribed, she has qualities which render her quite as valuable in her own line of service. Her prevailing colors are light red, dun, yellow, or fawn, agreeably intermingled with occasional patches of white. The two cuts we print will give a better idea.

HER UTILITY

As a milk yielding cow she is altogether prized. Her milk is rich and creamy beyond any other; the yield of butter larger, and of the deepest color. The milk is not so much in quantity as it is superior in quality; yet is quite an average in the first, and much more than an average in the last, when the weight of the cow, and the food she consumes is considered. As compared with some other breeds, she is not considered as the best *farm* dairy cow. Her less robust constitution and figure, and the domestic and sheltered manner in which she has long been accustomed to live, have unfitted her for the hardships of common farm service to which the larger breeds have been used, and she is thus better fitted for family keeping, where but one, or few cows are needed. For such purposes, her quiet disposition and kindly temper, render her peculiarly serviceable; and where the family cow is, as she always ought to be, properly regarded, the Alderney will be cherished and valued.



ALDERNEY BULL "IVANHOE."

With the plastic genius of the Channel Island breeders, we find that the Alderney is as susceptible of improvement in style and symmetry as the other foreign breeds; and to illustrate the fact we give above the portraits of a cow and bull, imported two years ago, and now owned by James O. Sheldon, Esq., White Spring Farm, Geneva, N. Y. These animals took first prizes at the late State Agricultural Show at Buffalo, N. Y., and their figures, compared with those on next page,

THE ALDERNEY COW AND BULL OF THIRTY YEARS AGO

may be admired as the degree of excellence to which the race may be brought by care and attention in their breeding.

AS A WORKING OX, OR A BEEF-MAKING ANIMAL

the Alderney has less value than the English breeds which we have before described, for which purpose, indeed, he seems not to have heen constituted.

The figure of the bull shows that he is deficient in the required points of a stout working ox, or a first class beef animal. Nor for those purposes is he needed. For the improvement of our common dairy cows, the Alderney bull may be profitably introduced and crossed upon them; and for many years to come every promising young one which may be dropped should be sought by those who wish to develop in the highest degree the milking quality of their herds. The cross has, as yet, been seldom resorted to in the United States; but may well be adopted by our dairymen.

Pasture Lands—Their Treatment—Hints, Examples &c.

These are among the most important elements of the farmer's wealth, and, as a rule, the most neglected, or their treatment the oftenest misapplied. The management of pastures should differ with different soils. There are scme soils in wide belts or tracts of country, which are equally good for pasture, mowing grounds, or cultivated crops. Others there are which cannot profitably be devoted to any other use than grazing, by reason of their rough and stony surfaces, and these should all, in their several characters, be studied in their proper treatment.

We recollect in our frequent reading of advertised New-England farms "for sale, or to let," their merits set forth in this wise:—"Well divided into proper proportions of mowing, pasture, and plow land;" which is to say: "there are portions of the farm immemorially devoted to pasture, others to meadow, and others to cultivated crops." And such, in frequent cases, has been the wisest course where the particular parts of the farm most favored the growth of the crops to which they were appropriated. The best pastures we have ever seen never had a crop of anything upon them but grass, or perhaps a first *single* crop of wheat, rye, or oats, which was taken from the ground when seeding down to grass after clearing—and they have now been in pasture for half a century, and upwards. There are various reasons for this successful growth of the pasture grasses, numbering, perhaps, a dozen varieties, and usually called the *natural* grasses. The vegetable decomposition of the fallen leaves for centuries, with the wood of the roots forming the top soil, holds the grasses firmly, and retains them with a tenacity which cultivated lands will not do, and the firm hold which the roots have taken making the stalks fine, thick, and rich, giving the grass a better flavor and a richer nutriment than newly sown seeds, which, although ranker in growth, are less matted in the soil, thinner, and more watery, and less nutritious in their support to the animal system.

Therefore, where land is *natural* to the grasses, pastures should scarcely, if ever be plowed. If plowed, and the original grasses be killed out, as they assuredly will be if the succeeding crops be well cultivated, no new seeding will give them the solid growth, enduring vigor, and sufficient variety which they had before, until many years afterward. The old pastures—*if properly treated*—cannot be benefited by plowing. If *run* too close, they will fail, of course; but the correct method of their restoration is to let them rest by keeping off the stock a season, or a part of a season—doing this in the earlier part is best—and giving them, if the land be thin, a top-dressing of some stimulating manure, and a sharp combing with the harrow.

There are other lands stretching over broad tracts which will not hold the grasses of any good kind, *permanently*. They have not the necessary *humus*, or vegetable material in the soil, either in decomposition or otherwise, to give them continuous sustenance for long periods of time. Such, therefore, require frequent plowings, and re-seeding with clover, timothy, orchard grass, and other rapidly maturing varieties, but not enduring, yet yielding well for a temporary purpose. Such are not *natural* pastures, and are unreliable as permanent stock farms. These soils are usually sandy, gravely, and light in texture. Clays of almost any kind are good grass lands, but when well fixed in pasture or mowing grounds, they should rarely be disturbed, and then only in desperate cases—such as a complete running out, or failure to yield.

We have an instance at hand, for illustration: On our farm lies a broad field. Fifteen years ago a part of it was in plowed crops, which it grew vigorously, and well, and had been alternated for twenty years with such crops, and mowed grasses. Another part had never been plowed—both the same soil, a heavy clay loam, rich, and comparatively new. We laid down the plowed land under a heavy seeding of timothy, and red clover; mowed good crops of hay from it for two or three years afterward; then took away the division fence between it and the old pasture adjoining, and turned it all out to pasture together. The *old* pasture started earliest in the Spring, and held out later in the Fall. The cattle and sheep which fed upon it would bite it into the ground all Summer, while the newly seeded was rank, and apparently much hetter. The sheep, particularly, loved the old turf, and fatted hetter on it than on the new. It was evidently sweeter and more nutritious than the other, and matted over the ground like a carpet, while innumerable bare spots of a few inches area could be seen throughout the surface of the freshly seeded. The difference was, that the artificial seeds had not yet got possession of the new piece, while the old, in addition to the timothy and clover which it held, was intermixed with white clover, blue-grass, red-top, and other natural plants, mixing in, and giving a palatable variety to a full bite of herhage. It was five or six years before the last seeded ground caught up with the other in a full surface of grass, and to this day the stock like the old pasture hest.

Now, if we choose to do so, hy shutting off the stock, we can cut heavy crops of hay on these pastures, but yielding so many varieties of grass, they ripen unequally, and the hay is of inferior quality to that cut from one or two varieties mainly; hence we do not *mow* them.

On our Atlantic borders, and in parts of the New-England States, we know of numerous tracts of land so poor—although as natural to the pasture grasses as to any other valuable crops—that they grow little hut five-fingers, ferns, and other worthless weeds, or low shrubs. Sheep are the hest stock to put upon such, and some are too far gone for even them. Plowing, therefore, is necessary, indeed indispensable, where their surfaces are free enough from stone or moisture, to admit of it. Some sort of stimulating manure should also be applied—not much matter what, so that it has the elements of fertility about it. If any vegetable humus still remains in the soil, grasses will hold in it. If not, a succession of clover crops plowed under will furnish that humus so that the grass

will ultimately retain its hold, and become permanent pasture. But such pastures should not be cropped closely, at first. They should be fed lightly, or not at all, until the roots have become well matted into the soil; and if the growth of a season or two be suffered to lay and decay upon the surface, so much the better for its permanent good.

Another fault, very common with many people, and rather taking in its theory is, the frequent changing of stock from one pasture to another during the Summer, giving them "a fresh bite," on the idea that "change of pasture makes fat calves." Such is an old adage not half understood. That a change of pasture, absolutely eaten down to nothing, into one full of grass is beneficial, no one will deny; but a change for the sake of a change is all nonsense. Animals love their homes more than their changeable-minded masters are apt to appreciate. They never like to leave an old range for a new one, so long as the old range gives them a fullness of stomach, and every good stock-keeper knows that fresh, watery grass scours animals when newly turned upon it, while the well-ripened, solid grass of the old fields keeps them regular and healthy. That a change of food is desirable to cattle we know, but that change should exist in the food of the same field, not a necessity for the change in several different fields.

We have a large pasture, containing as follows: A low slip of marsh, yielding a coarse, long, watery grass, incapahle of drainage from bordering a river; a tract of second bottom, not natural to the clovers, but full of red-top, fowl-meadow, and other rank herbage; a portion of dry upland, where the clovers, timothy and blue grass abound; and, finally, a belt of open woodland, where grass freely grows, with some succulent weeds. These tracts are all within the same inclosure, and have been used by us for years past, as a common pasture for horses, sheep and cattle. The sheep prefer the dry ground, mostly, but oftentimes go down and crop the second bottom and woodland. So with the horses; but the cattle, every single day during the Summer, plunge into the marsh land and gorge themselves with the coarse water-grass, particularly in the mornings; then on to the uplands, where they lie and ruminate; then into the second bottom; after which, another rest; and their late afternoon meal is taken on the highest land they can find. Sometimes they vary their diet as to *time*, but such is the round, in one way or the other, that they take, and all the grounds are fed off in turn. No *man* likes roast beef and plum pudding in constant succession. He occasionally prefers a dinner of boiled pork and corned beef, with coarse vegetables and brown bread, and a hearty Indian pudding to whip syllabubs or custards. So with the lower grazing animals; variety with them is the spice of life.

A word before we close, as to the *economy* of partitioned pastures. They require many fences, to which, in farm management, we are decidedly opposed. If we had a cropping farm, where plowing was the chief source of our productions, we would prefer that such crops would grow within a single inclosure. Our meadows should all he in one. And in pastures, we would have but two, or three at farthest. It is not in the *change* of pastures that we derive benefit to our stock; we suffer more frequently by over-feeding—too much stock for the land. We have known a whole herd of cattle abominably poor throughout the season, although their pastures were changed once a fortnight. We have known other stock, as fat as may be, that only ranged one field an entire season. Our best graziers, and our most experienced dairymen prefer but one range of pasture for their bullocks and cows—separate of course, when both are kept—for the Spring, Summer and Autumn. If mixed farming, or cropping is a part of their practice, the stock will be admitted, as occasion may require, for gleaning the surplus food in the grain fields, after the crops are off, or to consume the after-math of the meadows, but the pasturage is a permanent and continuous affair.

In England there are large dairy and grazing districts, where the ground has not been broken by the plow since the Conquest, that any body knows of, and their owners would not have them broken at any price, so valuable do they consider an old turf. In many parts of America, fields of meadow and pasture have so lain ever since the land was first cleared—more than two hundred years—the most valuable mowing and pasture they have. So, in constant use have been plow lots. An old farmer, upwards of seventy years old, once showed us a lot which he said had never been laid down in grass more than one year at a time, during his life-time, nor in that of his father before him, and that was over a hundred years, so natural was it to grain and vegetables; but it had had good culture, and abundant manures. The proper application of land to the right purposes, with our increasing facilities for reaching the markets, are learning us sound lessons in many branches of agriculture, and division of labor; not among the least of these, are the proper understanding and treatment of our pasture lands, on a small scale even, as well as on a large one.

Reapers and Mowers, &c.....V.

[*Concluded from page* 142.]

To the Editor of the American Agriculturist.

In my first four numbers, I discussed the Trial of Reapers and Mowers by the United States Agricultural Society, at Syracuse, last July, and the Report of the same. In order to complete the subject, and further to show how little dependance can be placed upon reports of Judges at these "Great Trials of Implements," so called, I now propose to refer to the Trial of Mowing Machines hy the Massachusetts Society in July, 1856, for a prize of $1,000, and compare its decisions with that of the one at Syracuse. During the Massachusetts Trial, there were three Judges, and they subjected the machines to a much longer and more severe test than was done at Syracuse. In this one respect, (greater amount of work,) the trial was a much better one than that at Syracuse; but to make amends for this, the decision was the *very worst* which could have been given on the occasion, as I shall proceed to show.

There were ten entries to begin with, but some withdrew previous to the trial; others were thrown out while it was going on; leaving at the close only four competing machines, viz: Ketchum's, Manny's, Allen's, and Henderson's, or "Heath's," as they designate it, which was known as "Caryl's," at the Syracuse Trial. The three Judges in this case did not subject the machines to the test of the dynamometer, nor indeed to any other mechanical or scientific test. Being shrewd Yankees, they had a more simple, and I dare say (to themselves) more satisfactory method of resolving knotty points, and that was upon the principle of *guessing!*

1. They *guessed*, that the "Heath," alias "Caryl," machine was less liable to clog than any of its three above mentioned competitors.

2. They *guessed*, that it "very evidently required less power of draft."

3. They *guessed*, "its cutting apparatus as very *much* superior."

4. They *guessed*, "in other important features, it is equal to the other machines."

Lastly, with solemn gravity, not unusual with distinguished dignitaries on like occasions, they *guessed*, after having used the word "important" no less than three times in rapid succession that:

"We, therefore, unhesitatingly, confidently and unanimously, express the opinion that the Heath machine, entered by D. C. Henderson, is entitled to the premium of one thousand dollars."

Was there ever anything more scientific, emphatic, or autocratic? For further particulars I beg to refer the reader to the Massachusetts Report itself. Pages 297 and 8.

Now let us turn to the Trial of the United States Agricultural Society, at Syracuse, where this famous thousand dollar prize machine is entered as "Caryl's," and let us hear what the eighteen Judges on that august occasion have to say on these various *five points, guessed* out so "unhesitatingly, confidently and unanimously," by the three Massachusetts Judges. I quote from the printed Syracuse Report.

1. *Clogging.* "The reel worked ill and the machine *clogged.* Mr. Caryl (Heath) therefore abandoned the lot and notified the chairman that he was no longer a competitor." Page 73.

This is in other words, as I understand it, equivalent in a delicate way to ruling out his machine, as unworthy further trial.

2. *Draft.* By careful trials with the dynamometer, they make the Caryl (Heath) machine show 115 lbs. more direct draft than the Allen machine, and 30 lbs. side draft—the Allen showing no side draft whatever. The Manny (Wood) 88 to 93 lbs. less direct, and 27 lbs. less side draft. The Ketchum 81 lbs. less direct, and 26 lbs. less side draft. Pages 75 and 76. According to the opinion of the Judges, page 51, this would make a difference in favor of the Allen and against the Caryl (Heath) machine, in a day's work of ten hours, equivalent in round numbers to 5,220,000 lbs. That is to say, the team every day of ten hours work, in cutting over the same ground and the same quantity of grass, would, attached to the Caryl (Heath) mowing machine, be obliged to drag five millions two hundred and twenty-two thousand pounds more than if attached to the Allen machine; and so relatively of the Manny (Wood), and Ketchum!

Yet the Massachusetts Judges had the assurance to *guess* this Caryl (Heath) machine the lightest draft of all its competitors. Whether correct or not, I leave the wise men of the East and West to decide the matter between themselves.

3. Of the "cutting apparatus," the Report says: "It requires great thickness of blade to prevent them from bending up when dull."...."As soon as the knives are dull, or a joint or rivet loosens, it must necessarily clog and work badly." Pages 45 and 46.

4. As to other "important features," the Judges do not seem to be favorably impressed in regard to its cam motion, as they say, "There is a great loss of momentum in this machine."...."The increased weight consequently augments the momentum and wastes force, hence the great thumping noise and waste of force."...."The open space between the cams are liable to become covered and filled with earth and to wear the rollers," &c.

Upon the strength of that thousand dollar award, the patentee forthwith proceeded to dispose of rights to various manufacturers counting largely on their future gains from the purchase. But what was the result the following season? Disgrace at the Trial of the United States Agricultural Society; and not a single purchaser of the machines

have yet heard of, satisfied with their performance. Thus there were great losses to the manufacturers, and greater disappointment to the farmers.

It is astonishing to me that the manufacturers and farmers of this country will submit with quiet impunity to such a waste of their time and money.

I shall now leave them to apply such terms as they think proper to the proceedings of the various Judges and Committees under review in these papers. H. L.

Syracuse, May 3, 1858.

The New-York "Central Park."

Our readers have heard ere this that, after all the talk about it, we are really to have a great Park in this city, and as it is to be one of the finest things of the kind on this Continent we think they will be interested in seeing the general plan for laying it out, prepared by Messrs. Calvert Vaux & Frederick. L. Olmstead, and just adopted by the commissioners. To understand the location of the Park it may be well to describe the city and Island briefly.

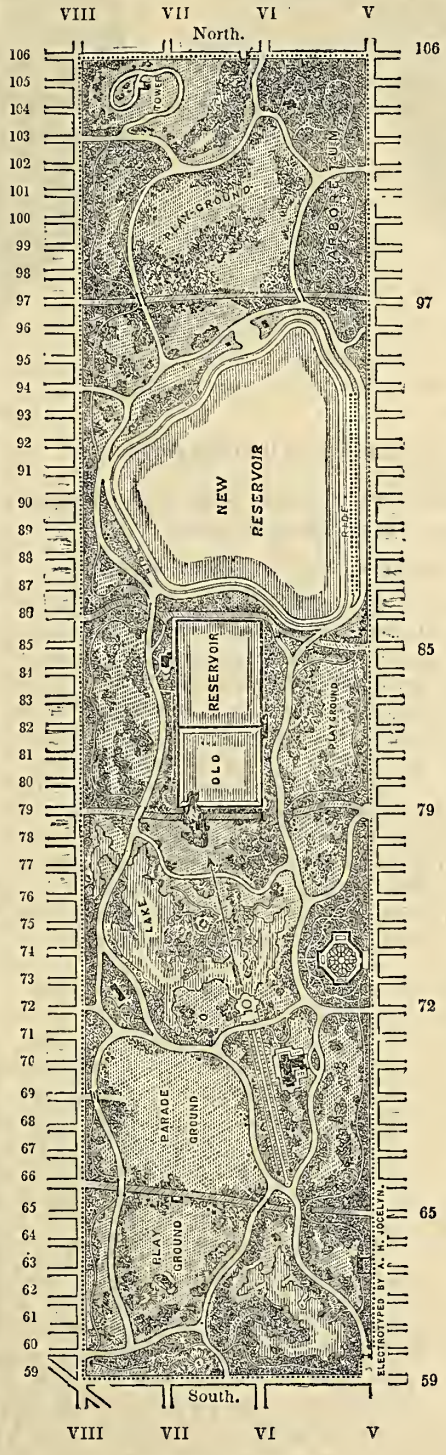
Manhattan Island upon which New-York city stands, is some 13½ miles long from south to north, and is bounded on the west by the Hudson river; on the east, by the East river (or outlet of Long Island Sound) which at the south end of the Island unites with the Hudson river forming the magnificent New-York Bay or Harbor. The north end of the Island is separated from the main land of Westchester County by a stream connecting the East and Hudson rivers, and called in its eastern portion the Harlem river, and in the western part the Spuytenduyvil Creek. (These two names are given respectively east and west of the point where the tides from either side meet.)

From its southern pointed end, the Island widens to nearly three miles, and is gradually contracted again further north. The main part of the "built up" portion of New-York city occupies about five miles of the south end of the Island. The heaviest business portion is upon the south end—1¼ miles being almost wholly occupied with mercantile establishments, which are also more or less scattered over the whole city.

For about two miles up from the south end, or Battery, the streets run in almost all directions, with one main street called Broadway (not very broad) running a little east of north, nearly through the center of the city, in a straight line from the Battery, 2¼ miles, to Tenth street, where it bends to a direct north course, cutting most of the regular streets and avenues at an angle.

About 2 miles from the south end, the streets begin to be regular, and consist of broad Avenues running north and south parallel to each other, with parallel streets crossing the avenues at right angles and extending from the east to the west or Hudson River (usually called "North River".) The longer "avenues" numbered from east to west, are named I, II, III, IV, V, and so on to XI and XII. These avenues run nearly north and south—or a little from southwest to northeast. The figures at the bottom and top of the accompanying engraving show the Vth and VIIIth avenues, and the place of the intercepted avenues VI and VII. It will be seen that the Park lies nearly in the middle of the Island from east to west, that is midway between the Ist and XIIth avenues.

As before stated, the streets run nearly east and west across the avenues. Portions of the streets are shown on either side of the Park. Those streets running east and west are numbered 1, 2, 3, 4 &c., from south to north, beginning about 2 miles from the south end of the city. It will be noticed that the Park is bounded on the south by 59th street, and on the north by 106th. street. The south end of the Park, (59th street) is very nearly *five* miles from the Battery or south end of the city. [We shall have quite a journey to get from our office in the south part of the city, to the Park for an afternoon's stroll.] There are some twenty cross streets to the mile, so that the Park, from south to north, (59th to 106th streets) extends across 47 blocks, or about 2½ miles, and is a little over half a mile wide. It contains, therefore, in the



NEW-YORK CENTRAL PARK.

neighborhood of 700 acres. An idea may be formed of its size by imagining it cut across into *seven* 100-acre-farms, each being half a mile long east and west, and about 100 rods wide north and south. This, however, is but little more than one-eighteenth part of the whole Island, which contains some 20 square miles, or nearly 13,000 acres.

The engraving gives a pretty clear idea of the laying out of the Park. The walks, drives &c., are in the main indicated. The four business avenues running through the Park to connect the east and west sides of the city, at 65, 79, 85, and 97th streets, are intended to be chiefly *underground*, so as not to interfere with the walks or drives, or the general appearance of the Park itself.

The main Entrance is at the southeast corner, from Fifth Avenue, from which a broad carriage road winds along on the eastern side, and back on the west side, with several outlets. This will give a continuous drive of six or seven miles, during which can be seen the main features and points of interest in the whole Park. The ground is uneven, and naturally varied with elevated points of land, and rocky bluffs, with depressions or hollows. These admirably adapt it to the purpose for which it is intended.

There is a considerable variety of native trees still standing, to which it is proposed to add many others, so as to present to the visitor all the trees as well as shrubs and plants indigenous to this country, or all that will grow as far North as this latitude. A conservatory of plants is also provided for.

The Parade-ground, on the southwestern side, will contain about 25 acres. Then ample playgrounds are to be reserved, one in the south, one in the middle, and one at the north end.

Numerous shady walks and promenades, groves, &c., will be arranged over the whole Park. One beautiful feature will be the great number of evergreens to be interspersed, here in single specimens, and there in groups, giving the whole a cheerful aspect throughout the Winter season.

The laying out and fitting up of these splendid grounds will be pushed forward vigorously, though it will be many years before the work will be completed. It will be but a brief period, however, before the Great Central Park will be the leading object of interest in the Metropolitan City of the Western Continent, and will of itself be worth a pilgrimage to see, study—and enjoy.

The Ailantus for Prairies.

We can hardly answer the inquiries of E. L. Watts, Lasalle Co, Ill., and others, as to the probable value of the Ailantus for Prairies. This tree has not been in very high repute in the Eastern States, the two principal objections being its offensive odor when in bloom, and its tendency to spread beyond desired bounds, both by root sprouts and the scattering of its winged seeds. Its vigorous propagation would hardly be considered an objection in localities where there is such a scarcity of trees as on the prairies. We do not esteem the odor of the flowers so great an objection as many have done; it lasts but a brief period, and would never have been greatly heeded had not people ran wild in planting them in needless profusion directly around and almost within their dwellings. As a shade tree they are rather late in leafing out. At this date (May 17), they show no leaves, here, while the maples have put on their full mantles of green foliage.

The Ailantus is not so hardy as to be reliable north of latitude 43°. It is a very rapid grower, and even we living upon the prairies South of 43 we should give this tree a trial, but not go largely into its culture. The seed may be obtained of our regular advertisers, Thorburn, and Bridgman. It may be sown at almost any time, best perhaps in March, April or May.

Good nature, like a glow-worm, sheds light even in filthy places.

Fig. 1—OSAGE ORANGE BRANCH.

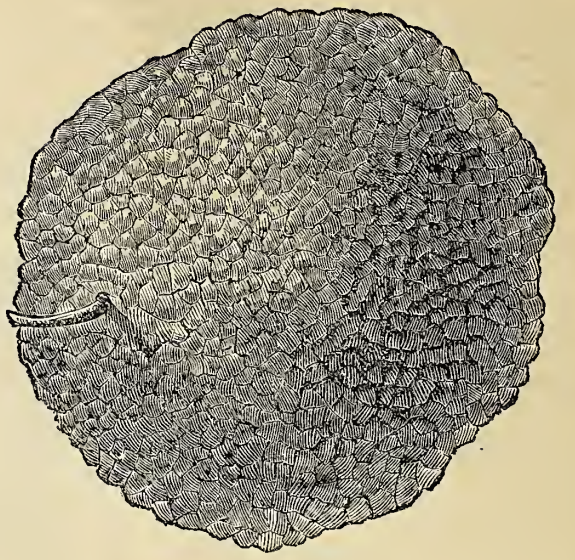


Fig. 2—OSAGE ORANGE FRUIT.

Hedge Plants.

It cannot be denied, that in the old feud, *Fences* vs. *Hedges*, the champions of the Hedge carried the hearts of the public with them. All poetical feeling, and the sense of the beautiful speak clearly in favor of the green *living* wall—the home of the birds and of wild flowers. Gladly would we dispense with wood-fences, leaning, tottering, decaying lines of tired-looking posts, strung together with moss-covered rails; gymnastic schools to educate your own and your neighbor's stock in sundry arts of hoof and snout, to leap over, and root under, to slip a "rider" or let down a "bar;" we certainly should never have discovered one-half of the talents of our *critters* if it were not for the old rail fences.

An appeal is made to our pockets too. Curious chaps figure out the cost of fences, until actually it would seem that the only obstacle to universal wealth and happiness among us farmers, is the waste of labor and money in making and repairing our fences. *One hundred and fifty millions of dollars are annually expended by the farmers of America, for sustaining the fences*, says one calculator; and *ten millions by the farmers of New York State alone, every year!*

We believe that at least a small per centage of this outlay may be saved by substituting hedges in some parts of the country; and although no one plant, in our opinion, is of universal adaptation, we propose to give, in this and the next number of the *Agriculturist*, some illustrations of those plants most likely to succeed in this country.

The qualifications of a good hedge plant are:

First—An ability to withstand the greatest extremes of heat and cold, in the latitude where the hedge is to be grown. Many plants which bear well the frosts of Winter, lose their leaves, or are checked in their growth by severe heat or drouths.

Second—It must grow rapidly when young, and have great longevity, not subject to disease or the attacks of insects.

Third—It must bear well the operation of pruning, and the close crowding of the hedge-row.

Fourth—For an outside fence, at least, it should possess "an armature of thorns."

THE OSAGE ORANGE, (*Maclura aurantiaca*).

For the middle States, say south of 39°, and at some points a little further north, the Osage Orange, *perhaps*, approaches more nearly than any other plant the perfect standard, though, as we showed in the *Agriculturist* of August, 1857, it is not to be depended upon generally, north of 40°.

Fig. 1 represents a twig with leaves of this plant. The leaves are about 3 inches long and 2 wide, of a bright, shining green. The spines are produced in the axils of the leaves. The fruit (fig. 2), from which its common name is derived, has very much the external appearance of an orange, and when ripe is of a rich yellow hue, rendering the tree quite an ornamental object; but it is not eatable, being of a tough fibrous character, and quite insipid.

The plant is dicœcious, *i.e.*, bears the male and female blossoms on different trees—the female tree producing the larger fruit, with perfect seeds. The male plant is said to produce smaller fruit with abortive seeds.

The wood has great hardness and elasticity, and being used by the Indians for bows, is sometimes called "Bow-wood," or *Bois d'Arc*. The sap in the young wood and leaves is of a milky character, and, according to Loudon, contains a similar gum to the India-rubber, or *caoutchouc*.

The cause of many of the failures to produce a good hedge with this plant, is undoubtedly the want of the proper attention to the pruning. Warder, in his new work on hedges, gives us the proper shape for a full-grown hedge, the one represented in fig. 3. The form of the pyramid, or rather of the Gothic arch, can only be secured by

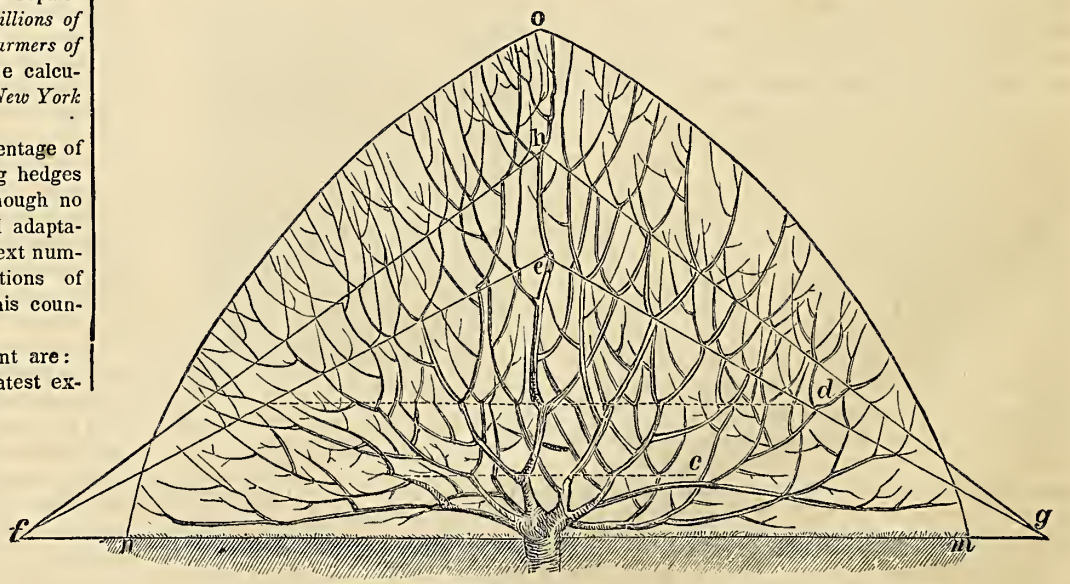


Fig. 3.

Section of a well made Hedge. The line *c*. shows where the hedge is to be cut in June of the 2d year; *d*. line of cutting in the Spring of the 3d year; *f. e. g.* in June of 3d year; *f, h. g* in June of the 4th year.

the most severe pruning when young. He advises that the first year's growth, after the plants are set in the hedge-row, should be cut back the next Spring, nearly or quite to the ground-line or collar of the tree. At the Summer pruning, performed in June, the plants are mown off with a horizontal cut (so as to leave the lowest lateral branches) 4 or 6 inches above the Spring cut.

At each semi-annual pruning, a hight of about 6 inches is gained, and the horizontal is succeeded by the pyramidal shape as represented by the lines in the engraving. This system, undoubtedly the best one, is applicable to all deciduous plants.

HONEY LOCUST, (*Gleditschia triacanthos*), FIG. 4.

This plant, which gives considerable promise of success, is a native of several of the Western States, Ohio, Kentucky, &c. It is perfectly hardy in Summer and Winter. The difficulty with this plant has been, that it bears the requisite crowding with evident impatience, and being, in its best estate, some 80 feet high, is sometimes killed by the attempt to reduce it to suitable dimensions for the hedge.

Fig. 4 represents a young, vigorous Honey Locust; its formidable thorns covering even the older wood of the trunk and branches. These thorns, shown more distinctly in fig. 5, often grow to be more than a foot in length, with lateral thorns of six or eight inches. Having had some experience of the character of these "weapons of defence," (in Western pasture fields, *not* in orchards) when a bare-footed urchin, we should rest in perfect composure were our pear-orchard and vineyard surrounded by a hedge of *Gleditschia triacanthos*. No biped or quadruped marauder would dare its

Fig. 5.

thorns. It bears clusters of crooked pendulous pods, 12 to 15 inches long, containing hard, bean-shaped seeds, imbedded in a pulpy substance, which is very sweet and palatable, at least to the juvenile taste. Dr. Warder recommends setting this plant three feet apart in the hedge-row, and attributes the failures with it to too close planting and subsequent neglect of trimming. From the very start, the Honey Locust hedge should be cut back to within 2 inches of the ground which will cause it to throw out numerous shrubbery branches and counteract its tendency to form trees. All strong shoots having a tendency to over-top their neighbors, should be headed back as soon as discovered.

The subsequent pruning is performed as recommended for the Osage Orange, fig. 3, and should be even more promptly attended to than that plant. William Reed, of Elizabeth-town, N. J., who has had twenty years' experience with this and other hedge-plants, says he is satisfied that the Honey Locust is the best for Farm Hedges, being perfectly hardy, a rapid grower, easily kept,

Fig. 4—GLEDITSCHIA TRIACANTHOS—HONEY LOCUST.

and from its thorny character, a most efficient barrier.

The young plants of the Honey Locust are, in

Fig. 6.

most localities, easily and cheaply procured of the nurserymen, and when this is the case, few farmers will find it convenient to raise their own seedlings; but where they are not obtainable, they may be raised from the seed. The great difficulty in this process is in causing the seed to germinate. By pouring over them when they are spread thinly in a shallow vessel, *boiling water*, and allowing them to stand in a warm place a few days, they may be planted in the Spring with a certainty of having good strong plants above the ground in a fortnight.

The foliage of the Honey Locust (fig. 6) has a beautiful feathery, graceful character, and the male and female blossoms, like the Maclura, are borne on different trees.

Destruction of Forests.

Having given our plea, once and again, for the preservation of the forests, we now wish simply to record a confirmation of our views, which we find in one of the daily journals. It appears that a learned Frenchman, M. Brequeril, of Paris, has lately published an elaborate treatise on the influence of forests, treating the subject both historically and scientifically. His conclusions are, in brief: "that the forests act upon the climate of a country as frigorific causes; that they also act as protection against winds, and as a means of preserving living springs; and that they prevent the degradation or wearing away of the mountains. They also act as protection against the communication from place to place of contagious diseases."

How to get up a Country Park.

"All work and no play," according to the old adage, "makes Jack a dull boy;" and as we have given our readers, since the first of January, a tolerably thorough drilling into the *labors* of rural life, we propose to change our discipline for the moment, and enjoy a trifle of *recreation*. We are the more inclined to this from receiving a communication from a distant subscriber, detailing his efforts at Park making within a few months past; and as it may impart a useful hint or two to such of our suburban readers as now and then make an attempt in that line, we give it as written, with the heading as above:

To the Editor of the American Agriculturist:

I learn by the New-York papers that your city government is getting up a great affair in the way of a Park, containing some eight-hundred acres of what is now flat, hilly, rocky, sedgy, peaty, mossy, swaly, woody—in fact, all sorts of land, besides sundry puddles of water, with which the Island of Manhattan is blessed in so compact, and restricted a compass. It is going to cost, I hear, several millions of dollars for the land, and ever-so-much more to lay out, engineer, cut-and-fill, plant, water, and road it. A wonderful thing, no doubt it will be, when finished—worth all its cost to the swarming population of your great teeming town, and a future model, I trust, in its extent and perfection of taste to the parks of other large American cities which are to follow it.

There are some private parks in our country, too, but not half so many as there ought to be; and having a little inclination that way, and a right spot for it, your humble servant has lately tried his hand in an attempt at one on his own account. Know, therefore, Mr. Editor, that some twenty years ago I purchased in the neighborhood—say half a dozen miles distant—of a thriving town, far away in the country, nearly a thousand acres of wild land. It was not all woods, exactly, for half a dozen families of those valuable creatures called "Squatters," had there pitched their tents—cabins rather—at a much earlier day. They

made little clearings, inclosed small patches of ground for their corn and potatoes, and disfigured it so that when it came into my hands it was about as rugged and unprepossessing a bit of real estate as one would care to look upon; its redeeming qualities being a fine natural surface, an excellent soil, valuable and stately timber—where it still stood—a long stretch of clear, broad, navigable river passing in front, and a charming view for miles distant, embracing in its scope, the vigorous young town aforesaid. It was a natural resort for the Bald Eagles, too; where they had for generations lived, and bred their young, and between them and the Squatters, the most harmonious relations seemed to exist, without harm of one to the other. Of a part of this "Squatter" territory, having dispossessed the "Sovereigns" by the purchase of their "betterments"—what a misapplication of terms for such vandal spoilations as they had committed!—I made a farm, by cutting down their girdled trees, clearing out their brush fences, straightening their lines, and clearing up the land to the extent of several hundred acres, and have occupied it for agricultural purposes ever since. Of this, however, I am not going to discourse.

But the ruggedest part of the whole lay further along the river, worse mutilated than the other which I first took in hand; and as I had no particular use for it, I let my cattle range over it in Summer; while all the neighboring bipeds, in search of holiday amusement, resorted thither for the excellent fishing, found along the shores and in the stream opposite, and for gunning, and other vagabond recreations, usually, however, in a quiet, respectable way. It has a long, sandy beach of half a mile, lying in front, wooded down to its shore; just back of that a terraced bank, with a stretch of old pasture land embracing an occasional clump of Elms, Beeches, Oaks, and Maples, which the Squatters had accidentally, or lazily left upon their "improvements;" and a dense forest in rear, as a finishing back ground—in short, a delightful spot to "loaf" of a lazy, sunny, Summer's day. How many times I have envied the sleepy loiterers as they lay along that breezy beach, under the shade of those grand old trees, their boats swinging lazily by the shore, and wished that I could be as happy in the indulgence of such idleness! But I had no taste that way, and for years gave up the ground to them, and the cattle—or to the cattle, and them, rather, and reserved it, Micawber like, for "something to turn up" at one day, or another. Well, the time finally arrived, and during the fine open weather of the past Winter, I took the matter in hand, and in an incredibly short time—to Park makers—*cut* out, not *pianted*, a grand affair of a hundred acres or more, of as agreeable recreation grounds as one could ask for—in a new country. There is wood, grass, water, bathing, fishing, yatching, rowing, all to heart's content, with a steamboat wharf to land at, and within half an hour's access to eighty-thousand people.

But, you may ask, Mr. Editor, how has this park been so readily accomplished, an old Squatter's settlement been so easily converted into a finished piece of shade, and pleasance? I'll tell you. Squatters do no sort of improvement by *calculation*. They move by chance, and accident. When they attempt to cut out a clearing, it is never done by straight lines. They cantle *in* here: they hack *out* there; if there is a swamp hole in one place, they fall the surrounding tree tops into it to get rid of further trouble, and so leave it; a clump of "old settlers," as they call the big trees, in another place they shy round it, not loving heavy chopping; and thus, after occupying their premises awhile, and then abandoning them to the recuperation of nature, the trees and grounds oftentimes take those features which, when put under the action of a discriminating mind, yield the very thing you want, and which, perhaps, with all the study you could give it, under a state of nature, you could not succeed half so well in accomplishing. So with this place. There was a broad, open space of old turf ground a little way along the shore; then a clump of tangled young wood, underlaid with a thick growth of bushes; beyond, a point of heavy timber running out from the forest into the open ground; a few scattering, stalwart old elms, oaks, and maples, which being left out alone in the clearing, had thrown out vigorous young shoots far down their originally tall, naked trunks, and now gave dense masses of shade all around them.

The edges of the deep woods, too, had become feathered down to the ground with the younger growth springing up beneath them, and covering up the bare trunks which new clearings are apt to show so repulsively, and thus prepared them for the hand of a skillful improver. Yet, all was wild, lying waste and unattractive. There were old frog-holes and swales, which had lain since creation, and where the frogs had piped in shrill concert every Spring since Noah's flood, now full of decayed tree tops that had been filled into them to save chopping up at the time of clearing. Taken altogether, it was about as pretty a *mess* as one would care to go into, who did not understand quite well what he was about, and what he wanted to make of it. Thousands of other just such spots, *land*-wise, lie all over the country.

Now, for the way of doing it: I first took a couple of good ditchers out to tap the frog and swamp holes, and drain them into the swales; half a dozen good woodsmen, expert in the use of axes and bush-hooks, and with a light axe in my own hand, and each a heavy one in theirs, we entered the grounds. For the first few days we attacked the brush-wood, cut it close, dragged it out on to the open ground, where it could be burned without scorching the standing trees, and piled it. Then, with my own axe in advance, I marked every bad, imperfect tree, or sapling that needed removal, while the men followed and cut them away, and chopped them up for clearing out. Thus, open groves of fine young second-growth were made of thickets and almost inaccessible brush-wood. Spectral old trunks of dead, standing trees were cut down, and chopped into "logging length" for hauling out; and gaunt, crooked, ill-shaped things felled, to make room for the thrifty, and handsome ones. In short, whenever we saw a thing which required removal, it was done up thoroughly, and after a few weeks' work, what looked so wild, rampant, and neglected before, now showed as if the advance guard of ruin itself had rushed in upon it. There lay the slaughtered wood, and the hacked-up brush and tree tops, stretched out upon the ground, and sprawling over the grass, higglety pigglety, as if the very genius of havoc had made a descent upon it, scattered hither and thither over many broad acres of ground, with huge old stumps here and there between, adding to the desolation; a nice specimen of "improvement," to the eye of a pleasure-ground admirer!

Such was the first series of labor. Next, two solid yoke of oxen went out with us to our daily toil. The brush piled, and out of the way, we hitched to the worthless logs and rubbish which the fallen trees had made, and hauled them together for burning; and what was fit for firewood we laid aside for that purpose. Any quantity of old decayed trunks and tops lay half buried under the leaves, and in the water-holes now dry, whole *quarries* of them—all these we hauled out one after the other, and made the ground clean throughout. The field stumps—those of the trees long ago chopped away—were pulled out and piled for firing, and every combustible thing taken out from among the standing trees. A few days of dry weather, and fire was applied to the heaps of dry rubbish. A jolly time we had of that, lasting a few days longer in "picking up," rolling the old charred logs closer together as they burned away, and "branding." After this, numerous blackened spots of burnt ground and ashes remained, which we scattered away with our spades, and sprinkled grass seed over, and this is now springing up to clothe the earth again, fresh and vigorous. A person knowing the place last year, would scarcely recognize it now, so changed for the better. The features are all renewed, its face washed, hair combed, and brought into comeliness and beauty, at a cost not exceeding two or three hundred dollars; and here is a Park, comprising all the main requirements which belong to a finished one of the kind, with the simple difference, that it has been made in a few weeks, out of an old slashing, instead of twenty or thirty years of engineering, leveling, plastering, pruning, manuring, and the thousand and one other things which are indispensable to create one from an already cleared surface.

The most grateful sensation of the whole to myself is, that instead of a nusiance to my estate, and of little account in a productive way, it has now a *paying* fancy value worth treble any other part of the farm, from its attractiveness as a place of Summer resort to the neighboring town's people, who find that they have a watering place, and park, close at home, instead of going several hundred miles away to enjoy a less desirable one among "the fashionables." It is, in short, a new creation; something, made of nothing; and hundreds of such can be just as easily made all over the country.

RUSTICUS.

Pruning Fruit, Shade, and Forest Trees.

June and July are good months for removing large limbs from fruit and shade trees. The sap is now in a right condition to form new wood, and the healing process commences at once. The foliage also serves as a shade to prevent sun checks in the wounded parts, although where large branches are taken from fruit trees it is better to coat the exposed portions with the solution mentioned below.

The tools for pruning are: *first*—a sharp, finely set saw, nearly pointed at the end, that it may enter between closely growing limbs. Neither should it be a "backed" saw, but like the common board-saw used by the joiners. *Second*—a hand hatchet, like a small axe, easily used by one hand. *Third*—a stout pruning knife; and each of them sharp. Then, a step-ladder, easily carried in the hand, or on the shoulder. Of course we give no directions as to what particular branches are to be cut off, as the tree or shrub is not before us, presuming also, that the pruner understands his business.

As to the mode or manner of doing the work, let every branch be cut *close to the body* of the tree, or main branch from which it is taken, and the bark pared close and smooth, for the wound rapidly to heal over. If a choice tree, a solution of gum shellac dissolved in pure alcohol to the consistency of cream, should be laid upon it with a paint brush, to exclude the air, and prevent the exposed wood from sun-cracking.

Pruning, in general, is not half enough regarded

by tree, and shrub growers. A shade tree developes half its beauty, and growth, by good pruning. Forest trees, where it is any object to do so, are all the better for it; and every fruit-grower knows, or ought to know, that he can get no perfect fruit, nor full crops, without special attention to its practice; while every florist will tell you that to obtain the finest flowers, and the highest perfection of bloom, the nicest attention should be given to pruning out and properly adjusting the spray of the plant.

The Orchard..... V.

CHERRY.

This is a common fruit all over the country—of-one-sort-or-another. Yet, choice varieties are not always cultivated; and although they are much more abundant of late years than formerly, they are not nearly so much attended to as they should be. The cherry, as a tree in itself, for shade only, is exceedingly ornamental. It is hardy—particularly in its seedling, as a mazard, or unworked condition. Its shape is graceful and symmetrical, its foliage full, its flower fragrant and beautiful; and fruit, if worth little for eating, is grateful to the eye. But when the value of a really good cherry for edible purposes is considered, it is among the choicest list, and most economical of the smaller stone fruits. Therefore, where the soil and climate suits it, the cherry should always be cultivated as a farm and garden production—for household purposes, if not for market.

SOIL AND CLIMATE.

A dry, *naturally* drained—that is, a soil, with a porous, sandy, or gravelly under-stratum, letting off the water below, is what best suits the cherry, although it will grow and do well in a heavy surface-soil, with arificial or under drainage; or on a bank where the water-accummulations of the soil will flow rapidly off. But the true, *natural* soil for the cherry, of any kind, is a free, sandy loam, of good quality. In that, it grows, bears and luxuriates in perfection, and in such only would we recommend the plantation of cherry orchards, for *market* purposes. A few trees for family use may be put in almost any good soil—even a clay, made dry by under-drainage, if necessary.

There are some soils too "fat," as they are sometimes termed, to grow the cherry successfully, such as river-bottoms, unctuous prairie soils, and others, rich in the decomposition of vegetable humus. The trees here make a prodigious annual growth, and when arriving at full bearing age, are apt to burst the bark of their trunks, crack in the limbs, and shortly die. Extreme degrees of Winter cold in such soils are particularly fatal to them. The lighter soils are of medium quality in fertility, and are therefore most available, giving them a moderate growth, which the season fully ripens, and prepares to withstand the rigors of the succeding Winter.

The climate of our Central and Northern States best suits them, although, in proper exposures elevated at the South, and sheltered at the extreme North, they frequently thrive, and do well. Indeed, they are so general in cultivation, that the localities favoring them are almost everywhere understood, by residents of only a few years, who have paid any attention to fruit culture. They should be tried *everywhere*, and if they succeed, the planter will be well paid for his pains and expense; if they do not succeed, the experiment with a few trees will not be costly. At all events, the fact of ascertaining whether they will grow or not, is worth the trial.

USES OF THE CHERRY.

Every good housewife understands the value of the cherry, in the various cooking purposes to which it is adapted; and when of good quality it is palatable, in its ripe and grateful flavor, to almost every lover of fruit in its season. Not only for the table, as a dessert fruit, is it valuable, but for pies, puddings, tarts, preserves, both fresh and dried, it is most convenient and desirable, taking the place of other more costly, and foreign fruits of less excellence. Then, as a market fruit, it is always saleable, and in demand at good prices--two to four dollars a bushel, in our cities, towns, and villages. When properly selected, the fruit bears transportation to a great distance, and keeps in good condition much longer than the peach or the plum. It immediately succeeds the currant, and if a succession of varieties is planted, may be in season for a number of weeks—in many instances quite two months, although the usual cherry season comprises in the same locality, but about four weeks. It is scarcely needful to add, that a liberal use of the fruit, either in its natural state, or cooked in the many ways to which it is adapted, is both healthful and nutritious. Therefore, it is a desirable, useful, profitable fruit, and should be cultivated by every one having the opportunity, and to such extent as his own family wants, or the market demand may render profitable.

PLANTING AND CULTIVATION.

Eighteen to thirty feet apart, according to the variety of the fruit, and quality of the soil, are the proper distances at which the cherry tree should stand in the orchard; and the general directions applied to the trees already treated of by us, equally well apply to them. Of pruning, cherry trees usually require little, and that chiefly to cut out cross limbs, chafing each other, or straggling out of place and deforming the head of the tree. The great drawback to the cherry orchard after coming into bearing, is breaking the limbs by careless picking, which should be guarded against by having proper step-ladders, hooks and baskets, and using care in detaching the fruit, which should always be taken with the stem upon it, thus preserving it from bruising, and enabling its carriage to a distance without crushing by its own pressure.

VARIETIES.

Were we to have but *one* variety of cherry, that should be the Kentish, or common pie cherry, so universally grown all over the country. Although called a sour cherry, and not so palatable to the taste as the better varieties of the "English," so called, yet for all uses, taken together, it is the most valuable for cooking, preserving and drying. It is the hardiest of all, and although not so rapid a grower, is a constant and prolific bearer, and withstands almost any amount of hard usage with impunity. Yet it equally well pays for good treatment and cultivation, and were we to cultivate cherries largely, although it brings a less price in the market, we would not be without a fair proportion of these. They ripen seasonably, and hang longer on the tree than any other variety. We have had them in eating, picking them daily from the same trees for six weeks in succession, which none of the choicer varieties will do.

After this, we name the May, and late Dukes, Black-tartarian, Yellow-Spanish, the old Black-heart and Elkhorn, as standard varieties, long proved, and furnishing the cherry season throughout in reliable excellence of flavor and quality, from the earliest to the latest. There are many other varieties in circulation, some of them new, which have obtained either a local or general celebrity, and are worthy of attention to the cherry orchardist. But as our object is chiefly to recommend those well established, reliable varieties for family use, and a general and profitable market, we confine our names to a limited number of such; the books and nursery catalogues will give the rest. The cherry tree is a beautiful object in itself, and an interesting fruit to the amateur; and when time and opportunity permit, he may well indulge in a wide selection of the large number of new and choice varieties, many of which will amply repay the care he bestows upon them.

DISEASES.

These, happily, are yet but few with us, and the worst that we have seen are those which originate in an unpropitious soil, already noticed. Insects sometimes trouble the fruit, and the leaves, as birds do the fruit always. But the treatment of these not coming within the range of our discussion, we hand our readers over to the books, where, as well as the different varieties which may be inquired after, their various descriptions, and remedies may be found, and thoroughly studied.

The Pear and Cherry Slug.

BY A. O. MOORE, N. Y.

The insect which we familiarly call the Pear Slug (*Selandria Cerasi*), see fig. 1, next page, is, at the period of life when generally noticed by the cultivator, a greenish black, club-shaped worm, with a thick, rounded anterior extremity, and tapering toward the posterior. It is covered with a semi-transparent coat of slime, which exudes from its body, and, in the hottest sunshine, does not become hard or dry. There is not the slightest indication, as it rests on the leaf, that it possesses either head or legs, but under the club-shaped thorax it has a head like a caterpillar, and by rubbing off its slimy coat, or by turning the insect upon its back, it will be found to possess three pair of true legs, those which are nearest to the head, and seven pair of false or prolegs, the latter being more flat in shape than the former. While resting undisturbed upon the leaf, the tail or last segment of the body is slightly raised. At its greatest size, the worm is about half an inch in length; it is very sluggish in its habits, being rarely seen to move, not even attempting to escape when touched or otherwise disturbed, nor does it seek refuge from the most intense heat of the sun, or from the pelting rain, being always found fully exposed on the upper surface of the leaf.

It does not eat durng the day, but about sunset commences to feed. The injury consists in its eating the upper skin of the leaf, while the lower skin and veins are untouched; the leaves immediately assume a brown unsightly appearance, while the proper function of the leaf, the elaboration of the sap, is almost entirely obstructed. Young trees are sometimes irreparably injured, and I have seen many acres in a single nursery, the trees of which were, from this cause, rendered permanently unsalable, and comparatively worthless. Older trees are often much injured by checking the formation of young wood and fruit spurs, which has a serious effect upon their growth and fruitfulness. As early as the year 1797, this insect attracted the attention of cultivators in Massachusetts, and elsewhere, by causing great injury to the cherry, pear, plum and quince trees; and it has, with little intermission, continued its depredations every year, until this time.

We have thus far considered the insect in only one form of its existence It may not be uninteresting to investigate its origin and its subsequent condition. Like all other insects, its exist-

ence may be divided into four stages: first, the *Egg*; second, the *Larva*, or worm state, which is peculiarly its eating and growing period; third, the *Pupa*, or dormant state; fourth, the *Imago*, which is the perfect or winged state. In this last stage only are the differences of sex discernible, and by the Fly or perfect insect by which the eggs are deposited which reproduce the brood of destructive worms.

Fig. 1.

The Pear Slug full grown. The leaf with its upper surface partly destroyed. (*a*) The egg deposited upon the upper surface of the leaf.

This fly of the Pear Slug is described as a four winged (*Hymenopterous* or wasp-like) insect of a glossy black color. The wings are somewhat convex on the upper side and slightly wrinkled, transparent, reflecting the colors of the rainbow, the anterior pair having a smoky band across them. The legs are tipped with a dull yellow color. The body of the female measures rather more than a fifth of an inch in length, that of the male is smaller. They make their appearance twice during the Summer, the first time about the end of May or the first of June, the second appearance about the latter end of July. On each occasion they lay their eggs and disappear in about three weeks.

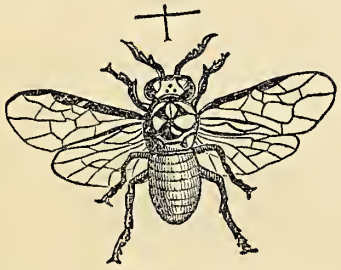


Fig. 2.

The perfect insect or fly of the Pear Slug—magnified. The cross lines represent the natural size.

The engraving, fig. 2, represents the perfect insect magnified. The cross lines show the natural size. This figure is taken from an English work, as I have not been able, personally, to verify its identity with our own insect. The other cuts are transcripts of my observations. The slug-fly deposits its egg singly on the surface of the most matured leaves, covering it with a frothy, white, varnish-like mucilage, which surrounds it, and serves at once to attach it to the leaf, and to exclude the atmosphere. The small spot *a* on the leaf, fig. 1, represents the size and form of the egg which is seen as a dark center in the middle of a white spot. Fig. 3 represents the egg magnified, and the worm or young slug within the semi-transparent shell. Fig. 4 exhibits the egg also magnified after the insect has emerged.

Fig. 3.

Fig. 4.

Fig. 3. The Egg magnified with the embryo Slug seen through the shell.

Fig. 4. The Egg empty, after the Slug has escaped—magnified.

It may here be noticed that Dr. Harris in his admirable treatise on insects injurious to vegetation, in speaking of the Pear Slug, states that "their eggs are placed singly within large semicircular incisions through the skin of the leaf, and generally on the lower side of it." It is singular that a statement made with so much particularity should be entirely at variance with the facts of the case. The egg I have never been able to find on the under side of the leaf or in any incision on either side, but very plainly can it be seen by close scrutiny on any tree attacked by the slug, deposited upon the upper surface of the leaf appearing as a white speck about the size of the head of a pin.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 5. (*a*) The Slug, after shedding its skin the last time. (*b*) The skin left upon the leaf.

Fig. 6, (*c*) The Cocoon from which the insect has been prematurely removed. (*d*) The Slug, after having commenced its change to the fly state.

Fig. 7. The Ichneumon fly, magnified; supposed to be of the species *Encyrtus*, taken from the egg of the Slug.

When first hatched, the young slug is white and can with difficulty be discerned with the naked eye; it commences immediately to puncture, with small holes, the surface of the leaf upon which it is produced. It soon acquires a covering of greenish black slime, and is said by Harris to live as a worm twenty-six days, shedding its skin during that period five times. At its greatest size it is half an inch in length, and is now nearly or quite ready for its last moulting. Fig. 5, gives its appearance after it has shed its skin for the last time, with the forsaken skin lying near it. It is now much changed in color, being of a yellowish brown and somewhat diminished in size. In a few hours it falls to the ground and immediately seeks to burrow into the soil. Descending to the depth of several inches it forms a cocoon with a shiny brown interior surface, and a rough exterior with grains of earth adhering. Fig. 6 shows a broken cocoon with the insect, now much further diminished in size, taken out. This is the *Pupa* or dormant state. It remains in the earth after its first appearance sixteen days, when it comes forth as the perfect insect, fig. 2. The second brood remain in their subterranean retreat until the succeeding Spring.

We will now consider the means for preventing or palliating the injury resulting from the attacks of the Pear Slug. I would first remark that the slug is found in much greater abundance on weakly growing trees than on those of strong and rapid growth. This fact points to the first and fundamental remedy; the securing of healthy trees and by the proper enrichment and preparation of the soil, of a thrifty and uniform growth. I have also noticed that certain varieties of the pear are much more subject to its attack than others. The Bartlett, Duchess d'Angouleme, and Louise Bon de Jersey, for instance, have with me suffered more than the Glout Morceau, Vicar of Wakefield, and Beurre Diel Nature has provided a minute but formidable enemy to the slug, which serves very materially to check its increase. This enemy is a species of Ichneumon fly which is also of the wasp family. Soon after the slug fly has deposited its egg on the leaf, the Ichneumon deposits its egg within the shell of the former, which developing to a minute grub before the time for the hatching of the slug worm, feeds upon the embryo slug, passing the whole period of its existence as a worm, and even undergoing the succeeding transformation through the pupa state, within the small space afforded by the egg of the slug, the natural size of which may be seen at *a*, fig. 1.

Fig. 7 exhibits the Ichneumon fly as found in the egg of the Pear Slug nearly ready to emerge as a perfect insect.

Fortunately for the cultivator, the Pear Slug is easily destroyed during the worm state, and since the discovery that the egg is deposited upon the upper side of the leaf, it can be easily reached in this stage of its existence.

The application at the proper time of lime in a dry or powdered state while the leaves are wet with rain or dew, will prove effectual in destroying the egg before it is hatched, or the slug during the time of its depredations. If the number of trees to be treated is large, it will only be necessary to apply the remedy twice during the season, provided the proper stage of the insect's developement is chosen. This should be as soon as possible after the eggs are all hatched, which is usually about the first of July with the young brood, and the first of September with the second brood. The lime should be very carefully dusted on every leaf of the tree, and by following up the application promptly for a year or two the number of insects will be very much diminished. If applied earlier than the times mentioned, some of the eggs will not have hatched, in which case it requires much greater care and a larger quantity of lime; or if applied much later, many of them will have undergone their transformation into the pupa state, and therefore be beyond our reach. Many cultivators have reported a want of success from the application of this remedy, merely from the want of that knowledge of the history of the insect which would enable them to choose the proper time for its use. I have found this remedy always efficacious, and even plaster of Paris, ashes, or dust from the road applied to the slimy coat of the slug will cause it to sicken and die.—Rural New-Yorker.

Currant Bush Insects.

To the Editor of the American Agriculturist:

I write you in behalf of that old, familiar and useful fruit, the Currant. It is many years since I first noticed some of the leaves of the Currant bushes in my garden, which were then very fruitful and thrifty, to be covered with red spots. For several seasons, I paid little attention to them, as neither the fruit nor the shrub seemed to suffer. But at length, finding the appearance to be every year increasing, I searched for the cure, and found that wherever the upper surface of the leaf was turned red and slightly indented, the under surface was covered with lice. I then commenced clipping off the affected leaves, and continued to do so through the season. The next Spring, however, they appeared more wide-spread than before; and since then I have been clipping and the lice increasing. Last season I became satisfied that this course would never cure—that

at best it only checked the progress. I then resorted to several compositions said to be death on the whole louse tribe, but without effect. Next, I smoked some of them thoroughly with a mixture of lard and sulphur. The rising fumes did not annoy them, except where the heat was sufficient to crisp the leaves. Then, as a last resort I made a strong decoction of tobacco, and applied it as well as I could; some of the lousy branches were held in the liquor several minutes; but all in vain—even those that took the ducking, were as well to do as ever the next day.

Last year for the first time, I lost my entire crop, and fear that most of the stems are dead. I did not remove any leaves last year; perhaps, by doing so I might have saved my crop; but it is a great labor and promises but little; besides, the leaves are necessary to the perfection of fruit. I trim the shrubs several times in the season and keep them clear from grass and weeds. Sometimes I cover the ground with chip-manure, sometimes with forest leaves.

Now, Mr. Editor, as the Currant is regarded as an indispensable fruit in most country families, and as this insidious foe, which I have been combating so long in vain, is spreading throughout this part of Vermont—how much further I do not know—will you or some of the readers of the *American Agriculturist*, suggest an effectual remedy. That you may the better do so, I will give a more minute description of the insect.

Early in the Spring, before the first leaves are half grown, red spots appear on the upper surface of the leaf. Turning up the leaf nothing can now be seen by the naked eye; but in a few days a small nit becomes visible, and from these originate the lice. They gradually become quite large, when a pair of slender wings project from their backs, and they pass off in the form of a little fly. Others succeed and go through the same process, till the under side of the leaf is covered with them, the redness on the upper surface increasing in the same ratio. As the stem grows and other leaves form, they suffer in the same way. After the weather becomes warm and the lice thick and large, a multitude of green flies, about the form and size of the common house-fly, swarm about and light upon the bushes, as if greatly interested in the case; but what connection there is between the fly and the louse I have not been able to learn, I think the one does not generate the other. The Currant louse is unlike any other that I have seen, nor have I seen it on any other vegetable. No change of the elements or of location seems to affect them. Their progress, spite of everything that I have tried is onward. In Middlebury, twenty miles from this place, I saw a gentleman last Summer, clipping leaves from his Currant shrubs from the same cause. What can we do to destroy this little pest and save our fruit. DANL. GOODYEAR.

Hinesburgh, Chittenden Co., Vt., 1858.

REMARKS.

The flies alluded to are probably the Honeydew flies (*Tephritis melliginis*) which hover around plant lice for the sweets which they obtain from them. A small species of ant is usually found guarding a flock of lice, running among, and apparently caressing them, for which kindness the lice give forth a sweet fluid which is greedily sipped by the ants. The flies referred to are also fond of "honey," and if they espy the lice in an unguarded state, hastily alight upon them and with their forefeet rather rudely scratch the backs of the lice, and they, not likeing the rough treatment, spirt out the sweet liquid which the flies are in quest of, and it would seem, raise a cry for their defenders the ants. The latter hastily make a "descent" upon their enemies and wo to the leg or wing which they grapple. The flies usually beat a hasty retreat, but still hover about for another opportunity. We must leave some of our experienced correspondents to suggest a remedy for the pest described by Mr. Goodyear, and we hope they will also watch that destructive insect which has within a few years past, seriously injured the currant crop by destroying the branches themselves. We refer to the Currant Bush Borer. Perhaps our enterprising entomological contributor, A. O. Moore, will capture some of them, and with glass and pencil "show them up" in the columns of the *Agriculturist*.

A New Strawberry.

We have prepared for the *Agriculturist* the above engraving of a new strawberry (yet unnamed), which is under cultivation by Dr. I. M. Ward, of Newark, N. J. Dr. W. invites the attention of cultivators, and amateurs to this fruit, which he will have in bearing during this month. Our engraving—which is an exact representation of the size and form of the berry—is from a sketch made at the close of the last fruiting season, when the plant had, in a measure, expended its strength. Dr. Ward says of it: "Other plants previously produced a larger number of ripe berries of uniform size." He claims as the main points of excellence, or superiority, that it is "very productive—the berries being of uniform large size. They are dark in color, firm flesh, and superior flavor, and are borne on foot-stalks twelve inches and more in hight—the strength of the stalk being such as to sustain the fruit, and removing all necessity for mulching. The foliage shades the ground, so as to prevent, in part, the growth of weeds—and is so hardy as not to suffer under our coldest Winters, or be thrown out of the ground by frosts." There will be opportunity to test these claims before the plants will be in market. The engraving exhibits a depression where we should look for an apex, which shows a peculiarity of type.

To Kill Burdocks.

There are many ways to exterminate this pest, but the following is highly recommended: Let the plants grow until Midsummer, when the stalks and leaves are full of sap. Then cut off the roots with a strong, sharp spade, two or three inches below ground, pluck off the plant with a smart pull, and stamp the ground firmly over the remaining stump. It will seldom sprout again; but if it does, it will be in so weak a state that another application of the spade will end the matter.

How to set out Young Plants.

This is a little matter, yet of great importance. We once saw a bungling gardener set out a lot of tomatoes in the following way: He pulled up the young plants with his fingers, from the seed-bed, without loosening the ground, and thereby broke off a great number of tender fibrous roots. Then making a round hole in the vegetable quarters with a stick, he thrust in the plant, pressed the dirt around it with his foot, poured on some water, and left the plant to shift for itself.

After seeing him operate for a while, we begged the privilege of showing him our way. First, we mellowed up the soil where each plant was intended to stand, and scooped out a hole for its reception. Then we took a shingle (a garden-trowel is the very best thing for this purpose) and pressed it carefully underneath the roots of the plant so as to save all the fibers and to carry along with the root a quantity of the soil in which it nad grown. The roots were then set down in the hole provided and spread out in their natural position, and a little fresh dirt drawn around the stem of the plant to keep it firm. A pint or so of water was added, and a couple of shingles set over the plant on the south side to keep off the sun.

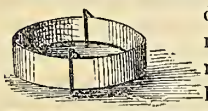
The careless gardener got impatient before we had set out many plants, and declared he "could not afford to fuss so with a few plants." We told him he couldn't afford to set them out in any other mode; and on visiting his garden late in the Summer, we had the satisfaction of seeing that our method produced much finer vegetables than his.

To Repel Bugs from Vines.

Gardeners will find this "leafy June," this "month of roses," a busy season, and not an unimportant part of their work will be keeping bugs off from the cucumber, melon, squash and similar plants. We therefore detail several modes of fighting this enemy.

A decoction of tobacco and red pepper, sprinkled on the leaves of the young plants, will repel the bugs. Even the pepper-tea alone will be too strong for all that have weak stomachs. A mixture of two parts flour and one of black pepper, dusted on the vines while wet with the dew, answers as a partial protection at least.

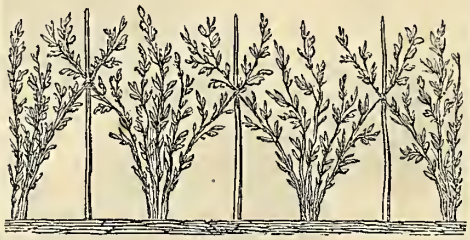
Open boxes, six inches high and a foot and a-half square, set over the young plants, will answer a good purpose; or a cheap and convenient protector may be made of birch-bark, pasteboard, or what is still better, old floor oil-cloth, pegged down, as seen in the annexed engraving. They may be six or eight inches high, and of any desired size. Where the two ends meet, it is well to tack them to one of the pegs. Place them around the hills as soon as the plants begin to break ground, banking up so that no bugs will work under them. Very few of the insect tribe will go over them. Bugs do not appear to be skilled in fence climbing. Simply standing bricks on edge around the plants usually keeps them out.



Liquid manure, made from hen-dung, and left to ferment, will drive off bugs by its offensive smell. Two shovelfulls of hen droppings to four gallons of water will make it of the desired strength. A half-pint of this liquid scattered over each hill, on every alternate day, will repel the bugs, and give the plants a vigorous growth.

A neighbor of ours says he has treated his bug-visitors, for twenty years past, to a pinch or two of good Scotch snuff; they think this is something to be sneezed at, and therefore leave in disgust.

We onee knew a man who planted his seeds by the hundred, all over his melon patch, and gave the bugs the largest liberty of his garden. He declared that he delighted to witness the enjoyments of animal life, and therefore would not kill bugs, but would rather feed them. He said that more than enough plants were left, after the bugs had taken their share, and he thought they were stronger and healthier vines, than if they were boxed up and dusted over with such acrid substances as snuff, pepper, ashes, guano, &c. And besides, did not this method save him a great deal of trouble?



Training Raspberries.

We present above a plan, differing a little from any one we have yet seen proposed, for staking or training raspberries. The sketch is from a plot in the garden of one of the Editors of the *Agrieulturist*. This method of training has been practised for several years with satisfaction. It is, perhaps, better adapted to garden culture, where land is too valuable to admit the usual plan adopted in field culture of planting in large hills, four feet apart each way, to allow plowing both ways between the rows.

As will be seen by the engraving, the raspberry vines are set in hills, 1½ to 2 feet apart, in rows from 3 to 3½ feet; the more valuable the land and the more carefully it is attended to, the nearer may be the rows. Two, or even four canes are set in each hill at first, and at the proper time these are bent over and tied loosely to stakes set midway between the hills, one or more, as the case may be, on each side. The new plants springing up are allowed to grow erect. They can be kept in a line, if desired, by running a cord along from stake to stake on either side. Each hill thus takes a fan-like look. This arrangement prevents crowding, secures the admission of sunlight, and promotes a strong growth of young vines, which are to be the bearers the next season. It is of course understood that the root of the raspberry is *perennial* (lasting through many years), while the canes are *biennial* (living but two years), and producing fruit only during the second year.

As soon as the bearing season is over the old canes should be cut down, in Autumn the stakes taken up, and the young plants, if of tender varieties, bent down and covered with earth. In the Spring, the last year's growth is in turn tied over to the stakes to make room for a new growth.

Frequently the young plants are so numerous that it is advisable to bend and tie three or more to a single side stake. They should be tied at different hights.

Wake Money—A good looking Irishman stoping at a hotel to warm himself, inquired of the landlord "what was the news." The landlord disposed to run upon him, replied, "they say the devil is dead." "An sure," says Pat "that's news indade." Shortly after, he went to the bar, laid down some coppers and resumed his seat. The landlord always ready for a customer, asked him what he would take. "Nothing at all at all," said Pat. "Why then did you put this money here? "An sure, sir, its the custom in me own counthry, when a chap loses his daddy, to give him a few coppers to help him pay for the wake."

Frost in Valleys.

Many persons suppose that, because valleys are sheltered from the wind, they are therefore warmer than the hills. Undoubtedly, they are warmer at certain times, especially in the Summer, and they are more comfortable in stormy weather. But whenever the air is still, they are colder than the hills. And why so? Plainly, because cold air is heaviest and sinks into the lowest places, and is not displaced by warm currents there, as it would be on the breezy hills. When one passes, on a Summer evening, from a hillside into a valley, the change in the temperature is very apparent: the air of the valley is damp and chilly. The same thing appears in Winter; the air of the valley may be still, but it is sensibly colder. Hence, early Spring crops and late Fall crops often suffer more from frosts in the valleys than on the hill-sides. The same applies to fruit which is sometimes cut off in the valleys, when it es capes harm on the hills.

It is surprising to notice how different the effects of frosts are, within a short distance, and with a depression of only a foot. We have lately met with the report of some observations on this subject, made in Montpelier, France. In a botanic garden, containing olive trees, sweet bays and fig trees, some perished from frost, while others escaped: and the different results were owing not to difference in the vitality of the several plants, but to the effect of shelter and situation. Thermometers were hung about in various parts of the garden, but the effect of frost on the trees showed the difference of temperature as plainly as the thermometer. For instance: in a low part of the garden, the bay trees almost all died, but in another part, on a swell of ground raised only six yards, they suffered but a little. So with the olive trees. In low places, the foliage was killed back to the old limbs. And so "in all the districts between Montpelier and Nismes, the olive trees of the plain suffered more or less, while those on the hills sustained no injury." The same thing was found true with the fig trees and pomegranates. This report concludes with inferring the general law, that "cold is most injurious in low places where radiation is most intense in consequence of the tranquility of the air; and least injurious in exposed places where the agitation of the air opposes the effect of radiation."

A cotemporary journal mentions the case of a thrifty young hickory, about forty feet high, which stood in a depression about 20 feet deep. The young shoots had grown a few inches, and being quite succulent, were easily touched by frost. After a certain cold night, the leaves on about one half the tree, the lower half, were found to be black and dead, while those on the upper half were as green as ever. We lately read of an experiment where a thermometer suspended in a low valley, sunk on a frosty night to 27°, while on a rise of ground near by, only sixty feet higher, there was no frost, the mercury falling only to 33°.

Facts like these might be multiplied, but these

are enough to suggest important lessons to farmers and fruit-growers. And among these lessons, we may mention the following: Indian corn may be expected to suffer more from frost in low valleys than on hill-sides. Fruit-buds, especially of such tender trees as peaches, nectarines, and apricots, and delicate shrubs and flowering plants, native and foreign, will suffer less from frosts on the hills than in the valleys. The intense heats of low lands in Summer, and their richer soil, tend also to make a more succulent growth in trees so situated, and thus expose them to greater injury than those planted on the hill-sides. Let farmers and others living on the hills, who sometimes complain of the loneliness and inaccessibility of their homes, take comfort in the foregoing. Let all planters study local climates, and act accordingly. Surely they will reap a benefit

Trees on Made Ground.

To the Editor of the American Agriculturist:

Some four years ago I built my house in the woods. While walling the cellar the workmen ate peaches and scattered the pits about, where a portion of them sprang up and are now growing. The next Spring I cleared some ground and set out 25 peach trees of two years' growth. I dug wide deep holes and put in plenty of manure with rich soil from old decayed stumps. Now one seedling which sprang up near the corner of the house where I filled in some two feet with earth from the bottom of the cellar, is more than twice as large and far more thrifty, with no attention save pruning, than either of the 25 trees which are two years older.

I also set out six cherry trees three years ago, which were then about the size of a man's thumb. They are in my yard and are growing finely. The soil has never been stirred among them, with the exception of one tree which was set on a spot where I had carted in 3½ feet in depth of earth from the bottom of my well, 16 feet in depth. The soil is a hard, stiff blue clay, mixed with gravel. This tree has grown to exceed belief, being now more than a *foot in diameter*. Now what is it that makes so much difference in the growth of these trees in favor of the hard soil? J. B.

Newburg, Clinton Co., O.

REMARKS.

We think the success of these trees is not due to the hard unproductive soil of the bottom of a cellar or well, as our correspondent supposes, but to the fact of their being upon *trenched* ground, with the good rich surface soil underneath for the roots to penetrate as soon as they should reach it. The filled in earth would be in a loose state for the roots to run among, and the soil although apparently poor, had not parted with as much of the "tree growing materials" as that near the surface which had long grown wood. The peach tree probably grew faster for being a *natural fruit*. Grafting a tree tends to check its growth and throw it into bearing.

The Usual Result.—An Irishman in the witness box, was asked what they had at the first place they stopped? "Four glasses of ale." "What next?" "Two glasses of whiskey." "What next?" "One glass of brandy." "What next?" "A fight."

Dentistry Free.—A down-east editor advises his readers, if they wish to get teeth inserted gratis, to go and steal fruit where his watch-dog is on guard.

The Buttonwood Tree.

We do not rank the buttonwood or plane-tree (sometimes, but erroneously, called sycamore) among our best trees. It is, however, interesting, from the large size of its leaves, the peculiar white color of its bark, the numerous russet seed-balls, many of which hang from its twigs throughout the year, the rapidity of its growth, and the immense size to which it attains. It is, we believe, the largest tree of the Northern States, and second only to the *Sequoia gigantea* of California. We have read of a specimen, near Marietta, Ohio, which, at four feet from the ground, measures 47 feet in circumference. Mr. Downing mentions one cut down on the banks of the Genesee river, "of such enormous size, that a section of the trunk was hollowed out and furnished as a small room, capable of containing fourteen persons."

It shows its greatest beauty when growing on the rich alluvial bottoms along our creeks and rivers. There, it often towers up 70 feet, and throws abroad a magnificent canopy of branches, surpassing nearly every other tree of the forest. Its peculiar habit of shedding its bark at intervals throughout the year, adds to its picturesqueness, perhaps, but not to its real excellence as a shade tree. This habit is ascribed by botanists to the rigidity of the outer bark, its lack of expansive power corresponding with the rapid growth of the tree from within. The bark bursts instead of stretching, and falls to the ground. Bryant alludes to this feature of the tree, in his address to Green River:

> "Clear are the depths where its eddies play,
> And dimples deepen, and whirl away;
> And the plane-trees' *speckled arms* o'ershoot
> The swifter current that mines its root.

Educated minds love to associate this tree with its first cousin, the oriental plane, so highly esteemed by the ancients. The Academic groves and the neighborhood of all the Grecian schools, were planted with this last-named tree. It is linked with the names of Socrates and Plato, who discoursed of philosophy beneath its shade. There is but a trifling difference between the native and the foreign tree. The foliage of the American is the largest. "The oriental plane," says a writer, "has the leaves lobed like our native kind, but the segments are much more deeply cut; the foot-stalks of its leaves are green, while those of the American are of a reddish hue, and the fruit or ball is much smaller and rougher on the outer surface, when fully grown." We observe that both varieties are advertised in the catalogues of some of our nurserymen.

We do not know whether there are any serious practical difficulties in the way of growing the foreign variety. It is to be regretted that the native tree is occasionally visited with a blight which mars its beauty, and sometimes kills the tree outright. The young shoots are sometimes nipped by late frosts in Spring, and when the tree recovers and puts out new shoots, they are often quite feeble, and do not become ripe enough in Autumn, to withstand the frosts of Winter. If it sprouts the succeeding Spring, it is, perhaps, to go through the same ordeal, and with less vigor to pass it safely. It is thought, by some, that this blight is not caused by frost, but is a disease or epidemic peculiar to this class of trees. They point, in proof, to certain brown blotches in the bark, where the sap has ceased to circulate. But may not these spots be the effect, and not the cause of the trouble? Strange indeed it is, that a native tree, and otherwise hardy and vigorous in growth, should be so smitten, while others around go unscathed! We observe that the same malady affects this tree in England. British writers speak of it as "in reality of a more delicate constitution, and less able to bear the vicissitudes of the climate than the oriental plane."

Whatever may have been the cause of the disease, we are glad to learn, that in many parts of the country, it is passing away, and the tree bids fair to become again healthy and vigorous.

The Paulownia.—*Imperialis.*

We are not going to repeat any of the high sounding terms which were applied to this tree on its first introduction. The furor it excited, several years ago, in France and England, seems now almost incredible. It is too tender a tree for successful culture in the Northern States. North of Albany, it is generally cut down by the Winter; South of New-York city, it attains considerable size.

It is a native of Japan, and grows as rapidly as the Ailantus, whose wood it somewhat resembles. In its native country, it attains forty and fifty feet in hight. Its leaves are often two feet in diameter, slightly rough and hairy, and serrated on the edges. They are heart-shaped, resembling somewhat those of the Catalpa, but are perhaps more like those of the sunflower. It produces clusters of bluish lilac flowers, of a tubular-shape, appearing in April and May, and having a slight perfume.

Our Southern readers can grow this tree easily and will need no urging from us to introduce it into their ornamental grounds. But there is an important use to which it may be applied, even in the Northern States, and it is this which leads us now to speak of the tree. This use is as an ornament to well-kept grounds. Let it be planted on the outskirts of a lawn, and it will give a peculiar air, at once, to the place. It will, perhaps, die to the ground every Winter, like herbaceous plants, but it will shoot up, every Summer, several shafts, six or eight feet high, with broad, palm-like leaves, giving quite a tropical look to the grounds about it. It adds something of the same aspect to a lawn which large specimens of hot-house plants do, when wheeled out in Summer into the open air; but with this advantage over them, that the Paulownia springs from the earth, while the house plants are confined in ugly tubs and boxes. Will amateur gardeners make a note of this? When they have tried it, as we have, they will thank us for the suggestion.

Nobody.—The tallest trees are most fiercely assailed by the winds. The more shining mark is oftenest hit by the arrow. The best man is the greatest object of hate by Satan and his emissaries. One should fear when only the evil speak well of him. Some writer, we know not whom, has versified a similar sentiment as follows:

> If nobody's noticed you, you must be small,
> If nobody's slighted you, you must be tall;
> If nobody's bowed to you, you must be low,
> If nobody's kissed you, you're ugly we know;
> If nobody's envied you, you're a poor elf,
> If nobody's flattered you, flatter yourself;
> If nobody's cheated you, you are a knave,
> If nobody's hated you, you are a slave;
> If nobody's called you a 'fool' to your face,
> Somebody's wished for your back in it's place;
> If nobody's called you a 'tyrant' or 'scold,'
> Somebody thinks you of spiritless mold;
> If nobody knows of your faults but a friend,
> Nobody'll miss of them at the world's end;
> If nobody clings to your purse like a fawn,
> Nobody'll run like a hound when it's gone.
> If nobody's eaten his bread from your store,
> Nobody'll call you a 'miserly bore;'
> If nobody's slandered you—here is our pen—
> Sign yourself *Nobody*, quick as you can.

GEANT DES BATTAILLES ROSE—(*Giant of Battles*).

Culture of Roses—Classification.

Roses are classed into three distinct divisions. These are: *First*—The JUNE or garden Roses, which bloom but once in the season, usually in June. *Second*—The REMONTANTS, sometimes called the Hybrid Perpetuals, which generally have several distinct periods of bloom. *Third*—The EVERBLOOMING Roses, which are in flower during the entire Summer.

The first class is the most common, and where others cannot be obtained a portion of them are certainly worth growing, especially some of the *moss*, *brier*, and *climbing* varieties belonging to this class. The highly prized Prairie Queen and Baltimore Belle are included in this division. They are all perfectly hardy.

The second division is often confounded with the third, from the fact that certain free blooming REMONTANTS, like the one shown above, with good culture on a rich, deeply worked soil, so extend or run their periods of bloom into each other that they nearly approach everblooming roses.

We prefer the term REMONTANT (growing again) to that of Hybrid Perpetual, which does not convey a clear meaning. This is an extensive class of hardy roses, embracing many of the finest varieties under cultivation. Conspicuous among them is the subject of our engraving. It has a large flower of a brilliant scarlet color, growing upon a somewhat dwarfish, but vigorous bush. We consider it one of the very best of its class. Were we to make an extensive plantation of roses, two-thirds, at least, would be REMONTANTS.

The third, or *Everblooming* class, has several sub divisions, among which are *Bourbons*, *Chinas*, *Teas*, *Noisettes* &c. Some of these are nearly hardy in this latitude while others need Winter protection. The Bourbons succeed as far north as Boston and Albany, with a slight Winter covering, and are a very fine class. That charming rose "*Souvenir de la Malmaison*" is a Bourbon. The *Chinas* are prolific bloomers but require Winter protection in this climate. Th *Teas* and *Noisettes* are but sub-divisions of the *Chinas*. We protect our *Bourbons* by bending over and covering with earth in the Fall, as we would raspberries. Our *Malmaison* came out fresh and bright this Spring.

We do not propose here to go into a lengthy dissertation on the culture of this choice shrub or climber, but will remark that no plant repays generous treatment better than the rose. A strong, rich, moderately moist soil suits it best; and to succeed well the ground should be trenched and a full supply of well rotted manure and muck added. On poor ground it succeeds indifferently. As before remarked, high culture will nearly make everbloomers of the Remontant family.

Two Layers of Seed.

RAIN continues to fall copiously almost every day. There is danger that many seeds will be rotted, and require a second planting. Fearing something unusual, after our almost snowless Winter, and valuing time, ground, and labor, more than seed, we sowed many of our garden seeds in double layers—first a deeper lot; then a layer of earth; then more seeds with a slight covering of earth. It will be strange if some of them do not find their way to the light, let the weather be wet or dry, though if it does not "clear up" soon after this date, (May 18), they may all rot.

IN DOOR WORK.

Milk as Food.

Milk, if *good*, is without doubt a most excellent food for adults as well as children. We think there are strong physiological reasons why children, at least those under two years of age, should be supplied *only with milk from farrow cows*. We do not allow our own children to be fed with other than farrow cows' milk until they are past four years old. The reasons for this were given on page 117 of the *fifteenth* volume of the *Agriculturist* (Feb. 1856), and we will not take up that matter again now, though we are inclined to do so hereafter, as we have no copies of that number remaining. We purpose now to refer briefly to to the composition and properties of milk.

Milk consists of *four* principal ingredients, besides a little mineral matter, which may be obtained in the form of ashes, when the milk is dried down and burned. This ash, or mineral seldom exceeds 1 lb. in 130 to 150 lbs. of milk.

The main ingredients of milk are: *water*, *sugar*, *curd* (*casein*), and *butter* (*fat*). The *average* prosortion of each of these substances is nearly as follows:

Water	about	87 lbs.
Sugar (of *milk*)	about	4½ lbs.
Curd, or casein	about	4½ lbs.
Butter, (oil or fat)	about	3 lbs.
Ash, or mineral matter	about	¾ lb.
		100 lbs.

The sugar and curd are *dissolved* in the water, and the butter or oily matter is simply *diffused through it*, in minute particles, too small to be seen separately. These particles are enclosed in sacs or bags.

Any one can separate these several ingredients. The oil will rise to the surface in the form of cream. A little vinegar or other acid will cause the curd (*casein*) to coagulate, when it may be separated by straining through a paper filter placed in an ordinary glass or tin funnel. Then boil it down a little and strain again, which will remove nearly all the curd, and leave a clear and almost colorless whey. Next evaporate the whey to dryness, and a mass of white sugar will remain. Or, after separating the cream and curd, evaporate the whey to about one-fifth its bulk, by gentle boiling, and set it aside in a cool place for a few days, when white or transparent hard crystals of milk sugar will be deposited upon the bottom and sides of the vessel. A further evaporation and setting aside, will produce another crop of crystals. This is pure milk sugar, not so sweet as cane sugar, but still quite good. As above stated, 100 lbs. of milk contain nearly 5 lbs, of sugar. The first described process of boiling down the whey at once to dryness, is adopted in some countries for obtaining sugar for food.

It may be remarked in passing, that, according to the above table, there are about 13 lbs. of *solid* nutriment and 87 lbs of water in 100 lbs. of milk. The turnip has only about 10 lbs of solid nutriment, and 90 lbs of water to the 100 lbs. Watermelons contain some 6 lbs. of solid food, and 94 lbs. of water in the 100 lbs. (This renders *almost* credible the statement that old Mehemet Ali was able to eat a forty-pound melon after the substantials of his dinner). Potatoes have an average of 25 lbs. of solid food and 75 lbs of water to the 100 lbs. Eggs 26 lbs. solid food and 74 lbs. of water. Lean beef about 22 lbs. of solids, and 78 lbs. of water. These comparisons show that milk is by no means poor in the substantial elements of food.

An examination of the quality of the solid ele-

ments the, sugar, curd, and oil or hutter, and of the proportions of each, will further show the peculiar adaptation of milk as human food. Asidc from the lime (or phosphate of lime) in the bones, thc solid parts of the human frame, and of all other animals, consist essentially of oils (fat), and muscles (lean flesh) including the tendons.

The muscles (lean flesh) contain nitrogen, and in their composition, resemble casein or curd of milk, albumen or white of eggs, gluten of grains, &c.

The fats or oils are carbonaceous (coal) compounds, being, in their composition, very like milk oil or butter. But sugar, as well as starch, is also a carbonaceous compound, and as food, it furnishes the elements for forming fat or oil. This fat or oil of the body supplies thc carbon consumed in breathing, by which operation the carbon (or coal) of the food is consumed, and the heat of the animal system kept up.

Here then we see, that 48½ wine quarts (100 lbs) of milk furnish 4½ lbs. of pure solid *casein* or curd, which goes directly to form the muscles or lean flesh that give strength to the body. The same milk, 48½ quarts, affords 3 lbs. of butter, which is almost identical with human fat. The same milk furnishes 4¾ lbs. of sugar, which also gives thc elements for making fat, and for producing heat.

The 12 ounces of mineral matter—that portion left as ashes, when 48½ quarts of milk are burned —consists largely of phosphate of lime, which constitutes the solid parts of the bones.

We have, then, in milk the constituents of the animal frame, and what is more, they exist in good milk in just about the proportion required to sustain and increase the several parts of the system.

Another important consideration is the fact, that in milk the elements are already divided, ready to be acted upon hy the gastric juice of the stomach, which is not the case with most other kinds of food. Much of the energy of the system is exhausted in digesting unmasticated solid food. Small lumps of potato, bits of meat, &c., though no larger than a pea, often lie for hours before fully dissolving, and produce irritation, and frequently induce acidity or sourness—effects not produced by pure or water-diluted milk, from healthy cows fed upon well-conditioned food, not distillery swill slops, and such-like materials.

Use of Lime.

This article may be used in several ways, very advantageously, just now. Scatter it around your cess-pools and kitchen-drains, and over the floor of your cellar, where vegetables have been stored. It is a powerful disinfector, to prevent unpleasant and unwholesome odors. Use it liberally, also, as a whitewash. Have you old buildings not worth a coat of paint, fences, sheds, henhouses, and granaries in the same condition? Give them a dressing of whitewash. And don't forget the inside walls of your cellar. Nothing will make the air below stairs so sweet and healthy as this.

Scrap Books.

F. T. R, of Ottawa Co., Ill., writing to the *Agriculturist*, adds the following note containing an oft repeated, hut none the less valuable suggestion: "Persons very often meet with items of valuable information in old newspapers that they do not keep on file. If all these scraps were cut out and laid carefully away, and when a sufficient number were collected (say once a month) were neatly pasted into a blank book, alphabetically arranged, they would, in a short time, form a valuable fund of information for future reference. In this way, an *Agricultural Scrap Book*, or a *Housekceper's Scrap Book* might be made that would be in constant demand for recipes and other information, besides furnishing pleasant occupation for leisure hours."

A First Rate Whitewash.

We have tried various preparations for whitewashing ceilings, and the walls of unpapered rooms, but have never found anything that was entirely satisfactory until the present Spring. We have now something that affords a beautiful, clear, white color, and which cannot be rubbed off.

We procured at a paint store, a dollar's worth of first quality "*Paris White*"—33 lbs., at three cents per lb.—and for this quantity, one pound of white glue, of the best quality, usually called Cooper's glue, because manufactured by Peter Cooper of New York. Retail price 50 cents per pound. For one day's work, ½ lb of the glue was put in a tin vessel, and covered with cold water over night. In the morning this was carefully heated until dissolved, when it was added to 16 lbs. of the Paris White, previously stirred in a moderate quantity of hot water. Enough water was then added to give the whole a proper milky consistency, when it was applied with a brush in the the ordinary manner. Our 33 lbs. of Paris White and 1 lb. of glue sufficed for two ceilings, and the walls and ceilings of seven other smaller rooms.

A single coat is equal to a double coat of limewash, while the white is far more lively or brilliant than lime. Indeed the color is nearly equal to that of "Zinc White," which costs at least four times as much. We are satisfied, by repeated trials, that no whitewash can be made to adhere firmly without glue, or some kind of sizing, and this will invariably be colored, in time, with the caustic lime. The Paris White, on the contrary, is simply pure washed chalk, and is entirely inert, producing no caustic effect on the sizing. Any of our readers who try this, and are as well pleased with it as we are, will consider the information worth many times the cost of an entire volume of the *Agriculturist*. Had we known of it when we first "set up housekeeping," it would have saved us much labor, and the annoyance of garments often soiled by contact with whitewash—not to mention the saving of candles, secured by having the ceiling always white enough to *reflect* instead of *absorbing* the rays of light.

To Keep Hams in Summer.

One good way is to put a layer of coarse salt in the bottom of a barrel, then lay in a ham and cover it with salt, and then another, and so on till the barrel is filled. Of course, this salt should be dry, and the barrel should be kept in a dry place.

Another and better way, is to sew up each ham in a coarse cloth bag, then give the whole a coating of whitewash and hang up the bag in a smoke house, or any dark, cool place.

A *sure* way of keeping hams fresh, but not a *neat* way, is to bag them as before mentioned, and burry the bag in the ash-hole, taking it out as wanted.

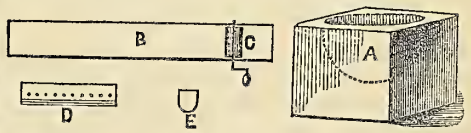
We have known them to keep very well by simply wrapping in several thicknesses of newspaper and hanging in an open garret. A correspondent says they also "keep perfectly, as he has proved, by packing in sweet dry hay run through a hay cutter. Then wrap them with a single thickness of newspaper, and surround each ham with a portion of the hay; tie the whole in large cotton bags, and hang in a dry place."

How Wax is Bleached or Whitened.

BY LEMUEL G. OLMSTEAD.

[The white wax, so much used in many of the arts, for candles, especially in Catholic churches, and which is preferable for ordinary sewing purposes, is simply yellow beeswax whitened by bleaching, by the same influences, air and light, which bleach clothing spread upon the snow or grass. Any housewife can whiten what wax she may need for her own use, or even for sale, by simply forming it into very thin strips with a knife or pouring it upon the surface of water, and spreading it upon canvas out of doors. There are large bleaching establishments at Philadelphia, where the process is very similar to that described below, furnished for the *Agriculturist*, by Mr. Olmstead, who witnessed the operations at the *Ceraiuola*, (wax works), in Siena, Italy.—Ed.]

Twelve hundred pounds of beeswax are melted at a time in a large copper kettle, A, which is set



in brick work. *B*, is the upper view of a trough or vat made also of brick work, 20 feet long, 3 feet wide, 2 feet in depth, and filled with water. *C*, is a solid cylinder of wood about 15 inches in diameter, partly submerged in the water, and turned like a grindstone. *D*, is the bottom view and *E* the end view of a tin vessel, into which the melted wax is dipped. The wax falls in fine streams through the small holes represented by the dots, upon the surface of the revolving wet cylinder, by which means very thin ribbons are formed that float off upon the surface of the water, the water being kept in motion hy the turning of the cylinder.

One man dips in the wax; another turns the crank; a third with a shovel made of willow twigs dips out the wax ribbons into large trays with willow bottoms, and two men carry it out to the bleaching yards, where are four tables, placed side hy side, each 10 feet wide, 60 long, and 2½ high. The tops of the tables are made of reeds, over which is stretched a coarse canvas, and upon this the wax in thin ribbons is spread. In handling the wax, spreading it, &c., it breaks up into short pieces. Two of these tables hold 1,200 pounds of 12 ounces to the pound (Troy?). The wax is spread on the canvas about 1½ inches thick. As it lays up lightly and loosely, the light of the sun penetrates to the bottom.

They melt the wax over and make it into ribbons twice, during the process of bleaching, which occupies thirty days, in which time it becomes white as snow. It is exposed to rain, &c. They prefer to have rain in that climate, because, when the sun is very hot, they are obliged to sprinkle water upon the wax to keep it from melting and running together.

Immense quantities of wax candles are burned in the churches in Italy, as every Sunday is a feast day, as well as almost every week day. There is no worship there without the use of wax. Different colored wax is provided for different occasions. On some days the yellow, unbleached wax is used. Sometimes that which is colored. This is a very economical arrangement, inasmuch as there is no

loss of wax. That which becomes soiled, so that it is not a perfect white is then colored. A Church orders from one of these establishments what they require of various sizes, &c. They burn what they need, and the rest is returned and deducted from what they took. They thus pay for the deficit. Only a few inches of a candle which is five feet long are burned.

There are five large *Ceraiuole* in Siena. The large candles (some of 4 inches through and 5 or more feet long) are made by suspending the wicks and pouring the wax over them. They are made round and very true by rolling them under a plank on a table. They are colored by putting in chrome, Prussian blue, &c. They are then hung up in the sun for a time to harden. Wax unbleached is worth three Pauls (about thirty cents); bleached, forty cents for a pound, Troy weight.

Recipes.

Rhubarb Pies.

"Jeanne," of Lancaster, Erie Co., N. Y., contributes the following to the *Agriculturist*, which she esteems as a great improvement. "Prepare the stalks by peeling their *thin skin*, and cutting fine enough for a pie—one or two stalks less than by the old method. Put in a basin with two or three tablespoonfuls of water, and boil for a few moments which reduces to a soft pulp like apple sauce. Have ready, when partly cool, two soda crackers rolled fine, and two-thirds of a *teacup* of *sugar* instead of a whole one, which add, mixing thoroughly. This is the rule for *one pie* using upper and under crust."

[To this we will add, that a great saving of sugar can be made by adding to rhubarb a small quantity of soda—a pinch of soda will go about as far as a handful of sugar in neutralizing the acid. Whenever it is desired to economize sugar, or when a very sharp sour taste is not relished, the soda may well be used. It is invariably used in our own family and with great satisfaction.—Ed.]

Dried Rhubarb for Pies.

S. A. P., of Carroll Co., Ind., writes: It may not be generally known that good pies and tarts can be obtained by cutting your surplus pie-plant into small bits and drying them for Winter use. For use, soak them, and then stew them like dried apples. They are nearly as good as when fresh.

Pickling Hams, Shoulders and Jaws.

Peter Tillar, Jr., Westchester Co., N. Y., commends the following to the readers of the *Agriculturist*. For the hams, shoulders and jaws of a hog weighing about 200 pounds, take 3 lbs. of salt, ¼ lb. saltpetre, ground fine. Mix these well, rub on the meat, and pack away closely. After about three days, pour on a pickle, made in the proportion of 4 lbs. coarse salt and 2 ounces of saltpetre to 5 gallons of water. These are to be boiled together, and added when cold. The meat will require pickling from 4 to 8 weeks. Mr. T. adds: "There may be better recipes, but I *know* this to be good.

To Preserve Furs from Moth.

A correspondent submits the following plan which seems quite plausible, since moths do not work in cotton or linen: Shake out the furs well, or beat them, to expel any moths that may be already in them; then inclose them *perfectly tight* in a cotton bag (or one of linen), and hang them in a garret, or other dry place. If there be no access for the parent moth except through cotton, no eggs will be laid in the furs.

Whale Oil Soap.—Many inquiries for this article constantly come to us. It is to be found at most agricultural warehouses and seed stores, and it is now offered in our advertising columns by the quantity. The price is about 4 cents per lb., according to quality, price of oil, &c. We have been shown a lot of 8 or 10 barrels at much less prices, it being inferior for manufacturing purposes, but answering perfectly well for use on trees, &c.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as Notes *and* Replies *to* Correspondents, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

To Correspondents—More letters than ever have come in the past month, containing valuable communications for the paper, and questions of general interest. These are all acceptable, but cannot be attended to faster than our time and space will allow.

Letters on Private Business.—We have before us a multitude of letters asking specific questions, and usually inclosing stamps, as is right, for personal reply. So far as is in our power we cheerfully respond to such letters, but we beg to say that their number far exceeds our time and ability. Matters of general interest must first be attended to. Correspondents will therefore please consider any delay or failure to answer their personal letters as wholly due to absolute want of time, and not to oversight or neglect, or to inattention to their requests.

Caterpillar Brushes.—C. J., Queens Co., N. Y. We know of nothing better for the purpose you desire, than a little implement illustrated in the accompanying sketch. This cut we have had made from a caterpillar brush which we recently received from the Brush Factory of John G. M'Murray & Co., Lansingburg, N. Y. These, from the stiffness of the brush, and excellent workmanship, are superior to any we have seen. It will be observed, that the brush here shown is to be tied to the end of a stick or pole of any desired length. It can then be twisted into the nests and by this means gather up the web and the caterpillars, and bring them to the ground. The brush portion is about seven inches long, and two and a-half inches in its greatest diameter. The retail price is thirty-seven and a-half cents.

Cabbages for Seed.—J. R. Reeve, Shelby Co., Ill. Pull up a few cabbages by the roots, in the Fall, and stand them upon the ground in the cellar. At planting time, in Spring, set them out in the open ground, and if the head is firm, cut it across the top to allow the shoots from the heart to grow freely, and abundance of seed may be expected. Many set out only the *stumps* after the heads have been used, but we prefer the whole plant.

Roses for Prairie Cottages.—Susan Gibbons, of Udina, Ill., inquires for standard roses. The common Michigan, the Queen of the Prairie and the Baltimore Belle are good, hardy roses, fine growers and bloomers, and with *bloomers* inside of the cottage to cultivate them they would soon impart rose color to any prairie home. If anything could win the "men folks" to the flower border, it would be these roses.

The Blooming of Callas.—D. B., Columbia, Me. Many of the parlor plants will not bloom until their roots have thoroughly filled the pot or tub in which they grow. Putting the plant into a smaller pot will have the same influence as shortening in the roots of a tree, and tend to throw it into flowering. Change the soil, putting in half muck, and give plenty of water.

A Large Tulip.—E. Kalb, Fairfield Co., O., writes (May 13), that he has a Tulip, of deep red color, the cup of which is 2½ inches deep, and 5½ inches in diameter; and inquires if a larger one was ever seen by any one else. It is perfectly bell-shaped. The bulb came from near Hagerstown, Washington Co., Md.

Grape Vines for the Conservatory.—Mrs. Robinson, Brown Co., Wis., and others. Make a border on the *outside* of the conservatory, and plant the roots, introducing the vines through small apertures near the bottom of the sides of the building, as in a forcing grapery. If there be no space for a border, set the vines in large pots or tubs, using rich soil, and watering freely. In both cases train the vines up the sides and roof if glass. In the absence of a *glass* roof train along the sides.

Mushroom Beds.—"C R," of Wis., will find these fully described on pages 262 and 290 of our last volume (Nov. and Dec. numbers).

Clipping Strawberry Runners.—B. F. Reed Calhoun Co., Mich. Strawberries, for bearing alone, do better by having the runners clipped. Keep them short by pinching back once a week during the growth of the runners.

Sugar Cane Seed for Feed.—A Western correspondent inquires if sugar cane seed is poisonous when fed to stock. We should say decidedly no, having not seen the least *reliable* statement or reason for such supposition.

Dead Bark on Apple Trees.—J. J. Jackson, Tioga Co., Pa. There are a variety of causes for this Sometimes it is occasioned by a wet soil. For this there must be under draining. Sometimes it is caused by insects. For these, common soft soap with a scrubbing brush is a good remedy. A pound of potash dissolved in two-and-a-half gallons of water put on carefully with a sponge will also remove them.

Renovating Old Trees.—"B." asks how to bring some old apple trees that have never received culture or pruning, and are now bearing worthless fruit, into profitable culture. If very old and unthrifty cut them down to make room for others. If still vigorous, dig about them in the Spring, top dress with a wheelbarrow load to each tree of a mixture of stable manure, muck, and wood ashes, scrape off the rough loose bark and engraft one-third of the old top with good varieties of fruit. Follow this up for three years until the old head is entirely changed and you may reasonably expect good fruit for many years. You will find some useful hints upon this topic in sundry numbers of the *Agriculturist*.

Books on Evergreens.—Isaac Atwood, Jefferson Co., Wis. We call to mind but two works of the kind, viz.: Mehan's Ornamental Trees, noticed page 234 of our XVth Vol. Price 75c.; and Warder's work on Hedges and Evergreens, noticed on page 112 of this volume. Price $1.

Norway Spruce for Hedges.—Samuel B. Ormsbee, Dodge Co., Wis.. Most of your questions are answered in the long advertisement of Parsons & Co, on page 92 March *Agriculturist*. We would procure small plants, worth about $15 per 100. Such plants can be packed so as to bear a passage of several weeks. The latter part of April would be the most desirable time to have them shipped. They may, however, be set any time in May, or even in June, but with more risk. Such plants will form a good screen, and hedge even, in four or five years. They will make good screens for a fruit orchard.

Tuft Grass.—John Young, of L. I., takes it for granted that we know just what he means by this article. We think we do, for we have been in his region and seen it. We should not try to choke it out with other grass seed, but with manure. The tufts, all that we ever saw, grew on rather poor land. Plow deep, manure heavy, and till thoroughly, and we will warrant the tuft grass will cave in.

Osage Orange.—S. W. Robinson, Taylor Co Iowa. We published the information you desire in sundry articles last year. In an extended tour through the West, we found few Osage Orange hedges uninjured by frost, especially north of latitude 41°....We desire as practical information as possible about Western farming.

Pea Bugs.—Robt. Winn, Hancock Co. Ky., and T. A. Griffin of Ill.—Scalding peas before sowing, will destroy the bugs or flies in them, and prevent their doing further mischief without injuring the peas themselves. They can be dropped into water almost boiling hot, and stand until the water is cold. Imported peas are much less troubled with bugs than seed raised in this country. *Late* sowing puts the parent bugs out of their reckoning, and is generally an effective remedy.

Clubs.—Rev. R. Osgood, Cayuga Co., N. Y.—The papers of a club need not be sent to one address. They may be at different Post Offices even, if procured by one person, and coming at the same date.

Rot in Turnips.—E. Ryder, of Putnam Co., N Y., complains of this disease in his neighborhood—thinks the Swedes are more liable to it than the Ruta Bagas. We have heard very rarely of a similar complaint; it is perhaps owing to the character of the seed. We have always found cabbage and turnip seed imported from England, to do much better than the same varieties raised here. This imported seed can always be obtained now at the large seed stores in the cities. If the Swedes do not succeed well we would recommend Mr. Ryder to try the White Sugar Beet, or the Mangel Wurtzel. Roots should never be fed alone. Mixed with hay, or with meal, they give a much better return to the cultivator. If fed in Winter, the animals should be kept in warm stables and the roots never be given in a frozen state.

Compost for Potatoes.—W. J. Delpuechy, of Sheshequin, sends the following compost for dressing potatoes: 1 bushel of ashes, ½ bushel of plaster, ½ bushel of lime, ½ bushel of salt. Dose, a handful in the hill at planting, and a handful around the vines after they are up. We have tried all these ingredients in potato culture and found them good. The ashes have the most value.

Tape-Worms in Lambs.—Dr. R. T. Gill, Dutchess County, N. Y., writes that "he has lost a number of his largest and fattest lambs. They appear stupid, eyes blood-shot, or they run around in a circle. After death, tape-worms are found in their small intestines. I find nothing about the tape-worm in sheep, in any agricultural works at hand. You will oblige me by bringing the subject before the Farmer's Club of the American Institute."....We do not "patronize" the so called "Farmer's Club" referred to, and therefore lay it before the larger, genuine Farmer's Club who read the *Agriculturist*.

Corn Growing Twice—Poultry Manure—Benj. Fessenden, Providence Co., R. I., writes that, "last year he sowed corn in drills for fodder, manuring in the drill with hen manure, and dropping the corn upon it. The season was so wet that the manure proved too strong for the fodder, and it grew but two feet. He cut it and there was a *second* growth of over six feet." The manure probably injured the corn it came in direct contact with, but the wet season did more to retard its growth. It is better however, to mix a quantity of muck, or loam, and plaster of Paris, if you have it, with the poultry manure, before applying it in contact with seed.

Cockroaches—"It is said" that the green leaves, of the American Hellibore or Indian Poke weed, are a specific against cockroaches. Sprinkle a little molasses over the leaves, and place them near the haunts of the "bugs," which will readily eat them and as readily die from the effects. Another plan is to strew cucumber parings in their haunts, which they eat freely, and are poisoned by them. So it is said.

It is said that the Havre (French) Courier, says that no fly will enter a room in which a wreath of walnut leaves is hung up. Is *that* so?

Gherkins.—D. Stebbins, Cattaraugus Co., N. Y. Plant and cultivate gherkins at the same time and similar to cucumbers, which they somewhat resemble, although much smaller. They are used only for small pickles.

Dwarf Pears.—Dr. Jarboe, of Kentucky.—It will pay to plant dwarf fruit trees, if you take care enough of them.

Cutting Timber for Posts.—E. Haines, of N. J., gives us the details of an experiment in setting posts. Those cut in June and set green lasted fifteen years and over. Those set dry lasted only five. The time in which the dry posts were cut is not stated. It was probably in Spring before the leaves started. We regard mid-Summer, as the best time, to cut timber for posts. The bottoms should be charred upon the outside. They should stand in the ground the top end downwards. The charring should extend a little above the surface of the around.

Leaves in the Orchard.—A. R. Pierce. of Windham Co., Vt., alluding to our advice last Fall, to collect tree leaves from the forest, roadsides and orchard, for hot-beds and bedding, asks if it would not be better to cart leaves to, rather than from the orchard? If all the leaves carted into an orchard would *remain* there, the case would be different, but so many blow away to be lodged under the fences, that they are of little account to the orchard. Better use them as absorbents of the liquids which usually run to waste in the stables, and mixed with lime and muck, return them to the orchard in the form of a rich compost.

Gas Lime.—"Whistler at the Plow" wants to know if we endorse the views of the Patent Office Report on gas lime. We should not like to endorse anything from that quarter. It will undoubtedly liberate the ammonia from guano. The compost he speaks of will be efficient.

Convention of Agricultural Editors.

In response to a circular of inquiry, sent out May 8th., there seems to be an almost unanimous concurrence in the opinion that it will be best, on the whole, to defer calling the proposed Convention of Agricultural Editors, until the meeting of the American Pomological Society in New-York city, on the 14th of September next, at which time it is hoped that, so far as practicable, the entire Agricultural press of the country will be represented. Arrangements for time and place of a first meeting will be announced in due season.

New Books.

Life Thoughts.—We have listened to but few sermons by Rev. H. W. Beecher, yet we have always carried away sundry notes of beautiful passages that seemed to lie imbedded in the stratum of the discourse like nuggets of gold in the quartz rock. These notes we have afterwards repeated in the home circle and filed them away as treasured fragments. We were not a little surprised to find upon our table recently, a neat volume of 300 pages, entitled "Life Thoughts gathered from the extemporaneous discourses of H. W. Beecher, by one of his congregation," which on opening we found to contain many of the very passages we had noted down, with hundreds of others new to us. The book is published by Phillips, Sampson & Co, Boston, (at $1). Whatever any one may think of Mr. Beecher as a man, or of his "isms" or politics, he cannot fail to be pleased with a book filled with glowing thoughts expressed "in words that burn," such as the following passages selected from a hundred we had marked to cull from:

"The superfluous blossoms on a fruit tree are meant to symbolize the large way in which God loves to do pleasant things."——"Many men want wealth—not a competence alone, but a *five-story competence*. Everything subserves this, and religion they would like as a sort of lightning rod to their houses, to ward off, by and by, the bolts of Divine wrath."——"A helping word to one in trouble is often like a switch on a railway track—but one inch between wreck and smooth-rolling prosperity"—— "Some men are like pyramids, which are very broad where they touch the ground, but grow narrow as they reach the sky"——"I can forgive, but I cannot forget, is only another way of saying, '*I will not forgive.*' A forgiveness ought to be like a canceled note, torn in two and burned up, so that it can never be shown against the man."——"In this world, it is not what we *take up*, but what we *give up*, that makes us rich."....

The New Clerk's Assistant is the title of a volume received from C. M. Saxton, 25 Park Row, New York, Publisher. This work contains 600 pages, and over 1,000 *forms* for legal documents of almost every conceivable kind required by bankers, merchants, auctioneers, mechanics, farmers, and professional men. It embraces forms for mortgages, agreements, contracts, notes, bonds, wills—in short, for any and every paper needed to be drawn up in legal form. It is adapted to New England Northern and Western States, and California. The volume is bound in leather, and sold at $2.50

Dictionary of Trade Products, Commercial, Manufacturing, and Technical Terms and Words. This is a useful little volume of 422 closely printed pages, by the well-known P. L. Simmonds. F.R.G.S., F.S.S., published by G. Routledge & Co., London, and 18 Beekman-street, New York. We find in it many definitions of technical rms—especially foreign ones—not included even in the unabridged edition of Webster's Dictionary....

The Indiana Farmer—"Home Papers."

We have just received from some one the April No. of the "Indiana Farmer"—This is the first we have seen of this journal, though the *Agriculturist* (more than double its size, but furnished at the same price) has been mailed to its address for a long time. In the number before us the Proprietor appeals to Indiana farmers:

"To sustain a *home* Journal, published at their own Capital, and edited by one born and raised within the State, and of course better acquainted with its peculiar wants than one who never trod its soil."

A good text if well followed. In this April number we find *nine* articles taken from the *Agriculturist*—including our own *leader* for the same month. Of these nine articles, *five* are *uncredited*. Is this a fair sample of the numbers not sent us? The paper contains thirty-two 2-column pages of (home?) matter, of which, *twenty* columns, (or about *one-third* of the whole paper) is transferred from the *Agriculturist*. We admire their judgment in going to so good a source—but our admiration would have been doubled had these articles all been duly credited—with the credit accompanying each article, rather than a page of the cover.

We are glad, too, to have such strong testimony that the *Agriculturist* is really a "home paper" for Indiana farmers, and in consideration of the compliment thus paid, shall make no appeal to our "*copyright.*"

Agricultural Exhibition Lists Wanted.

We wish to obtain, for publication, as complete a list as possible of all State and County Agricultural Exhibitions to be held the present year, in the United States and British provinces, and we shall be obliged to those who will early send us in brief: 1st, name of State or County 2nd. State; 3rd, place; 4th, day of opening and day of closing.

Boys' and Girls' Own Columns.

Different kinds of Type.

Several of our young readers, and one "old one," thinks it would interest many readers if we would set up a few sentences in different kinds of type and describe them. Well, this paragraph is set in *Bourgeois* so far.

The sentence we are now writing will be set in *Brévier* type, which you will see is the kind most used in this paper. It is a little smaller than that above, and our printer says it will not hurt the eye-sight of the young, and the old can read it without difficulty.

This sentence is marked to be set in Minion type, the next in size to Brevier, but we use none of it in this paper--except in the present instance, for the purpose of showing the type.

We now come to *Nonpareil*, which is the kind generally used in the Boy's and Girl's department. Twice as many words can be put on a page of this type as in one of Bourgeois. It is not so good for the eyes of older people, and we use little of it unless much crowded for room.

We now come to *Agate* type which is smaller still. This is used for the advertising pages. There are still smaller sizes, called Pearl, Diamond, and Ruby, but we have none of them at hand. There are also larger sizes called Long Primer, Small Pica, Pica, English, Great Primer, &c. Books are most frequently printed in Long Primer.

All the above are set up *solid*, that is the pieces of type are set together with nothing between them. This paragraph will be set in the above kinds of type, lines of each, but *leaded*; that is, a thin sof type metal called a "lead," is put between row of letters, or lines. The first four are Bourgeois; the second four are Brevier; next four are Minion; the next four are Nonpareil and the last four are Agate. You see how much more they appear, and how much more pleasant to the eye. When much crowded for space an article or part of an article is set in solid type like the first examples above, because the leads take up room as you will see. Sometimes an article will not quite go into a column or page, and the man making up the page will take out a few leads from the bottom of a column. As above stated, these last lines are Agate *leaded*. You will see that while one *lead* is put between the lines of each kind, there are three leads put in to separate the different kinds of type.

Prob. 30.—A Floral Enigma, containing 32 letters, which spell the names of four beautiful *Flowering Bulbs*—the names being arranged in the alphabetical order of their first letters.

The 14, 19, 3, 10, is the name of a farm implement.
32, 29, 2, 6, 11, 15, 14, is an esculent root.
23, 21, 25, 26, 27, 12, 18, a girl's name.
14, 15, 25, 15, 8, a boy's name.
6, 1, 3, 28, 26, name of a living general.
30, 9, 5, 24, 6, 22, 25, 31, 18, name of a State.
11, 3, 2, 10, 22, 2, a country in Europe.
6, 10, 15, 18, 16, what no boy should ever do.
7, 8, 29, 28, 4, 20, a support for old age.
32, 31, 32, 32, 31, 25, a certain kind of apples.
14, 17, 15, what boys and girls love.

Answers to problems (not before acknowledged.)—J. F. Hunt, Lee Co, Iowa, 27, 28, 29; Pendleton Maryott, Tioga Co Pa., 27, 29; Simon Warner, Chester Co, Pa., 29; S. W. Stanland, Brown Co, Ill., 29; Jno. S. Young, Suffolk Co, N. Y., 29; E. P. Lowe, Jersey Co, Ill, 27, 29;

Acknowledgements—Problems have been contributed which we can not find room for, at least not yet, by the following: C. Hoffman Jr., Dauphin Co, Pa.; Danl. C. Hastings, Rush Co, Ind.; O. W. D., Great Falls, New-Hampshire; A. B. L. Warren, Queens Co, N. Y.; W. Hazell, N. Y. city; J. G. Sutphen, Somerset Co, N. J.; Abraham Myers, Ovill Co, Ill.; J. F. Hunt, Lee Co, Iowa; Stephenson P. Sharples, Chester Co, Pa.;——Westboro, (2); Jacob D. Shank, Clinton Co, Pa. (2); Wealthy R. Noble, Berkshire Co, Mass; G. K. O., Rockingham Co, N. H; H. C. Jones, Marion, Ind.; P. Mix, New-Haven Co, Conn.; Jos P. Humble, Martinville, N. J.; J. G. Guthrie, Decatur Co, Ind.; C. W. Bennett, Butler Co, Mich; F. E. Pearce, Washington Co, Ohio.; B. M. F., Jerusalem Station, L. I.; Susanne. Kings Co, N. Y.; Joseph Anderson, York Co, Penn.; Solomon T. Bearinger, Davis Co, Iowa; Eugene Johl, Kings Co, N. Y.; H. B Reist; Lancaster Co, Pa.

Alphabet used by the Deaf and Dumb.

For several years past we have had partial oversight of, and a special interest in one of the boys at the N, Y. Institute for the Instruction of the Deaf and Dumb. He has grown to be quite a man now. From him we have necessarily learned how to communicate ideas by means of the fingers instead of by articulate sounds, and it occurred to us that very many of our young readers would be interested in seeing how this is done. We have therefore procured the above engravings to show the various positions of the hand used to express the different letters of the Alphabet. Formerly, the manual Alphabet required both hands, and a Deaf mute who had lost one of his hands would be almost as bad off as a boy who had lost half his tongue. But the Alphabet which is now every where used, requires only one hand, which may be either the right or left. You will so often meet with Deaf and Dumb persons, that it may be not only a pleasant but a useful amusement for you boys and girls, to spend some of your leisure hours (if you have them) in learning the above Alphabet. It is easily acquired, though at first you would, perhaps, make as slow and as awkward motions with your hands, as your little sister who is just learning to talk, does with her tongue; and the skillful Deaf mutes would perhaps laugh at you as you laugh at the little one. If you have never seen a company of Deaf mutes *talking* together, you can scarcely have an idea of how fast they talk. At the New-York Institute we have seen nearly three hundred children out playing upon the green, and though they were very *quiet*, they seemed to be just as active and to understand each other just as well as the noisiest crowd of boys and girls we ever saw together. Their fingers moved so rapidly that we could no more distinguish the motions than we could watch the separate movements of your tongue, when you are uttering a thousand *letters* in a minute.

Half-Year Subscriptions Received.

We would remind our readers that the present number closes the first half of Volume Seventeen, and this is a favorable time to invite their friends and neighbors to subscribe—for a whole year, if possible, but if not, then for a half year at half the annual rates in clubs or otherwise. Two half-yearly subscribers will count as one whole one, in our premium offers. See Last Page.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW-YORK, May 25, 1858.

The Wholesale Produce Markets have been very freely supplied with most of the leading kinds of Breadstuffs, and prices have declined considerably. Yet the demand has not been remarkably brisk, either for home use, or for shipment. Home dealers have purchased only such lots as they were immediately in need of, despite the temptation held out to them, in the way of greatly reduced figures. Prices are now lower for most brands of flour than they have been at this period, for several years, and holders are willing sellers, not anticipating any material improvement for some time to come. Produce is moving forward from the interior in unusually large quantities, and receivers appear indisposed to reserve their supplies. These circumstances, together with the absence of an active inquiry for export, and reluctance to speculate, have contributed to the dullness and depression in business. The demand for Breadstuffs from shippers has been seriously restricted by the rapidly advanced claims of shipowners. It is noteworthy that within the month the freight rates on Breadstuffs to Liverpool have been doubled. Flour and wheat are now in good supply and fair demand. They close with more steadiness at our revised quotations below. Corn is scarce and wanted. Rye, Barley and Oats are plenty and heavy....Cotton has been moderately dealt in at, however, easier prices....Provisions have been more active, but at irregular prices, closing generally cheaper than at the date of our last review....Hay, Hemp, Hops, and Grass Seeds have been in very moderate request at about former rates....Rice has attracted less attention, and has tended downward....Tobacco has been in lively demand at full prices....A fair inquiry has prevailed for Domestic *Wool* within the prices quoted below. The new clip will soon begin to arrive, and buyers are keeping back waiting for it, anticipating an easier market when the new clip arrives. In the wool-growing districts of the interior there is an apprehension that prices will open very low. In Chicago a considerable quantity of fleece Wool was purchased last season at an average of 42½c. ℔ lb., and sent Eastward, where it had to be finally sold at 12c. ℔ lb. under cost. Our Western exchanges calculate that prices will open much below last year....Other articles of produce have presented no important variation from the previous month.

CURRENT WHOLESALE PRICES.

	April 24.		May 25.	
FLOUR—Com'n to Extra State	$4 15 @ 4 50		$3 80 @ 4 15	
Common to Fancy Western..	4 15 @ 4 45		3 80 @ 4 15	
Extra Western..	4 30 @ 7 00		4 00 @ 7 00	
Fancy to Extra Genesee	4 35 @ 6 50		4 15 @ 6 50	
Mixed to Extra Southern	4 55 @ 0 00		4 40 @ 7 00	
RYE FLOUR—Fine and Super.	3 40 @ 3 60		3 00 @ 3 40	
CORN MEAL	3 50 @ 4 00		3 50 @ 3 87½	
WHEAT—Canada White	1 15 @ 1 35		1 02½ @ 1 20	
Western White	1 15 @ 1 45		1 05 @ 1 22	
Southern White	1 18 @ 1 43		1 08 @ 1 30	
All kinds of Red	98 @ 1 23		80 @ 1 10	
CORN—Yellow, new,	76 @ 77		75 @ 77	
White, new	74 @ 75		72 @ 74	
OATS—Western	49 @ 51		41 @ 42½	
State	46 @ 49		39 @ 41	
Southern	38 @ 46		26 @ 32	
RYE	68 @ 70		67 @ 69	
BARLEY	60 @ 70		56 @ 64	
White Beans	1 31¼ @ 1 37½		1 06¼ @ 1 12½	
Black-eyed Peas, per 2 bush..	3 20 @ 3 25		3 37½ @ 3 50	
HAY, in bales, per 100 lbs	50 @ 75		40 @ 70	
COTTON—Middlings, per lb	12⅜ @ 12⅝		12¼ @ 12½	
RICE, per 100 lbs	3 25 @ 4 25		3 25 @ 4 00	
HOPS, per lb	5 @ 8		4½ @ 7	
PORK—Mess, per bbl	18 10 @ 18 20		17 85 @ 18 00	
Prime, per bbl	15 00 @		14 31 @ 14 37½	
BEEF—Repacked Mess	12 50 @ 14 00		11 75 @ 13 50	
Country mess	10 25 @ 11 25		10 50 @ 11 50	
" prime	7 50 @ 8 25		8 00 @ 8 50	
HOGS, Dressed, per lb	5¾ @ 7		6 @ 6¾	
Lard, in bbls. per lb	11⅛ @ 11¾		11⅛ @ 11⅜	
BUTTER—Western, per lb	12 @ 20		12 @ 19	
State, per lb	18 @ 28		14 @ 25	
CHEESE, per lb	7 @ 9		6 @ 8	
EGGS—Fresh, per dozen	11 @ 12		11 @ 12	
FEATHERS, Live Geese per lb.	40 @ 47		40 @ 50	
SEED—Clover, per lb	7 @ 8		7 @ 7¾	
Timothy, per bushel	1 56 @ 2 25		1 75 @ 2 25	
SUGAR, Brown, per lb	6½ @ 7¼		5¾ @ 7¾	
MOLASSES, New-Orleans, prgl	35 @ 36½		35½ @ 37	
COFFEE, Rio, per lb	9½ @ 11½		9¾ @ 11⅛	
TOBACCO—Kentucky, &c. pr lb	6½ @ 17		6 @ 17	
Seed Leaf, per lb	9 @ 35		9 @ 35	
WOOL-Domestic fleece, per lb.	27 @ 45		27 @ 45	
Domestic, pulled, per lb	20 @ 32		22 @ 38	
HEMP—Undr'd Amer'n pr ton.	100 @ 115	105	@ 115	
Dressed American, per ton	170 @ 185	170	@ 185	
TALLOW, per lb	@ 10¾		@ 10¾	
OIL CAKE, per ton	36 @	36 00	@ 36 50	
POTATOES—Bermudas, per bbl		4 00	@ 5 00	
Mercers, per bbl	2 25 @ 2 75	2 25	@ 2 75	
Peach Blow, per bbl	3 25 @ 3 50	2 25	@ 2 75	
Carters, per bbl	2 75 @ 3 00	2 75	@ 3 00	
ONIONS—Red, per bbl	1 50 @ 1 75	1 25	@ 1 50	
APPLES—Russets, per bbl	3 00 @ 3 50	3 50	@ 5 00	
Asparagus—per bunch		12	@ 18	
Green Peas—Norfolk, per bbl..		5 00	@	
Rhubarb—per 100 bunches		3 00	@ 4 00	
TURNIPS—Ruta bagas, per bbl	40 @ 50	75	@ 87	
POULTRY—Fowls, per lb	15 @ 17	14	@ 15	
Chickens, Spring, per pair	75 @ 1 00	56	@ 1 00	
Ducks, per lb	18 @ 21	18	@ 21	
Turkeys, per lb	15 @ 18	15	@ 18	

The total receipts and the total sales of Breadstuffs for 27 business days, ending with to-day, have been as follows:

	Receipts.	*Sales.*
Wheat-flour, bbls	274,700	347,470
Wheat, bush	539,000	730,250
Corn	502,200	741,600
Rye	26,760	74,400
Barley		101,300
Oats	173,350	

This statement affords the following comparison of the total receipts and sales in each of the last two months:

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley*	*Oats.*
25 bus. days last mon.,	202,000	56,250	672,500	35,000	12,500	56,150
27 bus. days this mon,	274,700	539,000	502,200	26,760	——	173,350
SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	
25 business days last month,	273,665	323,950	784,000	61,100	61,500	
27 business days this month,	347,470	730,250	741,600	74,400	101,300	

The following is a comparative statement of exports of the leading kinds of Breadstuffs from the port of New York, from Jan. 1, to May 17, both days included.

	1857.	1858.
Wheat Flour, bbls	352,763	478,591
Rye Flour, bbls	1,228	2,963
Corn Meal, bbls	20,830	26,893
Wheat, bushels	836,599	503,137
Corn, bushels	1,451,070	1,263,650
Rye, bushels	81,446	

Shipments from Milwaukee, this season, to May 15.

Flour, bbls	100,343	Wheat, bush	787,139
Corn, bush	10,000	Oats, bush	35,035

Shipments from Chicago, this season, to May 17.

Flour. bbls	59,211	Barley, bush	37,715
Wheat, bush	2.224,920	Oats, bush	281,403
Corn, bushels	820.695		

Stock in store, at Chicago, May 15.

Flour, bbls	11,467	Rye, bush	331
Wheat, bush	714,382	Barley, bush	24,055
Corn, bush	71,475	Oats, bush	101,115

N. Y. Live Stock Markets—Beeves—Receipts for four weeks ending May 19, were 13,390; or 1,828 more than the preceding four weeks. Receipts and variations of prices were, for week ending: April 28, (3,229) a shade higher; May 5, (3,413) ½c. lower; May 12, (3,589) ¾c. lower; May 19, (3,159) ¾c. higher; making a decline of ½c. per lb. during the month. May 19, prices ranged on estimated dressed weight as follows: First quality, 9½c.@10c.: Medium grade, 9c.@9½c.: Poor quality, 8c.@8½c.: Average of all sales. 8¾c. The average price the corresponding week in 1857 was 13c. or more than 4c. higher.

Veal Calves have been in large supply for the past four weeks. receipts footing up 3,874 head. They are now worth 5½c.@6c. per lb. gross or live weight for good calves, and 4c @5c. for common animals.

Sheep and Lambs.—Receipts for four weeks past have been more free, amounting to 20,585, against 13,851 the previous month. Fat Wool sheep are now worth 5c.@6c. per lb. gross. Good Lambs command ready sales at $3 00 @$4 50 and $ 500 for extra ones.

Hogs.—Arrival have been large and prices mainly low. Good Corn Hogs are only worth 5c.@5¾c. per lb. live weight.

The Weather.—The prospects of an early Spring in April has been nearly spoiled in May by a succession of cold rains, nearly every day, which have continued to the present time with very little sunshine intervening. Crops put in early and well sprouted, or up before the rains came on, appear to stand it very well, while for those put in later, we fear many of them will rot in the ground. Beginning with our final notes of last month, our *Weather Notes*, condensed, read: April 25, clear and cool; 26, cold, mercury 32°. Peaches in bloom in danger of injury. Snow Squall during the day; 27, cool, cloudy day, with wind N. E. and snow spits falling; 28, clear and cool; 29 and 30, clear and warm, peach, pear and cherry trees in bloom. May 1 and 2, cloudy but warm; 3 and 4, clear and pleasant; 5, 6, and 7, rainy most of the time, wind N. E.; 8, clear and fine; 9, cloudy and cool; 10, cloudy A.M., rain P.M.; 11, cool rainy day, ground very wet, and work getting backward; 12 and 13, clear and fine; 14 and 15, rainy days; 16 and 17, cloudy and cool, 18, wind N. E, and raining most of the day: 19, warm but cloudy; 20, cloudy A M. N. E. rain, finishing with thunder showers P.M.; 21, sprinkling of rain; 22, 23, mostly clear; 24, cloudy, with a sprinkling of rain.

Cheap Sugar Cane Seed for Soiling.

In our last purchase of sugar cane seed for distribution, 50 bushels only were ordered, but, by mistake of the forwarder, 50 *bags*, of 2 bushels each, were sent. This extra 50 bushels, we are not accountable for, but to accommodate the owner, as well as any of our subscribers who may wish a quantity to sow for soiling we will take the trouble to send it out, in any quantity desired, at 60 cents a peck; $1 per half bushel, or $1,70 a bushel—put up in bags and delivered to any Express Company in this city without expense. At this price, it may well be sown freely for fodder.

☞ **The actual circulation of the Agriculturist to regular subscribers, is believed to be much larger than that of any other Agricultural or Horticultural Journal in the world.**

KETCHUM'S COMBINED HARVESTER.

IMPROVED 1858

AS A REAPER.

SAVING OF EXPENSE OF DRIVER.

Many farmers drive and rake the grain off the platform. A little practice will enable any one to do it.

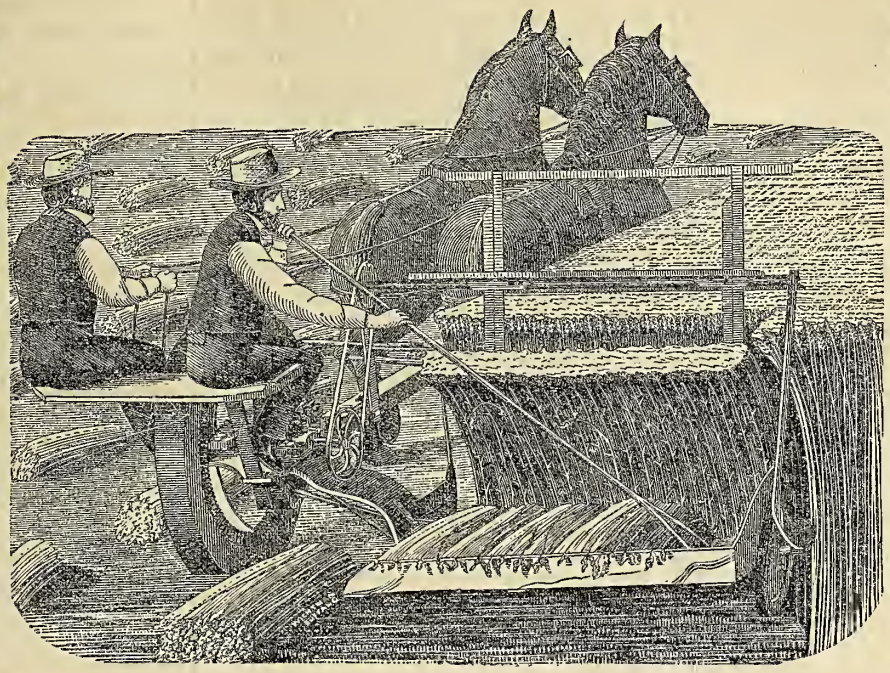
TEAM.

One light team can work this Harvester all day. In changing from a Mower to a Reaper, the main wheel is enlarged, which lessens the motion of the knives and diminishes the draft about one-third.

The change is effected simply and quickly, by bolting sections to the wheel, and the platform to the cutter bar.

REEL.

It being expressed by many farmers, that if, with the present advantages of the Ketchum Machine as a Mower, a reel could be attached for reaping, it would stand unrivaled as a Reaper. A Reel has been added, which is very simple and easily attached, and adds but little weight to the Machine.



DRAFT.

At the U. S. Trial at Syracuse on the trial test of Draft of 14 Reapers, the one that had the greatest Draft was Rufus Dutton's, which was 543 lbs.—and the one that had the lightest Draft was KETCHUM'S, WHICH WAS 330 lbs.—being a difference of 213 lbs—nearly one half,—and making a difference in the Draft of the two machines for one day's work of 10 hours of 1,633,284,000 lbs. Sixteen hundred and thirty-three millions two hundred and eighty-four thousand pounds!!

FARMERS look at this. These figures are really startling, and should cause farmers to ponder and look carefully at the draft of Machines before they buy. The Ketchum Machine has been improved in this respect beyond any other machine in use. Our constant study has been to combine a certain power, momentum and strength, with the lightest draft, of any machine in the world. The above calculations are based upon trials and tests, made by the U. S. Agricultural Society. It is true that the Ketchum Machine, when first introduced to the public, had more draft than was desirable, but in this respect it has been improved from year to year, and now is the *lightest draft* of any in use, as the above figures clearly demonstrate

AS A MOWER.

FRAME.

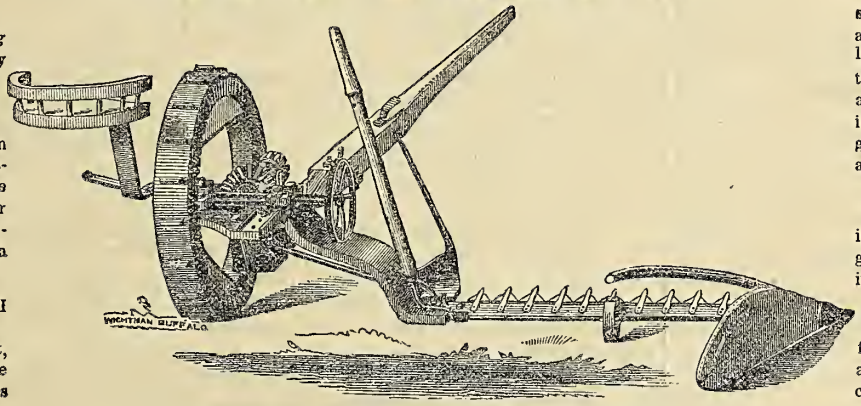
There is no frame *surrounding* the wheel, but it is located mainly in the interior of the wheel.

GEARING.

The main shaft rests in boxes on this frame, and the Gearing is attached in such a manner that there can be no cramping of the gear, or racking of the frame. This arrangement secures the requisite and a uniform speed of the knives.

ADJUSTABLE ROLLER WITH LEVER.

This is another improvement, which adds very much to the value of the Mower. The driver on his seat can elevate the cutter bar to any desired hight, and permanently fasten the same for removal; this has long been a desideratum, to aid in backing, in turning corners, in passing over obstructions, in going from field to field, or passing along the road.



ROLLER IN OUTER SHOE.

A small stationary Roller is placed in the outer shoe, on which the finger-bar lightly rests, thus diminishing the draft of the machine.

GUARDS.

We have improved our Guards, from the results of experience, which are strong, well braced and will not clog.

MATERIALS.

None but the best are used, and great pains are taken in selecting the very best quality of iron, made expressly for this machine. As to durability, simplicity, power and general adaptation to the wants of farmers, the Ketchum Machine stands unrivaled.

KNIFE, OR KNIFE SECTIONS.

These are made of the best of steel, with an oblong hole in the centre, to prevent clogging, and belong exclusively to the Ketchum Machine.

PATENTS.

It is well settled that a good machine will contain more or less of Ketchum's Patents. In the series of his inventions, there was secured to him by one patent, the attachment of the cutters, below the frame, and opposite the plane of the wheel in such a manner as to leave unobstructed space below the frame, and between the heel of the cutters with their supports and the wheel, so as to pass over the cut grass or grain without clogging; by another, the extension of the shoe upward and forward, and connecting with the draft of the machine; and supporting the rack or finger-bar by means of auxiliary framing, back of and above said finger bar; by another Patent, a very important result is attained, by placing upon the outer end of the cutter-bar, in close proximity to it, a hinged track clearer, at an acute angle with the cutter-bar, which rises and falls with the uneven surface of the ground, and turns the grass in, as it falls back from the cutters, and separates the cut from the uncut grass. By another Patent assigned to the proprietors, the open triangular tooth, or triangular hollow tooth, is secured exclusively to the Ketchum Machine. By another Patent, his invention to make a Combined Machine, was secured to him, which consists in enlarging the main wheel by false sections, removable at pleasure, and by means thereof the cutters are raised, their motion lessened and the draft of the machine very much diminished. He invented and obtained a Patent for an adjustable strengthening rod under the platform, to obviate all tremulous motion therein, and to crown and complete a perfect combination for a Harvester. He invented and patented an adjustable Roller, to attach to the cutter-bar when mowing.

Thus, the public will see that the Ketchum Machine has been kept *in advance* of the improvements of the age.

The price of the Mower at Buffalo is $110, and of the Combined Machine $130

R. L. HOWARD, Proprietor and Manufacturer

BUFFALO, N. Y., near N. Y. Central Depot, on Chicago street, May, 1858.

Contents for June, 1858.

EXTRA PREMIUMS,

offered *only* in return for time and services to persons procuring and forwarding *new* subscribers to the *American Agriculturist*. The subscribers obtained will themselves be entitled to receive the seeds offered in our regular list, No. 1 to No. 52. ☞ Only *one* of the following premiums will be given on the same new subscriber.

Premium No. 4.

To any person obtaining a *new* subscriber for 1858 (vol. 17), after May 1st, we will, in return for the favor, send (post-paid) *an ounce* package of the seed of the *Long White French Turnip*, described on page 134 of May number. An ounce will be given for *each* new name. The new subscriber will himself be entitled to select the usual packages of the seeds, Nos. 1 to 52, offered in our February number. The names may be sent at $1 each (or at club rates when for new clubs or additions to those already formed) : but when the seed is to go to Canada or to the Pacific Coast, 14 cents additional will need to be sent to us for extra postage on each ounce of seed forwarded.

Premiums Nos. 1, 2 and 3.

Consisting of Webster's Unabridged Dictionary, Sugar Cane Seed, and the 18 varieties of European seeds, are still offered. For particulars, see May and April numbers.

PROSPECTUS OF THE

American Agriculturist.

TO BE

PRINTED IN THE GERMAN LANGUAGE.

Beginning July 1st, 1858.

We take pleasure in Announcing to the large class of German people interested in Farming, Gardening, Fruit Growing, Stock raising, Implements, &c., as well as those who have, perchance, but a small village or city plot under culture, that in order to meet the wants of those who as yet read only the German Language, we have completed arrangements, by which hereafter, the *American Agriculturist* will be printed simultaneously in both the English and German Languages.

There are in the United States alone, several millions of German people, among whom are found a large number of our most industrious and pains-taking cultivators of the Soil. In Germany more investigations are being made in Scientific and practical Agriculture, than in almost any other Country ; and besides a large number of Agricultural Schools and Colleges, there are several periodicals devoted especially to practical Agriculture and Horticulture. But in this country next to nothing has been done in this department.

We, therefore, in response to oft repeated calls from the German people, very cheerfully enter the open field, and will endeavor to supply what seems to be a great desideratum, viz.: a Journal in the *German* Language, devoted exclusively to subjects connected with SOIL CULTURE, or to the out-door and In-door labors of Rural Life.

Since practical operations are founded upon the same principles, and the modes of tillage are the same, whether pursued by those speaking English or German, we believe that a Journal carried on in both Languages may be better in each, than if published in either Language only, since a wider class of practical experience will thus be drawn from.

Again, the use of the same engravings and editorials, as well as publishing force, in both editions, will economize expense, so that a much cheaper Journal, or a better one can be supplied for the same cost, than if two separate enterprizes were carried on.

The *American Agriculturist* was originated in 1842, and it has now attained a circulation *greater than any other like journal in the world*, while it is on all hands acknowledged to be a standard work, unequalled for the large amount of practical information it supplies at a very small cost. Time, patience and long experience have been required to bring it to its present standard. The subscribers to the German edition will at once reap the benefit of all these advantages.

The teachings of the Agriculturist *are confined to no State or Territory, but are adapted to the wants of all sections of the country—it is, as its name indicates, truly* American in its character.

The German edition will be of the same size and price as the English, and contain all of its reading matter, and its numerous illustrative engravings.

TERMS—INVARIABLY IN ADVANCE.

One copy one year....$1 00
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Ten or more copies one year....80 cents each.

An extra copy to the person sending 15 or more names, at 80 cents each.

☞ In addition to the above rates: Postage to Canada 6 cents, to England and France 24 cents, to Germany 24 cents, and to Prussia 72 cents *per annum*. Delivery in New-York city and Brooklyn, 12 cents a year.

Postage anywhere in the United States and Territories must be paid by the subscriber, and is *only six cents a year*, if paid in advance at the office where received.

Subscriptions can begin Jan. 1st., July 1st., or at any other dates if specially desired. (For the present, year, subscriptions to the German edition, when desired, will be taken from July to December inclusive, at half the above yearly rates.)

The paper is considered *paid* for whenever it is sent, and will be promptly discontinued when the time for which it is ordered expires.

All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD,
No 189 Water st, New-York.

*** It is desirable that subscriptions to the German edition be forwarded as early as possible, that the names may be properly entered and the wrappers written, ready to promptly mail the July number, which will be ready on or before July 1st. ☞ Be careful to give plain directions for the name of each subscriber, and of his Post Office, County and State.

Prospektus.

AMERICAN AGRICULTURIST,

SEVENTEENTH VOLUME.

„Amerikanischer Landwirth,"

erscheint mit 1. Juli d. J. in

Deutscher, vollständiger Ausgabe.

Mit Vergnügen kündigen wir der großen Klasse der deutschen Bevölkerung, welche ein Interesse hat an: **Acker-, Garten- und Obstbau, an Viehzucht** und an den auf alle **ländliche** Beschäftigungen bezüglichen **Instrumenten,** sowie allen Denjenigen, welche vielleicht nur ein kleines Stück Land in der Nähe eines Dorfes oder einer Stadt bewirthschaften, an, daß wir, um dem Bedürfnisse Derjenigen, welche bis jetzt allein deutsch lesen, entgegen zu kommen, solche Einrichtungen getroffen haben, um die nächste Nummer des **„American Agriculturist"** gleichzeitig mit der englischen Ausgabe **in deutscher Sprache** erscheinen zu lassen.

Es leben in den Vereinigten Staaten allein mehrere Millionen **Deutsche;** darunter befindet sich eine große Anzahl unserer unternehmendsten und fleißigsten Landwirthe. Deutschland hat in Bezug auf die wissenschaftliche und praktische Behandlung der Landwirthschaft gründlichere Untersuchungen aufzuweisen, als beinahe jedes andere Land; es besitzt außerdem noch viele Ackerbauschulen und höhere landwirthschaftliche Anstalten; auch erscheinen dort mehrere ausschließlich der Land- und Gartenwirthschaft gewidmete Zeitschriften. In diesem Lande hingegen wurde bisher auf diesem Felde soviel als Nichts gethan.

Wir folgen demnach der oft an uns ergangenen Einladung von Seiten der deutschen Bevölkerung dieses Landes und betreten mit Freude die uns offen gelassene Bahn, die — wie wir überzeugt sind, große Lücke auszufüllen: eine deutsche, ausschließlich den Interessen der Bodenkultur und den darauf bezüglichen Feld- und Hausarbeiten gewidmete Zeitschrift herauszugeben.

Seitdem die praktischen Verrichtungen auf dieselben Prinzipien basirt und die Arten der Bodenbearbeitung die gleichen sind, ob ausgeführt vom englisch oder deutsch sprechenden Arbeiter, muß, nach unserem Dafürhalten, eine Zeitschrift, sofern es sich um beide Sprachen handelt, eher in jeder, als in einer derselben erscheinen, wodurch unfehlbar ein weiterer Kreis von Erfahrungen daraus gewonnen wird.

Auf der andern Seite, da die Anwendung derselben Illustrationen sowie desselben geistigen Materials die Kosten beider Ausgaben niedriger stellt, so werden entweder beide Zeitschriften billiger, oder es können beide besser und reicher ausgestattet geliefert werden, als wenn zwei von einander getrennte Unternehmungen ausgeführt würden.

Der **American Agriculturist** ward im Jahre 1842 gegründet; **er hat nun eine größere Verbreitung gewonnen, als irgend eine ähnliche Zeitschrift der Welt,** während er von allen Seiten als die vorzüglichste in ihrem Fache, unübertroffen wegen ihres großen Reichthums an praktischer und zugleich wohlfeiler Belehrung anerkannt wird. Zeit, Geduld und langjährige Erfahrung waren nothwendig, sie auf ihre gegenwärtige Höhe emporzuheben. Die Abonnenten der deutschen Bevölkerung werden von allen diesen Vortheilen nunmehr den reichlichsten Nutzen ziehen.

Die Lehren des Agriculturist beschränken sich auf keinen einzelnen Staat oder Territorium; sondern sind berechnet für die Bedürfnisse aller Sektionen des Landes; er trägt, wie der Titel bezeichnet, recht eigentlich einen amerikanischen Charakter.

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Designed to improve all Classes interested in Soil Culture.

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☞**For Contents, Terms, &c. see page 224.**

July.

"Know ye the land where the cypress and myrtle
Are emblems of deeds that are done in their clime?
Know ye the land of the cedar and vine,
Where the flowers ever blossom, the beams ever shine,
Where the light wings of zephyr, oppressed with perfume,
Wax faint o'er the gardens of Gúl in her bloom,
Where the citron and olive are fairest of fruit,
And the voice of the nightingale never is mute."

BYRON.

We have the climate, if not the land of which the poet sung, during our brief torrid Summer. July seldom fails to give us heat of tropical intensity, even to the most Northern limits of our country. Away up in the valleys of the Green and White Mountains, the thermometer goes up to a hundred and over, and the leaves of that salamander plant, Indian corn, shrivel and droop under the burning sun. On one of these scorching days, a scene in a maize field on the prairies, or in the bottom lands of the affluents of the Mississippi, might easily be mistaken for a plantation in the valley of the Amazon. The whole horizon is yellow with the glowing heat. The atmosphere, as far you can see, quivers with the radiation like the breath of a furnace. No breeze relieves the suffocating stillness, nothing diverts the thoughts from the one sensation of sweltering heat. The cows stand midway in the sluggish water, the birds gasp for breath in the voiceless branches of the trees, and the tired mower reeking with sweat seeks the welcome shade. We have occasional days as oppressive as the Summer weather of Cuba, and were it not for the intervals of cloud and storm we should hardly be able to endure the severe labors of the hay harvest.

This tropical quality of our climate gives us a great advantage over England, and the nations of northern Europe. The bright sunshine of July and August matures the maize crop from Georgia to Canada, a plant of tropical origin and appearance. The bean of Lima matures in latitudes north of this city, without forcing, and with a little of the gardener's art, can be had in Maine. Tomatoes and egg plants, okra and Sweet potatoes, are getting to be well known in Northern gardens. Melons, in their varieties, are grown almost as perfect on Long-Island and in Jersey, as on the banks of the Savannah, and the St. John's. Indeed, we have seen the Black Spanish Watermelon, of full size and flavor, grown on the upper waters of the Hudson, though the crop is not a certain one in that latitude. Our gardens are continually gaining accessions from tropical lands, and many of the vegetables that we mature of this class are better flavored than when they have the full strength of a torrid sun.

The boasted magnificence of tropical vegetation and scenery is a theme that will do very well for poets, descanting to readers, who only judge of the reality from descriptions and from pictures. It must be admitted that they get up some very respectable palms and cocoanuts, lemon and orange groves in Cuba. But the men who have seen the big trees of California, or the specimens of White pine and hemlock, still to be found in the primitive forests of our northern States, have nothing to complain of in the way of small timber and dwarf vegetation. We have oaks with the growth of centuries in their boughs, evergreens that were stately trees

"Fit masts for tall admirals,"

before the masts of Christopher Columbus were seen off San Salvador. Those who have never seen a bit of primitive forest, such as still exists in the wilderness of Northern New-York, and in the mountainous regions of New-England, as well as "out West," hardly understand the capabilities of our climate in growing trees. No scene in tropical lands can inspire sublimer emotions than these monarchs of the wood, as one treads the dim aisles beneath their vaulted arches.

"Thou has not left
Thyself without a witness, in these shades,
Of thy perfections. Grandeur, strength, and grace,
Are here to speak of Thee. This mighty oak
By whose immoveable stem I stand, and seem
Almost annihilated,—not a prince,
In all that proud old world beyond the deep,
E'er wore his crown as loftily as he
Wears the green coronal of leaves with which
Thy hand has graced him."

In the way of floral display nothing can surpass a locality of laurels or rhododendrons in full bloom. This latter shrub has a tropical look though it exists in its perfection in this latitude. It comes into full bloom this month, and is found in greater luxuriance and size in the forest, than in the cultivated grounds of our rural improvers.

We have this great advantage over our tropical friends, that while they can not mature many of our plants and fruits by artificial means, we can grow all of theirs under glass. With a little lumber and glass, and a few tons of Pennsylvania coal, we can get up a small section of Cuba (we go in for this kind of annexation) in any corner of our gardens, and grow pine-apples and bananas, to our heart's content. Orange and lemon trees, Japonicas, and a multitude of smaller foreign plants are common in our conservatories. The rich have it within their means to enjoy Southern vegetation and flowers, all Winter long, at a very moderate expense.

But what planter of the Antilles has ever devised a Winter house for maturing the fruits and flowers of the temperate zone? In no corner of his paradise can he grow apples, or raise his own cranberry sauce. We can raise our temperature to the point required to grow his vegetation, at a tithe of the cost required to reduce his to the point where the fruits and flowers of the North will mature.

We have no occasion to envy the inhabitants where perpetual Summer reigns. In this month, we have a genuine taste of their climate, without artificial means. With a little money and labor we can prolong it to suit our convenience and pleasure. There can be little doubt, that a given amount of means will purchase a man more of the luxuries and comforts of life here, than upon any other spot on the globe. So far as the enjoyment of life is concerned we had rather have a Pennsylvania farm, or one anywhere West of that State, to the furthest confines of Missouri, than all the plantations amid the spice groves of the tropics. We know of no finer sight than a fifty acre wheat field, just turning yellow, and nodding its plumes in graceful invitation to the reaper, or a like field of maize, a little later in the season,—the husks cracking open, to let out the golden ears. What perfume is sweeter to the farmer, than the breath of his clover and grasses, when his scythe sweeps down their dew laden blossoms at sunrise, or the odor of the same grasses when dried, and carted home at nightfall. We do not blame the perfumers of Paris, for labelling one of their compounds "New mown hay," nor wonder at its popularity with the Broadway belles, if it equals the genuine article.

It is worth our while, at this culminating point of the year, to pause amid the ripening fruits, and the ingathering of the grain and hay harvests, and contemplate the fullness of our blessings. Would that we could see them near at hand, as they really are, rather than afar off, as they are not in the wilderness of the West, or in the climes of perpetual Summer. As a class, farmers have not half the blessings they are fairly entitled to, by virtue of the climate and their position in society as producers. They grow wood for fuel, and yet multitudes have not even a shade tree about their dwellings. They raise the cream for our strawberries, while not one in a hundred of them have any strawberry bed of their own. They have plenty of land and manure, and yet a good

vegetable garden is still the exception among them. With a little attention and care in the selection of seeds, they may have the most highly prized and healthful luxuries of the city, without money and without price. There is no occasion for them to sigh for the lands of the orange and the myrtle. They may woo their lovers, and live with them, beneath their own vines and fig trees.

Calendar of Operations for July 1858.

[We note down sundry kinds of work to be done during he month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, later for the North, earlier for the South.

☞ At this season there is comparatively little to be said; in the busier months of planting and sowing, this calendar will be more extended.

Explanations.—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated; thus, work marked *fm* indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The "rolling year" has now brought us to one of the hottest and most laborious months. The heavy work of "haying and harvest" has to be prosecuted vigorously under a vertical sun, requiring activity and yet prudence and moderation in labor, and temperance and discrimination in food and drink. Happily, the ingenuity of man has succeeded admirably in bringing brute force subservient to his will, by harnessing his horse to the scythe and cradle (the mowing and reaping machines), thus rapidly and economically performing the hardest work of the farmer. Besides cutting hay and grain, buckwheat and turnips are still to be sown; and the hoes should by no means be idle.

Buckwheat does best sown, ff,—but may be put in, m. Read the article on a succeeding page.

Bark of Hemlock and Oak will "run" during most of July, and may be peeled for tanners, at any leisure time during dull weather. Pile up the former peelings.

Bees—Late swarms coming out at this season should, in most cases, be returned to the hive. See "Apiary" on next page.

Buildings, Yards, &c.—Keep everything about them clean and neat. Leave nothing to ferment and breed distempers.

Butter and Cheese making are going on briskly within doors. See chapters elsewhere.

Cabbages for a late crop may still be planted, ff. Choose damp weather for transplanting, if possible. Early ones will now be ready for market and the ground may produce a *second* crop, or be sown to turnips.

Corn for soiling may be drilled in or sown broadcast, ff. It will form a good succession with the earlier plantings.

Fences—Do not permit cattle to discover any weak points, if you would save yourself loss and trouble, and keep out of contention with your neighbors.

Haying is the important work of July, but with a good mowing machine on smooth ground, a boy and team of horses can perform the heaviest labor. It is needless to say, "make hay while the sun shines," and get it in before the evening dews begin to fall, for every good farmer knows that much.

Hay Caps—Procure or make a quantity, ff, if not already on hand One hundred of them, costing but a few dollars, may save several tuns of hay in a single season.

Hoeing will be a secondary operation this month, but the horse-hoe or cultivator, if you have them, should be run through the corn occasionally, and hand-hoes at least be used, whenever needed, or an opportunity offers—sometimes in the morning before the dew is off the grass.

Hogs—Keep them supplied with materials for making manure compost, and see that they have plenty of water or liquid food.

Manures will soon be wanted for the Winter wheat and rye. Cart muck, turf, loam and weeds to cattle and hog yards during dull weather. Scrape up the cattle droppings each morning and throw in heaps, under cover, mixing with muck. Do not neglect that valuable manufactory, the privy. Throw in every few days, a quantity of muck, door yard scrapings, charcoal dust, or plaster, &c., to absorb unpleasant odors and increase the bulk and value. See "Sink Slops as Manure."

Millet—Sow, ff, m, for a succession ? oiling crop. In connection with corn it will be found very valuable in a time of short feed.

Oats will probably need cutting, ll. Do not allow them to get over ripe.

Pastures—See that the grass is sufficient for the grazing stock. A scant feed now will soon be seen in a diminished supply of milk, and slow growth of young stock.

Poultry require little care now, save keeping from the small fruits and grain fields. Hens may still be set for late chickens, although earlier ones are preferable.

Potatoes—Early crops will be ready for harvesting and marketing during the month, and the ground may now be appropriated to late cabbages or turnips.

Rye—Cut, ff, m, as it ripens.

Seed Wheat and Rye—Let them ripen fully before cutting. Allow no foul stuff to be gathered with them. Thresh with a flail, rather than machine, which bruises many of the kernels.

Sheep are apt to be worried, and killed even, by dogs, at this season. A few small bells placed upon the necks of several of the flock will usually help protect them. Give salt each week.

Sugar Cane—Sow or drill in, ff, m, for cattle, and especially for hogs.

Timber cut in July and August will last much longer for fencing, and other uses, than when cut in Winter and Spring.

Tobacco—Keep ground light and free from weeds. Pinch the upper growth to induce side leaves.

Tools—Have them at all times in the best working order. Fifteen minutes spent in grinding a scythe in the morning will often save double the time during the day, to say nothing of the saving of strength.

Turnips—Sow for full crop, f, mm, and even, l. Newly plowed rich soil is best. See article elsewhere.

Wheat—Cut before it is fully ripe, or when passing from the dough state.

Young Stock—Give them especial care at this season. A calf or colt whose growth is checked now, seldom does as well afterwards.

Orchard and Nursery.

Pruning both old and young trees, thinning late and harvesting early fruits, budding, plowing and hoeing nursery stock, are now the chief labors of the orchardist and tree grower. The most important operation is pruning, which is discussed on a subsequent page. Early fruit is now ripened and giving the cultivator a foretaste of what is coming. He already feels repaid for his vigilant care of the fruit orchard.

Budding will commence, m, or perhaps, f, on plums. Examine stocks often to ascertain the earliest period at which the bark will start. The order in which trees are usually ready to bud is: plum, cherry, pear, apple, quince and peach. A full description was given in last volume, page 161. Pear stocks often complete their growth early in the season, and on this account should be budded at the first favorable opportunity.

Caterpillars—Destroy late broods, ff, with the brush figured on page 186 of the June *Agriculturist*, or pinch them off by hand.

Cherries are fast ripening and many of the varieties need picking and marketing at once. Others may remain for a time on the trees without injury. Guard against barking the limbs with heavy boots and breaking them in the operation. Dry a portion of the fruit in a moderately heated oven, or put it away in cans and jars for Winter use.

Fallen Fruit—Gather and steam or boil the small worm-eaten fruit of all kinds as fast as it falls, to destroy the inclosed insects. Pigs, when allowed the range of the orchard, eat much of the wormy fruit, and effectually kill the germs of a future crop of pests.

Fences—Keep in good repair. Cattle are fond of nipping the young growth in both orchard and nursery. On low branching trees they destroy much of the fruit also, when permitted access to it. Fence the orchard as securely as the garden.

Grafts—Loosen any bandages cutting into the stock, replace wax or cement that has fallen off, and rub superfluous shoots from the stock.

Hoeing—Continue this in nursery rows, and around trees. The horse-hoe or cultivator will be good aids. Loosen the ground and keep down weeds about newly planted and older standards. Allow neither grass nor weeds within six feet of the body of orchard trees.

Insects—Keep lanterns burning, open bottles suspended, and use other methods to destroy curculios, codling moths, caterpillars, slugs, &c., as heretofore recommended. See article on "Enemies of the Pear Tree."

Layer and Inarch shrubs, trees and vines intended for propagation, ff, m. Full descriptions with illustrations were given on page 184, volume XVI.

Manure, ff, trees bearing heavy crops. Procure a good supply of muck during dry weather, for use another season. Lime and ashes are also very valuable for trees.

Pinching or Shortening-in should now be practiced, both in the nursery and orchard. A weak spindling growth may be made more stocky, and side branches induced to grow by heading back the leader, ff. See illustrations page 116 of the April number; also notice the beneficial effects of shortening-in standard trees, on the same page

Plums—Gather all the punctured ones which fall prematurely, and cook them to destroy worms. Continue the curculio preventives recommended last month, and keep all warty excrescences pared off.

Pruning—Now is the proper time for pruning, as recommended in an article further on.

Seedlings of tender varieties in the nursery, or planted in pots and boxes need a shade during the hot days of July. Holly, magnolias, and many of the evergreens would burn up the first season from seed, if not partially shaded.

Stones or Pits—Collect cherry pits for planting, and put in boxes of moist, not wet earth, before they become dry

Thin Fruit, especially on young trees. Those set out this season should not be allowed to ripen fruit. Many trees are seriously injured by permitting them to ripen an over crop. By removing a portion of the fruit on older trees, the remainder will be much finer.

Weeds are as much out of place in the nursery, and about orchard trees, as in the garden. Let all the ground be kept free from them.

Kitchen and Fruit Garden.

One of the first things requiring attention now is to see that all vacant spots are planted with late vegetables Some of the early crops are ready for use or for market and after clearing the ground, giving a coat of manure and a deep plowing, it is all ready for a second crop. Hoeing will come in for a large share of the work of July, and as a general thing those vegetables do best which receive it most frequently and most thoroughly.

Asparagus—Omit cutting, ff, if it has been praeticed to this time. Let the stalks grow the rest of the season, but keep the ground loose and free from weeds. Give a coating of packing salt, which will be carried into the soil by rains and dews.

Beans—A few of the quick growing kinds, as early Valentine, Refugee and China may still be planted, ff.

Beets for Winter use do well sown, ff. Stir the ground among former plantings. Some of the early beds will now yield a supply for the table.

Blackberries were doubtless staked up last month, or earlier. Some of the heavily loaded *branches* of the New-Rochelle variety may need an additional tying, l, to prevent their splitting down.

Cabbages and Cauliflowers—Set out the remaining plants, ff, m. Water the beds before taking them up, and the plants after setting—always retaining as much earth about the roots as possible when transplanting them. Set in the afternoon unless a cloudy or damp day be chosen. The crop of early cabbages is now ready for market.

Carrots, Parsneps and Salsafy—Stir the ground often between the rows, and allow no weeds to rob them of moisture and nourishment.

Celery—Plant out the late crop in recently prepared trenches, ff, watering and shading with a board shelving over them, unless set in cloudy weather. Hoe often.

Corn—Plant sweet varieties, ff, for final crop, which with that planted the middle of June will give a good and prolonged succession for table use, and for drying or preserving otherwise.

Cucumbers for pickles may be planted, ff. Keep the ground well cultivated, and drive off bugs by the protectors illustrated on page 182 of the June number.

Egg Plants—A few may still be put out, ff. If on good soil and well tended they will yield a fair crop.

Endive—Set out, ff, for late use, and sow seed at the same time for Winter crop.

Espalier or Wall Trees—Prune and shorten in as required, spreading and training the branches.

Fruit—Thin and prop or tie up overladen branches and vines.

Gooseberries—Keep the ground well mulched, and dust the bushes with sulphur if mildew shows itself.

Grapes—Rub off unnecessary shoots and nip fruit bearing branches, retaining 4 or 5 leaves beyond the bunches Shoots for cutting out in the renewal system should be allowed to grow unmolested this season. Keep the soil light and free from weeds.

Herbs are mostly in flower, ff, and should be cut for drying or distilling. Gather them in the early stages of bloom, dry in the shade and rub off the flowers, putting in cans or bottles so as to keep from the air. Rose leaves may be preserved in like manner, or immediately distilled

Hoeing—Follow up closely, ff, mm, ll. The soil needs to be often stirred and kept free from weeds, in order to grow vegetables successfully.

Insects—Apply a sprinkling of salt to the surface of ground ready for planting with a late crop, to destroy or drive away grubs. Hand pick the spotted squash bug figured on page 143 of the May *Agriculturist*. See, also article on the "Pea Weevil," in this number. Don't shoot

or scare the birds if they do eat a few cherries.—They are entitled to them for the good they do in destroying insects.

Lettuce—Plant for a constant supply, f, m, l. Sow the Silesian lettuce for late use.

Melons—Plant, ff, for mangoes. Hoe those planted early.

Mushrooms—Begin to collect spawn materials, m, ll, for Autumn beds.

Onions—Keep well hoed. Sow, ll, for "pips" to put out next season.

Peas—Sow, ff, m, l. The weevil has now changed to a fly or bug and left old peas. There is little danger of injury from bugs to those sown at this season.

Potatoes—Early crops will soon be ready to harvest. See that the land is occupied for the rest of the season. Unless gathered for early use or marketing, better leave potatoes in the ground.

Preserving Fruits and Vegetables—Now, while the table is abundantly provided with these, lay in a supply for next Winter, by drying, or better, putting away in air tight cans or jars. Corn, beans, peas, tomatoes, and in fine all the vegetables and fruits, when properly put up come out nice and fresh in Winter and Spring. See directions elsewhere.

Radishes—Scatter a few seed among other crops, ff, m, for late use.

Raspberries are now in the hight of bearing and require daily picking and marketing.

Rhubarb—Linnæus is still in good eating condition when pulled from near the centre of the plant. Dry or put in cans or jars a quantity for Winter use.

Seeds—Gather Turnip, Cabbage and other seed now ripening. Dry with care and label for another year.

Spinach—Sow, ff, m, for a late supply.

Squashes—Hoe often and watch for bugs.

Strawberries have nearly perfected their crop and are pushing out runners, which should be clipped where hill culture is desired.

Thinning both fruit and vegetables may still be necessary. Give both plenty of room.

Tomatoes—Plant a few, ff, for late use. Keep hoed and staked or bushed.

Transplant vegetables of all kinds with care at this season. The hot dry weather renders them less liable to live. Water the seed bed thoroughly before taking up plants, and set out in the evening or during dull weather, shading from the sun for a day or two.

Turnips—Sow remainder of the rutabagas, and the White French variety, ff, m, on newly worked, rich soil. Scatter flat kinds among other crops and where early vegetables are being removed, m, l. See chapter elsewhere.

Weeds—Compost or give them to the hogs if they have been permitted to grow at all.

Winter Cherries—Though rather late, they may still be planted out for a late supply.

Flower Garden and Lawn.

These grounds should be very attractive at this season. The perennial plants are many of them still in bloom, while the early annuals are daily coming into flower. The beauty and fragrance of the rose still remains, and many of the house plants now adorning the borders are gay with bloom. With those who have little to do in the hay fields, there is more leisure now, after the hurried season of preparation and planting, which gives an opportunity to look over the whole, both to enjoy the beauty, and perfect any arrangements not fully completed. There is still sufficient time to sow a few

Annuals of the quick growing sorts on ground heretofore occupied by bulbs, or where the flower stalks of early blooming plants have been cut away.

Box Edgings not already clipped should be sheared, ff.

Bulbs—Lift, ff, m, those which are to be divided and reset, filling their places with annuals.

Cactuses—Divide and reset, f, m, pruning into shape.

Camellias—Keep partially shaded and well syringed.

Carnations, Pinks, Picotees and Pansies—Continue to layer and put in cuttings, ff, m. Open the flower pods by slitting upward, those inclined to burst at the side. Water in dry weather, and keep flower stalks neatly tied up.

Dahlias—It is not too late to set out plants started last month in pots or otherwise. Prune side branches and firmly stake tall plants.

Flower Stalks are unsightly after completing their bloom. Cut them away and plant annuals to occupy the space.

Gladioluses—Plant, ff, any not already out, and stake early ones.

Gravel Walks should be kept scrupulously clean from grass or weeds, and be often raked to prevent packing. Renew any thin spots.

Hedges—Finish the first pruning or clipping, ff. Plash, or weave in to fill up weak places.

Hoe grounds often. Even if there are no weeds the soil should be frequently stirred.

Insects—Look after the slug on the rose bushes and destroy with whale oil soap and the syringe. A sprinkling upon other shrubs occasionally, will divest them of insects of various kinds.

Lawns and Grass Edgings look best when covered with a growth of only a few inches in hight. Mow or shear often, trimming smoothly.

Neatness and order should be prominent features of the flower borders. Allow no weeds to grow; cut away decaying stalks, leaves and branches; tie tall growing plants neatly and securely, put the walks in good order and have everything about the grounds as attractive as possible. Remember these gardens are the appropriate "Pleasure Grounds" of the farm-house or cottage.

Pelargoniums—Head back plants now out of bloom, making cuttings at the same time.

Potted Plants—Keep them watered, and the soil well stirred and free from moss. Turn the pots occasionally to disengage any roots which have penetrated into the soil through the hole at the bottom.

Prune trees and shrubs as recommended under "Orchard Calendar," and elsewhere. Many plants now growing vigorously may be improved in shape by cutting back and pinching in.

Rhododendrons now make a fine show of bloom. Water freely, and hoe often, or mulch about them.

Roses are still in full flower and fragrance. This is the proper season to bud and layer in order to change the variety and increase the stock. New growth layered now, will root sufficiently to be removed another Spring. Keep pillar and climbing varieties tied to stakes, or trellis. Use the oil soap solution freely to destroy slugs and leaf hoppers. Even the rose bug evidently dislikes the odor.

Seeds—Collect any now ripening. Examine plants carefully as they come into bloom to verify the correctness of their names.

Stake or otherwise confine all tall growing plants liable to be broken down by high winds.

Transplant the remainder of the biennials and perennials sown last month.

Verbenas—Increase stock of Fall blooming plants by layering.

Water any plants needing it during dry weather.

Weeds—Keep down by frequent hoeings.

Green and Hot Houses.

These are comparatively empty now save in extensive propagating houses, or where there are large collections of tropical plants which are more conveniently managed under cover. Of course the houses are now open night and day, excepting during cold or heavy rains. An abundant supply of freely circulating air is indispensable, and sprinklings or syringings should be frequently given in addition to copious waterings.

Budding of many of the woody plants requires attending to, ff, m.

Callas—Repot towards the latter part of the month, watering less freely.

Camellias—Bud, ff, m, repotting at the same time those requiring it.

Cinerarias—Divide the roots of old plants to increase the stock.

Cuttings—Make and insert, f, m.

Earth for Potting—Provide a good supply and have it well mixed against a time of need.

Fuchsias—Repot, f, m, where large plants are wanted.

German Stocks—Plant for Winter bloom, f, m.

Grapes—Throw open the houses, watering and syringing often, excepting late vines which have not matured their crop. Destroy insects, pinch in the shoots, and dust with sulphur where mildew makes its appearance.

Insects of all kinds need especial looking after now The whale-oil soap solution will prove sufficient in most cases, although it may sometimes be necessary to resort to tobacco fumes.

Layer and inarch many of the woody plants to increase the stock, ff, m.

Oranges and lemons should now be budded, unless previously done.

Pines are now ripening, and require a moderate amount of water, with an abundance of air. Plant well-ripened and partially dried crowns for a new supply. Side suckers may be set out for the same purpose.

Pottings—Continue upon plants requiring more room. Many of the seedlings now need potting. Change the surface soil in large pots and boxes, adding a rich compost.

Prune Plants, ff, m, to bring them to a good form. In some of the plants the old wood requires cutting away to renew the growth.

Seeds—Gather any ripening, and save with care, or plant at once.

Verbenas, petunias, geraniums, &c.—Get up a Winter stock, by cuttings and layers, f, m.

Water—Give copious supplies during the warm, dry weather of this month, sometimes both morning and evening Wash freely with a syringe

Apiary for July.

BY M. QUINBY.

After all your care, you will probably have some queen less stocks, and likewise some swarms which possess a queen, but are too small to amount to anything. By putting one of these in the old stock, they will be well disposed of, that is, if healthy, and if not healthy, put the bees into the new swarm. Any stock not sending out a swarm by the middle of this month should now be examined for disease.—If diseased, drive them out immediately to begin anew. Such as *have* sent out swarms, and are diseased should be driven out three weeks after the first swarm. This period (three weeks after swarming) is also the proper time to prune out *old combs*. when necessary I would not, however, advise this operation oftener than once in eight or ten years—its being dark colored is no proof of its being unhealthy.

In many sections, bees will have secured their Winter stores by the last of this month. Boxes containing surplus honey enough to make it worth while, should be removed for where no buckwheat is raised, probably no more honey will be added—and where there is buckwheat the honey added will be much darker, and cause the whole to look badly. If from *any* cause, the bees are reduced so as not to cover the combs, the worms will he quite *sure* to *destroy* them, and if the colony can not be strengthened by some means, the contents of the hive (honey and wax), should be secured in advance of the worms, even if the bees are wasted. This course is better than to breed swarms of moths to molest other hives.

Buckwheat.

Any time up to the middle of July, will do to sow this valuable grain, and almost any description of soil, dry, and not absolutely barren, will yield a tolerable crop, provided it be moist enough to sprout the seed and get it above the ground A shower or two, and the dews will bring it on afterwards. We have even raised a good crop of buckwheat when sowed in a dry time in July, and it did not come up until the middle of August.

The ground need not be plowed until nearly ready to sow, as the fresher the earth, the more readily will the seed germinate. It should, however, be light and fine. Half a bushel to three pecks of seed to the acre is sufficient, as the stalk branches out like a tree, and the grain is borne on every tendril. Cool September nights best fill and mature the grain. Early sown, and blooming in the hottest weather, the seed is apt to blast in forming, and hence a light crop; but if fully set in early September, before a frost, it rapidly fills, and gives a bountiful yield.

When ready to cut, which may be done while some of the later kernels are yet green, it should, according to its bulk on the ground, be carefully cut with a cradle or scythe, and lie a day or two to dry, and then be carefully forked together into little stooks to cure, and not taken in until the stalks are fully dry. It can then be thrashed in a machine more effectually than in any other mode, although it is easily beat out with the flail. When cleaned, up spread it thin on a floor, that it may thoroughly dry, since being late in the season, it is more liable to damp than the earlier cut grains.

Well stored, and kept dry, the straw is a tolerable fodder for young stock of any kind, and sheep will eat it greedily for a change. We have fed tons of it advantageously to our Winter stock, while for cattle bedding nothing is better.

The virtues of buckwheat as a table food we need not enumerate. Buckwheat cakes are a luxury wherever known; and for poultry, the unground grain is excellent. As pig, cattle, or horse feed it is better ground than fed whole, and when ground is substantial and nutritious. Some farmers have a prejudice against growing buckwheat, as it "fouls" the land for the succeeding crop. Others think it injures the land in its fertility. From long experience, we think otherwise It kills wire-worms, leaves the soil light and free,

and a crop of Winter rye may be sowed immediately on its stubble to good advantage.

We believe in buckwheat, as one of the staples of an annual farm crop.

Weeding Implements for the Field and Garden.

We present illustrations and descriptions of several implements specially useful for eradicating weeds which are now struggling for supremacy, not in the garden only, but among the carrots, turnips, &c., in the field. The *Weeding*, or *Bayonet Hoe*, (fig. 1) we introduced to general notice fifteen months since; and, as we said then, we still think it one of the most convenient little implements we know of. The blade, which is about 6 inches long, is sharp-pointed and sharp-edged. It can be used almost like a common hoe, by laying it down upon the side. The point can be turned to the right or left, to work among plants. We have this implement in hand two-thirds of the time we

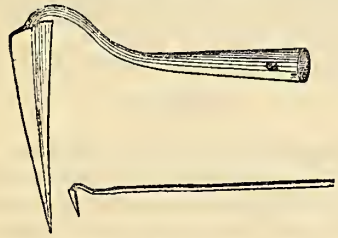


Fig. 1.
WEEDING OR BAYONET HOE.

spend in the garden, at this season. The larger figure shows the metal portion; the smaller one includes the handle, which is, say 4 feet long. The retail price of these hoes is usually about 50 cents. We would not be without one if it cost five times as much.

The Scuffle or Push Hoe (fig. 2) has been in use for some years, but is not so generally known as it should be. The steel blade is 2 to 3 inches wide, and 5 to 10 inches in length. The front edge is beveled sharp, and sometimes the back edge also, so as to cut both ways. The handle, being 5 to six feet long, allows one to stand erect in working, and at the same time reach in to the middle of a pretty wide bed of vegetables. It is

Fig. 2.
SCUFFLE OR PUSH HOE.

useful for working between rows, also for gravel walks, and is every way a very convenient implement. Cost at retail, 37½ to 75 cents, according to length of blade.

The Carrot, or Coultered Scuffle Hoe (fig. 3) is a new and very useful implement. We have heard no name for it yet. On page 166 of June number, we published a note from Dr. Gill, of Dutchess Co, N. Y., describing this hoe. We believe Dr. G. is entitled to the credit of originating it. On casting about to get one made for our own use, we found that they were already being made for a few persons around Poughkeepsie, N.Y., by Messrs. C. H. & W. Sedgwick of that city. It is the common *Scuffle Hoe*, with a coulter or upturned lip upon one end of the blade. The coulter or lip projects forward of the main blade some 2 inches, and is sharp in front. This can be run close along side of a row of plants, cutting the earth without disturbing the roots. The blade being thin, it moves through the earth without throwing it away from the plants. We have tried it thoroughly the past month, and can commend it very highly. Retail price, 62 to 75 cents, according to the length of main blade.

The Double Coulter Scuffle Hoe (fig. 4) is similar to the single implement or rather, consists of two of them put together, as shown in the engraving. We made the sketch from the only one we have

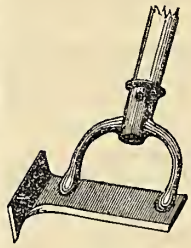


Fig. 3.
COULTERED SCUFFLE HOE.

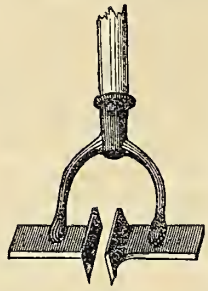


Fig. 4.
DOUBLE COULTER SCUFFLE HOE.

seen of this kind, which was made for us by Messrs. Sedgwick. We find it defective in that the coulters, being only one inch apart, are too near together. We shall immediately have another made with the coulters 2 to 2½ inches apart, and we are confident it will then be a capital thing to run along rows of onions, carrots and other plants.

Lothrop's Patent Hoes (figs. 5 and 6) we obtained just in time to prepare the engravings for this

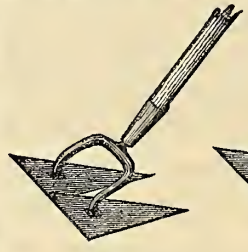


Fig. 5.

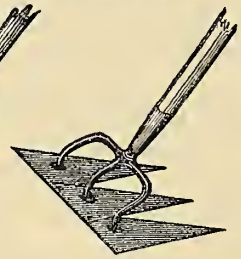


Fig. 6.
LOTHROP'S PATENT HOES.

article, and have not tried them thoroughly. They are highly recommended, however, by those who have used them. They are made with three or two blades, as shown in the wood cut. The steel blades are rivetted together where the upper corners are joined. They may be used for straddling rows of young plants to stir the earth on both sides at once. They are also adapted to general hoeing and stirring the earth. Retail price, 62 cents for the two blades, and 75 cents for the three blades. The card of the manufacturers, and a strong recommendation from the Hon. Marshall P. Wilder, will be found in our advertising columns.

All the above implements may be obtained at the agricultural stores, except those shown by figs 3 and 4, and these will doubtless soon be put into the market. We believe fig. 3 is already being made in quantity.

A Home-made Double-coulter Push Hoe.—E. Ryder, Putnam Co., N. Y., writes that the hint from Dr. Gill, last month, is worth to him ten times the cost. He has practised upon it, by removing the blade from the back of an old scythe, cutting off about 5 inches in length, heating it a little to prevent breaking, and then bending up each end about an inch. To the blade thus prepared, a piece of the scythe back was then rivetted to the middle, and a soft wood handle driven on, elevating it so that the hoe will push flat. He adds: "Then keeping it sharp with a file, and aiding with the left-hand fingers, the gloom it casts over the budding hopes of weeds and clover, is comforting to the onions, carrots and—their owner."—It will he noticed that having both ends of the blade turned up, it can be worked to either side of the rows—a hint, this, to manufacturers.—Ed]

The Common Flat Turnip.

According to the adage "on the twenty-fifth day of July, sow turnips, wet or dry." Yet, we would sow them sooner—early in July, if possible. But we have sown them in August, and had a good crop. An old pasture, well top-dressed with ashes and sheep dung, is their best soil, if light and dry—when a newly cleared piece of ground, which few people have on an old farm, is not to be had.

A quarter to a half pound of seed to the acre is enough, if well distributed; and with occasional showers, they will grow vigorously, and yield several hundred bushels to the acre. Although not equal to the Swede, or the Ruta-baga in substance, they make a good green food for all kinds of stock in mild weather, either in the late Fall or early Spring, as a change from hay and other dry forage. As a table dish, during Autumn and early Winter before they become *pithy*, few vegetables are better, or more wholesome. The tops are excellent for Milch cows, and the roots also, if salted, and not fed in such quantities as to give their flavor to the milk.

Like all late, or Summer sown seeds, the flat turnip is a contingent crop, and not always reliable, depending on the wet or dry season for its growth and ripening; consequently it is not recommended to be cultivated in large quantities, unless under particularly favorable conditions, and where the land can be well spared. They may follow peas, or early potatoes in the garden to much advantage as a market gardener's crop, where they are frequently raised in great and profitable abundance. Wherever they will succeed, they should always be sown to more or less extent.

The Long White French Turnip.

To the Editor of the American Agriculturist.

Allow me to add my testimony to what has already been said in favor of the "Long White French Turnip," as it is called. Last season I received half an ounce of the seed in a letter from a friend in Rhode Island, and planted it July 27th, on about ten square rods of ground. I gathered about 18 bushels of turnips, which we have continued to use on the table up to this time, with the highest satisfaction. They are, in my opinion, and that of my neighbors who have had from a peck to a bushel, the very best turnip we ever saw, They are so sweet and free from woody matter, and keep so well. They appear to be as good now as during the Winter. This year I obtained ¼ lb. of seed by mail, which I shall plant—a part about July 1st, a part July 20th, and the rest in the forepart of August. I am glad you have hunted up and brought this turnip into public notice, and that you promise to put it upon your general distribution list next year. If you have any seed left, I hope it will all be called for this year, even though you give it out only as premiums. My half ounce last year was worth more to me than the whole cost of three or four subscriptions for a year. It is to get this seed as premiums.

that the inclosed six names have been obtained as subscribers, though I am sure they will get ten times their money's worth in the paper itself.

T. R. Mulford.

Dane Co., Wis., June 4th 1858.

Remark—We have other letters similar to the above, but have not space for them. We shall have a few hundred packages of seed to distribute this year, as premiums' to the first applicants, as will be noted in the business columns.

I Can Raise Turnips.

A NEW PLAN.

To the Editor of the American Agriculturist.

In a former number, I noticed an article, headed "Can't raise Turnips." It seems surprising to *me* that there should be the least difficulty in raising a big crop of turnips every year; but, it is nevertheless true, that more than one half of those who make the trial, fail. I think there is scarcely anything done on the farm that is so simple and easy to accomplish, as to raise three, four, or five hundred bushels to the acre, of nice, smooth, sweet turnips, and with less labor, perhaps, than any other crop. I have never failed but one year, and that year I killed the germ of the seed by letting it remain in dampened, unleached ashes, twenty-four hours, previous to sowing. Nine-tenths of the seed did not sprout, and I nearly lost my crop.

My plan is, after taking off a crop of hay where I intend to put corn the next season, I turn over the sward smoothly, about the first of July, then pass over the furrows lengthwise with a roller, to close the seams nicely. I then put a light coat of almost any kind of manure over the rolled land, harrow it over lengthwise, three or four times with a good, sharp harrow. I give it another harrowing once a week, up to the tenth or twelfth of August, which entirely prevents the grass and weeds from growing, and forms a nice, loose mould several inches deep above the undisturbed sward.

At the time of sowing, I sift with the seed, three or four times its bulk of leached wood-ashes, and mix well together. I harrow the ground over before beginning to sow, starting the harrow on one side of the land, and follow the harrow every round, casting the seed high and wide. In this way I get the land pretty evenly sown, by using about a pint of seed to the acre. This is the last that I do to them until pulling time. Let the season be wet or dry, hot or cold, I have not failed to get from three to five hundred bushels to the acre, and have my ground in fine condition for corn in the Spring.

When pulling time arrives, I give the eighth or tenth bushel for pulling and topping. In that way, many families who have no land, and some who have, supply themselves with turnips for Winter. In feeding, my man gives each milch cow about half a bushel daily, with a few quarts of corn, ground in the cob, and a little shorts. This gives the milk and butter, and the pork follows from the milk and buttermilk.

A Subscriber.

Cattawissa, Pa., 1858.

Remark.—The above comes from a good source, and gives a plan which will be new to many. We wish our correspondent had stated the kind of soil. All such particulars are important in narrating experiences, for what may succeed well on one kind of soil may not on another.—Ed.]

Of all the virtues, gratitude has the shortest memory.

Tim Bunker on a New Enterprize.

Mr. Editor:—I never was more astonished in my life, than this morning, when on my way to mill down the Shadtown road. I have been thinking a good deal about miracles lately, and I declare they aren't a bit more strange than some things I have lived to see Jake Frink with a watering trough in his barn-yard is a *poser*, and if you only knew the man as well as I do you would say so. But that aint a circumstance to what I am going to tell you now. You see, I hadn't got more than a mile down the Shadtown road, when I saw a lot of men looking over the wall. At first I thought there must be a fight, and that there would be occasion for me to exercise my office as Justice of the Peace. It would be almost a miracle if there should be such a thing in Hookertown, for we are an uncommonly peaceable community.

As I drove up, I saw uncle Jotham Sparrowgrass, with a team and three hands, busy digging a ditch, and about a dozen Hookertown people looking on. There was Deacon Smith and Seth Twiggs, Jake Frink, Tucker, Dawson, Tinker, and Jones, and among the rest, the minister, Mr. Spooner. It seems uncle Jotham had begun the job the day before, and the thing had made such a sensation, that a pretty strong delegation was out to see Jotham Sparrowgrass at work on an improvement.

There never was a prettier chance in the world to do a nice thing for a bit of land. You see, he had a peat swamp of about three acres, lying in a hollow, mostly cleared of brush, and with a small pond-hole in the middle. The peat in some places was ten feet thick, and all the edge of the bog was wet and springy for at least two acres more. The whole was worthless as it lay, except for the muck which it afforded, of which, uncle Jotham never used a cart load in his life. The bog lay high, and by digging about ten rods, through the rim of the hollow, there was fall enough to drain the whole swamp, three feet deep or more. Here uncle Jotham was at work with his men, like so many beavers.

The main drain had been cut, and one could see how these peat bogs had been formed. After the stones and surface mold had been removed, it was a solid, light-colored clay, which would hold water tight as a basin. Every thing that run into that hollow, and every thing that grew, had to stay there. All the wood, brush, and mosses, that flourished there before the country was settled, had decayed and made a vast bed of vegetable mold. The water having no chance to get out, had operated as a great millstone to press it together very solid. It had now found an outlet and was making a straight wake toward the North Star, as if seeking liberty for the first time.

"You are just in time Squire Bunker," said Deacon Smith.

"You have got another convert here," said the minister.

"Who would have tho't it?" exclaimed Seth Twiggs, as he took the pipe out of his mouth, and blew out a cloud of smoke, that made one think of a locomotive.

"Old Bunker will make fools of us all," soliloquized Jake Frink as he thought of the horse-pond, and the lead pipe leading to his barn.

"Good morning uncle Jotham," said I. "I thought you didn't believe in doing anything with muck swamps, eh? What are you doing here?"

"Why, you see, Mr. Bunker, I've known this 'ere swamp for risin of thirty years, and have raised corn near it, for about the same length of time; and I never had a piece of corn any where in this neighborhood, that war'nt badly eat with the muskrats. You see the scoundrels begin to work upon it early in July, and they keep at it, until frost comes. I've set traps for 'em, and shot 'em, and done every thing I could think of to kill 'em off, and I believe they are thicker than ever this Spring. So you see, I was riding by your house last week, and seed where that horse-pond used to be, and I got to thinking, and this 'ere plan came to me, all to once, like a flash of lightning. Thinks I to myself, I've got them pesky animals in a tight place at last. I'll dry 'em up, and put 'em on the total abstinence principle, be hanged if I don't. You cant have a drunkard without bitters, nor a muskrat without water, can you? And you see, with one day's work I've took the water all down to the bottom of the pond, and I am bound to go three feet deeper, by the measure. Whether I make any thing out of this bog or not, I'm bound to rid the rest of my farm of a great enemy."

It was a grand sight, Mr. Editor, you may depend upon it. I dont know as I bear any particular ill will to the tadpoles and turtles, but somehow I kind o' like to see their confusion, when the water slopes off on a sudden, and they flop around in the mud, not knowing which way to emigrate. They lay there by the bushel, evidently very much troubled at the day-light. I would go further to see such a sight, than to see all the menageries ever exhibited. I have heard them tell about the fine points in a painting, the contrast of colors, &c. There is no contrast quite so satisfactory to my mind as this light colored clay on *top* of a black muck soil. I am always certain of dark green to shade it pretty early in the season.

You see, full one-half of uncle Jotham's talk about the muskrats is gammon. He don't like to own that he has learnt any thing from me, or any of his neighbors. But you see he has already made up his mind to plant that bog with potatoes this season, and substitute tubers for tadpoles and muskrats. The fact is, Mr. Editor, that horse-pond movement has done the business for quite a number of my neighbors, and is working better than physic. There are at least four of them started on a new track by that enterprise. Now, if you have the least spark of patriotism come up and see us Independence day. If you expect to see any thing of the Hookertown of the present generation, you must come quick, for I tell you now, this world moves, and no mistake. If you dont come and see what's going on, we shall get up a rebellion, we shall—do any thing but stop the paper. That we are bound to have, whether you come or not. Yours to command,

Timothy Bunker, Esq.

Hookertown, Conn., June 5, 1858

(It is put down in our note book to visit Hookertown, July 4th—*if we can.*—Ed.)

Where is "Ib" Published?

We have seen, in several of our exchanges, a great number of good articles, (of course they were good, we wrote them ourselves), which articles are *credited* to "*Ib.*" Now, we would like to know where that journal *so often* quoted from, is published. We want to get hold of it, we do, for it must be very valuable, since so many are copying from it with due credit. If every paper would only credit the *Agriculturist* for *its* articles, as well as they do our cotemporary "*Ib*" there would be a mighty stimulus to get the very best articles in the world, just such as would be worth copying and crediting too.

He who greases his wheels, helps his oxen.

Statement showing the AREAS of the several land States and Territories, the amount of land disposed of by sale &c., and the amount unsold and undisposed of on the 30th of June, 1857.

States and Territories.	Areas of the land States and Territories, exclusive of water.		Surveyed up to June 30, 1857.	Unsurveyed on June 30, 1857.	Offered for sale up to June 30, 1857.	Acres sold up to June 30, 1857.	Donations and grants for schools, universities, &c.	Grants for internal improvements.	Grants for military services.	Reserved for the benefit of Indians.	Swamp lands granted to States.	Railroad grants.	Total of acres unsold and [illegible] proposed, of offered and unoffered lands, June 30, '57
	Sq. Miles.	Acres.											
Ohio	39,964	25,576,960	16,770,984	.....	16,770,984	12,822,793	727,528	1,243,001	1,804,423	16,330	32,438	.....	41,651
Indiana	33,809	21,637,760	21,487,760	.....	21,487,760	17,111,221	673,357	1,609,861	1,304,496	126,220	1,250,937	.....	[illegible],239
Illinois	55,410	35,462,400	35,462,400	.....	35,454,262	19,226,103	1,001 795	500,000	9,648,850	48,989	1,833,412	2,595.053	294,150
Missouri	65,037	41,623,680	41,598,898	24,782	41,186,654	18,206.454	1,222.179	500.000	5,274.873	22,587	4,064,788	1,815,435	9,106,267
Alabama	50,043	32,027,520	31,993,813	33,707	31,903,283	16,128,168	925,814	500,000	1,040,924	2,542,378	2,595	2,332,918	8,292,742
Mississippi	37,337	23,895,680	23,895,680	.....	23,892,577	11,492,671	860,624	500,000	269.573	277,612	2,834,090	1,687,530	5,268,250
Lousiana	41,346	26,461,440	24,039,319	2,422,121	19,231,161	4,404,397	832.124	500,000	637,750	.....	10,910,792	1,102.560	5,972,499
Michigan	56,451	36,128,640	36,128,640	.....	34,115,710	11,201,553	1,113,477	1,250,000	2,100 653	109,300	7,273,724	3,096,000	9,793,859
Arkansas	52,198	33,406,720	33.279,008	127,712	32,618,409	5,307,166	932,540	500,000	1,889,933	.....	8,026,358	1,465,297	14,968,830
Florida	59,268	37,931.520	25,362,287	12,569,233	18,876,615	1,616,433	954,583	500,000	413,719	227	11,630,271	1,814.400	17,182,512
Iowa	54,930	35,155,200	34,074,598	1,080.602	24,888,670	11,430,815	951.224	1,385,078	11.963,703	119,183	1,739.505	3,456,000	4,041,544
Wisconsin	53,924	34,511,360	28,419,823	6,091,537	24,131,412	9,262,863	1,004,728	1,069,371	4,730,137	137,894	2 350,000	1,622,800	14,238,498
California	188,981	120,947,840	21,611,447	99,336,393	.....	.....	6,765,404	500.000	.....	.....	.....	... ..	113,652,436
Minnesota Territory	141,839	90,776,960	12,188,281	78,588,679	2,508,710	1,734,098	5,089,244	$340,000	2,867,280	.....	.....	4,416,000	76,330,337
Oregon Territory	196,295	125,628,800	4,443,831	121,184,969	.....	41,029	6,192,124	.....	.....	.....	.....	.....	76 443,396
Washington Territory	126,457	80,990,080	739,992	80,250,088	.....	1,154	4,545.529	.....	.....	.....	.....	.....	118,695,647
New Mexico Territory	256,309	164,037,760	107,928	163,929,832	.....	.....	8,826,956	.....	.....	.....	.....	.....	155,210,804
Utah Territory	220,196	140,925,440	1,999,908	138,925,532	.....	.....	7,781,707	.....	.....	.....	.....	.....	113,143,733
Nebraska Territory	342,438	229,160,320	1,902,541	217,257,779	.....	28,590	12,175,573	.....	37.720	.....	.....	.....	206 918,436
Kansas Territory	126.283	80,821,120	3,826,326	76,994.794	.....	17,350	4,468,662	.....	125,840	.....	.....	.....	76,217,867
Indian Territory	67,020	42,892,800	.....	42,892,80	.....	.....	.....	.....	.....	.....	.....	.....	42,892,880
Total	2,265,625	1,450,000,000	399,333,464	1,041,710,560	327,066,207	139,032,865	67,736,572	10,897,313	44,109,879	3,400,725	51,948.916	25,403,993	1,088,792,500

The Public Lands of the United States.

We present above, both for present and future reference, a very interesting table, showing at a glance, the amount, condition and location of the lands under the control of the General Government of our country. These statistics are made up only to the first of July, 1857, it requiring the greater part of one year to collect and compile the reports from all the Territories. One of the first things that will attract attention, is the last column, which shows an extent of territory yet unappropriated, of 1,088,792,500 acres! The population of the United States and Territories at the last Census (1850), was 23,263,488. At the rate of increase (36½ per cent) for the previous ten years, our next Census Report (1860) will show a population of 31,715,000. Now suppose the inhabitants divided into families of five persons each, or 6.343,000 families, and this domain equally divided among them. There is unoccupied land enough to supply *each one of these families with a farm of* 172 *acres!* In other words, if all the present inhabitants are provided with just the needed amount of land (and there is twice as much occupied as there is cultivated) we could supply another population as large as the present, with a domain of 172 acres to every five persons.

But five acres of land is an abundant allowance for each man, woman and child. The population of Massachusetts is equivalent to about one individual to each four acres. If, then, we allow only one inhabitant to each five acres of the *unoccupied* land (1,088,792,500 acres) in the possession of our government, and still unsold, there is room for *over two hundred millions* (217,758,500) of people. These figures, however, as large as they may appear, give but a faint idea of the extent and capabilities of our country. Nineteen States are not mentioned in the above table, and even in those named there are over four hundred and sixty millions (461,207,500) acres already disposed of, but, as yet, sparsely inhabited.

It will be noted that over thirty six million (36,301,306) acres have been granted to 14 States for public works; that is, 10,897,313 acres for "internal improvements," such as canals &c.; and 25,403,993 acres to aid in the construction of railroads.

Another column exhibits the large amount of 44,109,879 acres granted for military services. This is equal to 2,560,000 acres *more* than the whole area of the six New-England States; or a territory one-and-a-half times as large as the State of New-York. These "bounty lands" should be taken into account as one item of war *expenses*, by those who are so ready to involve our Nation in another contest.

It is a source of no little satisfaction to find in another column that 67,736,572 acres have been given for schools, Universities &c. If the matter can be rightly managed so as not to prove a detriment to Agricultural improvement, instead of a blessing, we think there can be no objection to adding to this last item the 6,340,000 acres for Agricultural Colleges in the several States, as proposed in Mr. Morrill's Bill.

The third, fifth and sixth columns of the table, show: that of the 399,333,464 acres surveyed up to July 1st, of last year, 327,066,207 acres had been offered for sale, of which 139,032,865 acres had been purchased, leaving open for sale at that date, 188,033,342 acres. As the hard times have operated against free purchases during the past year, and several new tracts have been thrown open, there are now probably over two hundred million acres of lands *ready* for native or foreign emigrants who desire a farm of their own, at the government price of $1¼ per acre.

Tennessee Lands.

The two articles recently published on the above topic, (one on page 102, April No., and one on page 133, May No.,) have called out a score or more of lengthy communications, both from Tennessee and elsewhere. A considerable portion of these we suspect to be from persons directly or indirectly interested in lands awaiting purchasers—some of these writers very evidently have an "ax to grind," and their communications have the go-by of course. The others are on file for such examination and use as we may have time and space for. As we have before remarked, we have no doubt that there are many fine tracts of land yet unoccupied in different parts of Eastern Tennessee, but in the multitude of *conflicting* statements presented, we find it difficult to locate them definitely.

In these days, in order to avoid being humbugged ourselves, and humbugging our readers, it is almost necessary to suspect a cat in every meal-tub.

Money, like manure, to do much good must be well spread.

Agricultural Humbug at Washington..IV.

Washington White-wash—The Auto-Biography of an Agricultural Clerk sent around the Country at Public Expense &c., &c., &c.

In the former three articles under the above general head, we have pointed out some of the derelictions of our government in general, and of certain officials in particular, with respect to promoting the agricultural interest of our country. Among the leading causes of complaint, were the following:

I. That while over seventy-five *million* dollars have been annually expended by the general government for various purposes, only seventy-five *thousand* dollars (one dime out of every hundred dollars) have been even nominally devoted to the improvement of agriculture, over the whole country.

II. That even this pittance has been well nigh wasted, and in part worse than thrown away:

1. By intrusting the chief management of the agricultural department to an unskillful, inefficient person.

2. By the collection and distribution of many worthless seeds.

3. By the importation of seeds originally grown and now widely scattered here, and distributing them as new seeds from abroad.

4. By sending out many seeds carelessly labeled, thus producing confusion, and loss of time and labor, on the part of those who undertake to cultivate them.

5. By sending promiscuously to every part of the country those seeds which, in any case, are only adapted to particular localities.

6. By a great waste of seeds, great numbers of packages being sent off—free through the mails—which are never used for legitimate experiments.

7. By the appropriation of funds to useless trips to Europe of government employees.

8 By the preparation, at great expense, of a volume (Agr. Report of Patent Office) which, though containing a few good things, is, in character, infinitely below what it should be, as the leading governmental document of the country. [We have under investigation some curious items regarding the sources and prices paid, or said to have been paid, for articles, in the last Report.]

9. By printing extra copies of the "Report" at great expense, which have been sold, indirectly at least, to booksellers for a pittance, to be afterward hawked with a profit at the street corners, for less than half the original cost to the government.

With our knowledge of the way things are managed at Washington we had little expectation that the above allegations would be noticed *there*, and our chief object has been to arouse farmers themselves to assert their own dignity and importance, and not remain content with the sop of a few packages of seeds, often useless, or a Patent Office Report—proffered to them as a stick of candy to a child, to keep it quiet. Politicians have exceedingly short memories; they are lavish

of honeyd words to the "bone and sinew," *before* election, but *after* election, how few of them ever think of doing anything to promote the Agricultural interest.

But it appears our remarks have not been without effect, even in Washington, and a labored attempt has been made to counteract the force of criticisms like the above—though, as will appear, the very means taken to do this involves a worse humbug than any one previously pointed out. Let us see how the thing is done.

First, a Captain in the United States Army signs a letter addressed to the Chairman of the Congressional Committee on Agriculture. The chairman next signs a letter to the Commissioner of Patents, under whose care the agricultural department is placed—since this interest is not important enough to have a department of its *own*. The Commissioner sends back a communication to the Chairman, and the Chairman sends a letter to the Captain; and the whole is then published in the official organ, the "Union," and *copies of that paper are sealed up and sent at public expense (franked)*, to many, and we presume to most, if not all the journals in the country. On the well-grounded supposition that this whole affair, in its conception and carrying out, is mainly the work of the person chiefly interested, it exhibits more shrewdness than we have hitherto given him credit for, though in this case, as in former ones, he has not fully covered his tracks, and has overshot the mark so far, in his autobiography, as to destroy much of the effect, even with the casual reader. Let us examine these documents (copies of which are before us), particularly the letter of Mr. Holt, Commissioner of Patents. We do not know Mr. Holt personally, but on the supposition that he is at all fitted for his station, we cannot suppose he drew up the fulsome eulogy on D. J. Browne, to which his name is attached; for no one but Mr. Browne himself could have given the minute statements concerning his personal career, dating back to 1822, and extending over almost half the globe, and occupying a full, closely printed, wide column, in the "Union." The charitable supposition is, that, in the pressure of other engagements, the Commissioner simply *signed* the document, without carefully considering the contents. [We may be allowed to state here, that we have no personal acquaintance with Mr. D. J. Browne himself, although we are informed in the document before us that he was engaged for half-a-dozen years upon earlier volumes of the *Agriculturist*; it was before we had any connection with or control over it, and we have scarcely heard his name even mentioned by the former publishers or responsible editors. We have only to do with him in his public capacity, as responsible for the governmental department over which he actually, though not nominally, presides].

The communication (signed by Mr. Holt) first states, that agents have been sent to Europe *only* three times at the expense of the Office. We have charged no more than this.

It is next asserted, without a shadow of documentary proof, that "the seeds, cuttings, &c., have been procured from reliable sources, the selections having generally been made with discrimination." This is one point denied. In discrediting the statements signed by the Commissioner, we do not implicate his integrity, for he has not had charge of this matter, nor any responsibility for it, until very recently.

The document frankly admits other charges we have made, respecting the manner in which *many* seeds have been distributed. We quote:

"....It may not generally be known that the apartments in the Patent Office in which the labor of packing the seeds has been performed were, perhaps unavoidably, *for several years accessible to many persons other than those properly engaged therein*—indeed to the public, and that the Commissioner's frank, in some instances, *was obtained and used for carrying through the mails seeds not selected by the office. From lack of knowledge on the subject*, or through inadvertence, individuals were liable to *send out seeds at inappropriate seasons*, or *to localities to which they were not adapted*, and cases have been known in which *franks were used to cover seeds procured from other sources*, while there is cause to suspect that in some instances frauds were practiced with a view to throw discredit upon the office...."

This is precisely what we have charged, (the italics are our own), and though it might not "generally be known," we have been cognizant of this "lack of knowledge," "inadvertence," and *inefficiency* in the said department, and have been trying to correct it. But we accept with pleasure the following statement:

"....During the past Winter and Spring, however, a salutary reform has been realized in these particulars: The rooms in which the operative force has been employed have been entirely private; the work of packing and distributing has been executed under the supervision of a responsible clerk, assisted by men of intelligence and experience: and to avoid mistakes, seeds of only one variety have been opened at a time, for putting up. In short, the utmost care has been exercised to secure accuracy, justice and dispatch in these important duties....."

This is just what ought have been done long ago, to have failed in doing which, would have cost any private dealer in seeds his business and reputation, as it has turned out with our government "seed store."

The next paragraph suggests other improvements in the mode of distributing seeds, which, if carried out, will prevent, in a measure, the wholesale waste of costly seeds that has constantly occurred, till very recently, at least. It will be a decided improvement if, for example, the grains bought at great expense, for experiment, are put into the hands of efficient agricultural societies for trial, rather than, as has been alleged, franked through the mails by the bagfull, to feed or fatten somebody's favorite animal.

The fifth statement, signed by Mr. Holt, whether drawn up by himself or Mr. Browne, is evidence enough that the writer has not the *right kind* of intelligence and judgment to fit him to have even nominal charge of a national agricultural department. What say the great mass of intelligent, *practical* farmers, who have read, say the last two or three Patent Office Agricultural Reports, to such an endorsement as this:

"....No doubt can exist as to their usefulness or acceptability. No series of documents, indeed, have ever emanated from the government which have been more highly prized. They are well-approved repositories of useful facts, peculiarly suggestive in their character, and prepared with great care, assiduity, and acknowledged ability.'

That will do, considering that the endorsement comes direct from the Department where they originated. The writer cannot have read the agricultural press very carefully, nor heard the almost united expressions of the intelligent agriculturists of the country, for four or five years past. We will not delay on this point, as an analysis of the merits, or rather demerits of the latest printed report, was given in the January number of this journal, page 5.

The sixth, and closing part of the article under review, is of great length, and is really the most amusing—if it were not absurd and ridiculous—public document we have seen in a long time. We shall, for want of space, reserve its discussion for another article, requesting our readers to preserve the above carefully to read in connection with what is to follow.

Study to live as you would wish to die.

Sink Slops as Manure.

In last volume, page 157, (July No.) we gave a pretty full article on this subject, with directions for making cheap, neat reservoirs, bailing out, &c. An associate sends the following hints on the same topic:

English farmers put a higher value upon liquid manures than Americans do. They apply many fertilizers, in a liquid state, through sprinklers, and with a degree of care and labor that here would be thought excessive. There is philosophy in this method; for every one must know that manures are of little benefit, except as they are dissolved by rain, and presented to the roots of plants in a liquid form.

We refer to this principle now, merely to show that the use of refuse water from the sink is a rational one. This liquid is rich in fertilizing properties, and is in just the state to furnish immediate food to vegetable life and growth.

An excellent mode of securing the sink-wash for use is, to set an old oil-cask in the ground, on the north side of your shed, under the spout, and cover it with a lid. This will prevent the cask from skrinking, and if a little charcoal is thrown into it once a week, will prevent all unpleasant smells. Apply the wash every few days, to cucumbers, melons, squashes, raspberries, grapevines—in short, to every growing thing, and the result will amply pay for the trouble.

Another method is to conduct the slops into a vault, where they will be absorbed by muck, leaves and other suitable ingredients of a compost heap. If possible, make this vault a permanent arrangement. Dig a hole two or three feet deep, eight or ten feet square; lay up the sides with stone or brick laid in water cement. If you hesitate at this trouble and cost, dig the hole and surround it with firm clay, or slabs, or old timber. Put a layer of saw-dust, turf, or muck at the bottom, and then let the sink-slops pour in. Add absorbents from time to time, as needed. When the vault is full, cart away, and then commence filling up as before. Almost any farmer can make twenty dollars' worth of excellent manure every year, in this way.

Digging a Well.

"And what has the *American Agriculturist* to say upon a subject which every one understands so well as that?" Not much, to be sure; only that, mind and look a little to the season, and the state of the weather when it *is* done. A dry season, and the dryest part of the season is the best time to dig a well. We have known many a well dug "down to water," and enough of it, too, at a time, when in a rainy or other season, the springs and streams were full; but after being stoned up, curbed, and finished, in a few weeks failed altogether, when it either had to be taken up and sunk deeper, or if on rock, drilled down several feet, to give a permanent supply of water.

The month of August is usually the safest time to sink a well. The hot season has then generally dried up the surface streams and springs, and left those which percolate deep and silent through the earth in their full and natural flow, and when reached, they then scarcely fail to yield a permanent supply. Before digging the well, the stone or brick for walling it should be on the ground, and so placed as to be ready at a moment's notice for use, as we have known wells lost, from a sudden break of the earth or rock at the bottom, and the rapid flowing in of the water, driving the laborers out, and filling up to a hight even above the tools they wrought with. And so strong was the

fountain, that they could not exhaust the water afterwards. Such cases do not often happen, we know, but it is well to provide against them, and after water is found in full supply, the quicker the well is walled up the better.

How to Build a Log-House.

According to the request of a correspondent, and as a matter of interest to many Eastern people, we give a brief description of the manner of doing an indispensable labor in the first settlement of a family in the "woods," where saw-mills are unknown, or if common, not always available in furnishing the primary want of a newly removed pioneer or settler—a dwelling.

We will premise, however, that there are two kinds of log-houses—one, the unadulterated rough, round-log tenement; the other, the logs hewed down on two sides, set edgewise each upon the other, and called by distinction, the "block house." This is, ordinarily, the second degree in luxury from the primitive habitation of the first backwoods settler. We have had divers experiences in each of these descriptions of house-building; accounted ourselves a master workman, even among the craft, and after five-and-twenty years interregnum in that neccessary branch of architecture, firmly believe that we can yet "carry up a corner" equal to the best of their builders.

To commence: "The proprietor," selects his site, cuts down the heavy trees within "falling" distance of the spot the future house is to occupy, and clears away the stumps and underbrush close to the ground. The day fixed for "the rolling," his neighbors—to the number of ten, a dozen, or twenty, according to the magnitude of his building, and the extent of finish to be given to it—are invited; and, after an early breakfast, with two or three yoke of oxen or spans of horses, as they may own them, assemble on the ground for action. The company are then called together, and some one, usually conceded by the company to understand the matter thoroughly, is agreed upon as "boss" for the day. Four athletic, active choppers, each with a true eye in his head, are then selected as "corner-men." There are more, if the house is to have log partitions—one to each "butt" or at the intersecting point where the end of the transverse logs lie upon the bodies of the front and rear of the main ones of the house, as in fig. 2

A man with an ax stands upon each intersecting point to "carry up the corner," the foundation being first laid by a course of heavy logs of dura-

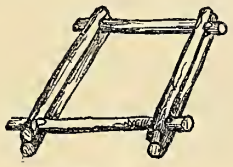


Fig. 1.

ble timber laid flat on the ground, and on them the sleepers for the main floor; or, if convenient to be had, a large flat stone is laid under each corner of the building, and, if a double house, under each partition. This preliminary labor is sometimes done a day or two previous, by the owner and the help of a neighbor or two, but in most cases is left for the day when the rolling up of the house itself is to be performed.

Well, the company assembled—the men partitioned off, each to his allotted branch of labor, into "boss," "corner men," "teamsters," and choppers—they commence work in earnest. The boss selects the trees, the choppers fell and "butt" them at the lengths which the boss marks them out; for he, with ax and pole in hand, must be round among them constantly, to see that no mistakes are made in these particulars. Or, sometimes, when a very rough house only is intended, each chopper selects his own trees, and draws his own measurement by aid of his axhelve, or "paces" it off, and even lets the hutting go; but the measurement and butting is the better way, usually. As fast as the trees are prepared, the teamster, with handspike in hand, is ready to hitch on to one end, and his cattle, with a wonderful knowledge of the kind of work from being used to it, are off in a moment; and,

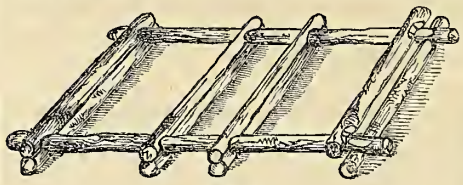


Fig. 2.

after one or two logs are hauled, they stop with great accuracy at about the very point where the logs are required for rolling. It is also well understood by the teamsters—the word being given by the corner men as they proceed—whether the but, or top end of the log is to go forward, for the house must go up on as near a level as possible. This is accomplished by putting the but end of a log at the corner which happens to get the lowest.

The log being at its place on the ground, four or more men, as may be required, with 'handspikes' (levers), and their stout arms and shoulders, roll it up on 'skids' (pieces of timber with one end on the ground, and the other on the log

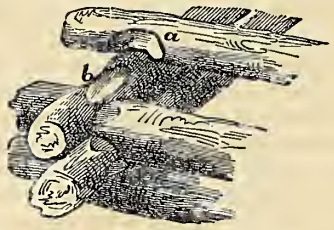


Fig. 3.

last put up). When breast high, it is carried further up by aid of crotched poles cut from forked saplings. When nearly up, to get it over the projecting corners, the corner-men, with handspikes or larger levers placed across the last laid log, raise it over the projecting ends of the transverse logs. They lay it on its proper side for "notching" to fit the bearing logs which have been previously "saddled"—that is, scarfed down from the top on each side, like this letter A (*b*, fig. 3). They then cut into the last received log, a corresponding notch to fit closely upon the other, thus, V (*a*, fig. 3); then roll it over, and, if properly done, it fits snugly, and, with the aid of a correct eye, the corner is carried up perpendicularly from sill to plate.

In the process of going up, the places for the doors and windows are either marked in the logs by the corner-men by cutting a scarf into them, or cut out altogether, as they may have time. When the first, or lower story is up to a sufficient hight, the beams are laid on, scarfed in by notching and saddling, according to the extent of finish to be given to the house. The bearers, however, are previously flattened, so that their upper sides may receive the floor when laid upon them. Thus the house goes on until the proper hight is reached; and, if a very rude one, the gables are then laid up in the same manner, only that the gable logs are scarfed off at the ends with a slant to give the roof the desired pitch. The rafter logs, laid lengthwise, are notched upon them, so that when finished with its ridge-pole, it is the perfect skeleton of the future cabin, in all its majestic length, breadth, hight, and proportions.

Thus, the rolling is finished, and, according to its magnitude and extent of hands employed, may take only a forenoon, or the entire day. This heavy chopping and lifting, if at a regular "Raising," is seldom done without at least something good to eat, and it used to be something to drink about once in an hour or two—a custom happily gone out of fashion, in part at least. Then comes a most vigorous and hearty dinner of baked pork and beans, and other substantial nutriment, at "noon-time," eaten on a clean basswood, maple, or hickory chip, with jack-knife for carver, and fingers for forks, a merry crack of jokes, and a generous "nooning" afterwards. A grand time we used to have at these same log-rollings, many and many a day. We have, at such gatherings, witnessed repeated jovial displays of wit, joke and glee, the memory of which will only escape when life goes out. We have carried up many a corner, where young men rolled up the logs to us who have since become distinguished in agriculture, in commerce, in the halls of legislation, at the bar, on the bench, and in the pulpit—no "border ruffians" either, albeit inhahiting a new country, and blocking out their future fortunes, as pioneers of great and flourishing States and communities.

If the labor consumes the day, a bounteous supper is provided at a house near hy—if there be one—if not, each tired laborer "homeward plods his weary way." The next day, or soon afterward, the owner returns with an extra man or two to assist him, and in the course of a day or two finishes up the house, by cutting out doors and windows, laying the floors, and putting on the roof. In the absence of boards, the doors and floors are made of "puncheons," that is, logs *split* into short planks. The roof is covered either with boards or newly peeled bark, laid lengthwise from the ridge-pole to the eaves, and battened, to keep out rain and snow; or, more frequently, perhaps, the roof is covered with thin staves split from oak, laid on and held fast by poles which are withed at the ends, to keep them in place and firmly pressed upon the staves to make the joints close. If there be time, the inside logs are hewed down to a face, the corner-men, or an extra hand or two having "scored" them with axes as they were rolled up. A clay hearth is laid at one end, a chimney, built up with split wood and clay, and the house is ready to move into, in a day or two, at farthest. Such is the history of a pioneer log-house in America.

Now, to such of our readers as were born and bred in a ten or twenty-thousand dollar mansion, with furniture and trimmings to match, if any, haply there be, and who cannot imagine how anybody good or great can have abided in such an humble domicile as this, we simply tell them that sundry Presidents of these United States, and many illustrious statesmen, and others distinguished in all ranks and professions of American life, drew their first breath, and lived many years within the humble walls of a LOG-CABIN! But, they did not stay in them always. It is unnecessary to tell of their progress. We all know their history, and it is, perhaps, to the very hardships and privations of their early lives, that we are indebted for the beneficent labors and enduring fame of these illustrious men. We may speak of the "block" house hereafter.

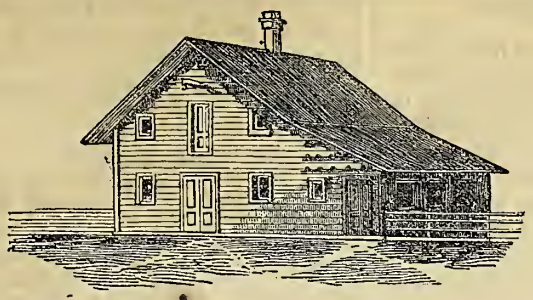


Fig. 13—PIGGERY AND POULTRY HOUSE—ELEVATION.

Farm Buildings....V.

PIGGERY, AND POULTRY HOUSES.

We have combined these separate accommodations into a single building, because they are so intimately connected in their feeding arrangements as to promote both their convenience and economy.

The elevation shows a building, the upright part of which is 32 feet square, with 14 feet posts from the sill to the plate. The ground story is 8 feet high, and the chamber 5 feet under the eaves. The front door enters a room, or area, 12x24 feet, in which is placed a furnace, or stove, with a large boiler, and vat if necessary, for cooking food. The pipe of the furnace leads into

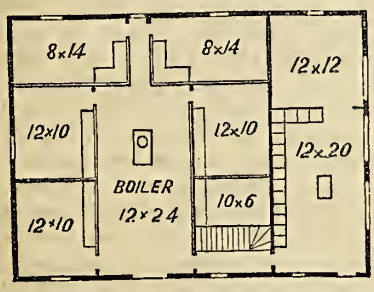


Fig. 14—PIGGERY AND HEN-HOUSE—FLOOR PLAN.

the chimney above, which rests on the chamber floor, and is entered through a crock, or thimble. On the sides are styes for the pigs, with a small sliding entrance door, and feeding trough to each—and a passage leading through the back side to a yard in the rear, where the swine can be turned at pleasure. Over the whole is the loft for depositing feed, as corn, or other grains, meal, &c., and a trap-door immediately over the vat, or boiler, into which it may be thrown through a spout, for cooking—our belief being that cooking food is by far the most economical way of expending it.

The windows, as shown in the plan, give sufficient light; or some of them on the sides may be dispensed with, and sliding board windows substituted to ventilate the room, and pass out the offal from the pens. Over the chamber door is a tackle-beam for hoisting bags from the wagon or cart below, to save carrying them up the stairs inside, thus making the accommodation complete. It is scarcely necessary to say that the pens inside can be changed to any size, larger, or smaller which convenience may demand; or that the size of the whole building may be increased, or contracted—the *plan* or *principle* of its construction being the main thing submitted.

Next the piggery partition is the poultry house, 14 feet wide, with a feeding box in the front room, tiers of laying boxes on the side, and end, and a rear room for roosting bars, or poles. A floor may be over head, or not, as may be convenient. If so, it is 7 feet above the sills, and may be occupied for laying, roosting, or other purposes connected with their accommodation. In the front, next the eaves is a pigeon house, arranged as we have described it elsewhere, and which we here insert to show that the birds can be placed here if necessary.

Over the whole is a broad, hanging roof of a third pitch, or 11 feet elevation over the upright part, or piggery, and a quarter, or 7 feet pitch over the poultry house. On the East or South front, as may be, are three large glass windows to give abundant light, and sun to the fowls in cold weather, and a stove may be placed there, if necessary to warm it, with the pipe leading into the chimney through the partition above.

We have thus connected the poultry house with the piggery, that the fowls may be fed with cooked, and warm food as the pigs are, believing that it is quite as economical for one, as the other—particularly in fatting them. If necessary, one or two of the pig-styes can be slatted, up to the chamber floor, and turkeys, chickens or geese, put in for feeding, and the whole thing done under one and the same operation. We know that one-third of their food can be saved by cooking, and that they will fatten in two-thirds the time required when fed on whole grain; and if any considerable number are kept, the saving will be important. An ample yard, with a high picket fence, can be thrown from the poultry side of the building.

PIGEON HOUSE.

This is a very cheap and simple elevation and floor plan, yet susceptible of any degree of architectural ornament that may be given it. We give the plan only, with a description of its arrangement, from which our readers can determine the extent of the size, and accomodation they choose.

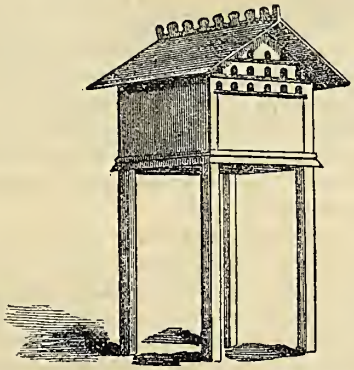


Fig. 15—PIGEON-HOUSE—ELEVATION.

Four posts of durable wood, six or eight inches square, and planted firmly three to four feet in the ground, and six to eight feet apart, according to the size of the house, and twelve to fourteen feet high. Seven feet above the ground, four sills, 6 inches square, are morticed into the posts, and four morticed caps laid on to the tenoned tops, thus forming a box frame. A short post is then inserted into each end cap, or plate, two thirds as high as the building is wide, and a *gain* cut in each to receive the ridge pole, which may be a 3x4 piece of scantling, on which the peak of the roof is laid. The roof has a third pitch, like our other roofs, and spreads wide over all, to keep the house warm and dry. It may be made of rough boards, or shingles, as desirable. The sides are tightly boarded up, weather proof; a firm tight floor is laid, and a sizeable door, hung with butts, on the rear. Thus, then, the outside is finished.

Fig. 16.
PIGEON-HOUSE—INSIDE.

Then mark out, and cut with a gimlet saw, three or four tiers of holes, 4 by 3 inches—plenty large—as in the picture, with a lighting shelf 6 inches wide just below each tier, both outside, and inside. This done, build a range of boxes around the front, under the holes, and on two sides, and in tiers one above the other a foot apart, from floor, to roof. These boxes should be 6 or 8 inches wide, 8 or 10 inches long, and the sides 4 to 6 inches high. In these the pigeons will lay, and hatch, all as one family, and increase to your heart's content.

The door on the rear is approached by a moveable step ladder, which never should be left there when not wanted, as rats, or other vermin might possibly reach the birds, although, if built tightly, they would have but little chance. If the climate be cold, a lining of boards with 3 or 4 inches space between it and the outer boards filled in with tan bark, or saw dust, would not be amiss, as it would keep the room cooler in Summer, and warmer in Winter.

Elegant Leisure.

The above may be a strange term to introduce into *this* paper, but our readers will understand its drift before we are done. In this generally prosperous country of ours, we have a great many considerate men, who began life with frugal, industrious habits, and ultimately accumulated handsome estates, and who have had "gumption" enough, when arrived at an age when the cares of active business become irksome, to secure what they have gained, and retire to spend their remaining days in the quietude congenial to their tastes, or inclinations. Many city dwellers, whose early associations were with the farm, or garden, or who were born and educated in the country and retained throughout their business career their early love for things rural, choose them a snug farm not far out of the town, or city of their business residence. They retire upon this, intending, either by its cultivation, or in some congenial occupation to spend their time peacefully, and agreeably, as either domestic, or financial circumstances may permit. To the good sense of this we most cordially subscribe. There can be nothing safer, happier, and more fraught with the resources of substantial enjoyment; and such a conclusion we recommend to all who possess the taste and faculty of so accommodating themselves to a change so different from the bustle and turmoil of active business, to a life of comparative ease, and physical inactivity.

Yet, this latter mode of life need be no inducement to idleness. The active *mind* can always find a sufficient number of objects to give it contentment, and the *hands* enough to do to give health to the body. It is only in the misapplication of one's means and time in the retirement they have sought, which has proved the bane of many a one's choice—that of devoting his time to "Elegant Leisure."

These well intentioned, excellent, and somewhat ambitious men, in society as well as business—who are not of the "Sparrowgrasses," either—have an idea that the habits of *town* leisure can be carried into country resdence, and enjoyed with equal relish and convenience. They

fit up a fine country place, surround themselves with all the appliances of town luxury, and set out to continue their town society there, having little else to do but enjoy themselves, and their friends at will; to circulate, as in days past, with town associations, things, and people. Their occupation is "leisure"—their living "elegant," we concede. But what else?

We are not about to condemn, or speak harshly of such as have adopted a life of elegant leisure in the country, and whose minds and circumstances, pecuniary and domestic, are such as to permit them to enjoy, or carry it out in full. But this latter is hardly a supposable case; and having witnessed several lamentable failures of the sort, we know something about it, not in our own experience, but in that of others.

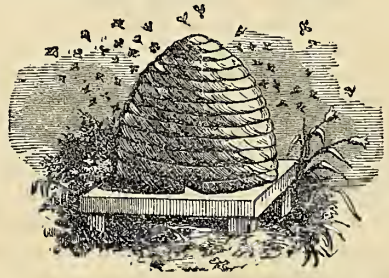
American life of any kind, to be either useful to anybody, or satisfactory to the holder, should have a definite, positive object in it. We have no orders of nobility, sustained by large fortune, and perpetuated by primogeniture. We are born on an equality, as to political and natural rights; and the acquirement of knowledge, or substance; and good sense in using them, if we may possess them, makes the man, and gives him his position in all classes of society with which he associates. If a retired man of any profession or trade, go into the country, let him be something *there*, as he was in the town or city. Let him be a farmer, gardener, or pomologist. Do as much, or as little as he pleases at it—but be something. If he sets up "elegant leisure," he'll have a hard, and an expensive time of it. He will "keep boarding house" at an enormous cost, and get no pay for it. Let his family be ever so happily disposed, he will have any amount of domestic discord and difficulty—in the worry of servants, and the vexation of striving to live in extraordinary style, while every body in his neighborhood is living quietly, and at ease. In short, his career will be a brief one, and himself and all attached to him glad to get out of it at the first possible opportunity. It will cost more than the same sort of life in the city itself, because more distant from his wants, and necessities; and it will wind up with a Flemish account at his banker's, and many a heart-ache with wife, and daughters, who will find that they have sweated and toiled without end for thankless hundreds who have enjoyed their hospitality for nothing, and can give no recompense in kind, or otherwise. They have enjoyed many friends, it is true; but at the same time have given sustenance and favor to secret, or open foes. Hospitality and kindness in private life among one's real friends, are apt to be thought no virtues in one who sets up a pretentious style of living, out of place, and they beget no gratitude in the heart of the recipient.

On the other hand, he who goes into country retirement after a career of active toil, merely to exist, to pass away the remainder of his days in doing nothing, usually makes short work of it, and dies early. Having nothing to do, disease soon makes his acquaintance, and with death at its elbow, they make a rapid finish of him. Long years of activity can not he discarded with impunity. "Better wear out than rust out," is an old proverb. Occupations may be changed, hut not habits, so far as bodily and mental exercise are concerned. A merchant, mechanic, or professional man may turn farmer, gardener, or orchardist, with perfect impunity, even to an increase of years and the attainment of greater wordly happiness; but employment, congenial to the mind, and the due exercise of the body is indispensable.

Moon-Struck Agriculture.

The following paragraph went the rounds of the papers, not long ago, evidently by a lunatic writer: "A rail-fence, built in the 'old of the moon,' will sink into the ground eight inches in a few weeks, while, if built at another time, it will not sink at all. Shingles nailed upon a roof in 'the new of the moon' will soon throw out the nails. Corn planted in the new of the moon will beat all other corn, and sheep sheared at that time will yield heavier fleeces than those sheared at other periods."

Why did not this "book-farmer" add that a load of cobble-stones drawn at the new of the moon, will make twice as many rods of fence as one drawn in the old of the moon? Or, as a cotemporary says: "He might have added that wood drawn at the new of the moon will afford twice as many cords as if drawn at other times."



Wonders of the Bee Hive....XIII.

ENEMIES OF BEES.

The instinct of bees leads them to repel intruders from their hives without ceremony, whenever it is practicable, and the sentinels at the doorway are constantly on the watch to investigate the claims of each insect that applies for admission. They are not always successful, however, in guarding the hive from its enemies. Sometimes an unwelcome guest may be stung. A slug-snail once met this fate, and then the bees, unable to remove it from the hive, covered it entirely over with propolis. A shell-snail found access to Reaumur's hive, and adhered closely to the glass by means of its slime. So the bees formed a border of propolis around the edge of the shell, and thus fastened it immoveably, relieving themselves of all further trouble about it, and consigning it to an unexpected tomb.

THE MOTH.

By far the most troublesome insect that infests the bee-hive, is one that has been known since the days of Aristotle. It is the hee-moth (*Tinea Mellonella*,) sometimes known as "the gallery moth" from the mode in which its larva constructs its web. The moth lies quiet hy day, but as night approaches may often be found flitting about the hives from the middle of April till September, seeking to enter for the sake of laying its eggs where the worms immediately upon being hatched will have food at hand suited to their wants. It is only the female, however, that has occasion to enter, and she differs so much from the male in size and color, that one would not suppose them to be related. She is larger, and of a darker hue, and very quick in her motions on the wing as well as on foot. A careful search by day may bring her to light, quietly reposing under some sheltered board in the neighborhood of the hive, and resembling so much a sliver of dry wood, as easily to he overlooked.

If once she gets access to the interior of the hive she does mischief, not by devouring honey, but by depositing her eggs in great numbers; and thus obeying the instincts of nature, she prepares a home for her offspring, just such as they need. The eggs are insignificant in appearance; we show a collection of them of the natural size, and also magnified, in fig. 18.

a. *b.*

Fig. 18.

Eggs of the Bee Moth, *a.* natural size, *b*, magnified.

The mischief is done by the worms that are hatched from these eggs by the warmth of the hive. The little worm immediately upon leaving the egg begins to eat, not the *honey*, but the *wax-comb*; and as it grows it weaves around itself a long cylindrical web or gallery, in which it can move backward and forward with great ease, and which the bees are loth to meddle with. Its web may be seen in fig. 19. which

Fig. 19. Web spun by the larva of the Bee Moth.

shows how it is covered with excrements, and arranged with branch galleries leading off in other directions. When the comb is full of honey the worm confines its devastation chiefly to the covers of the cells; hut when they are empty or occupied with brood, it penetrates through the comb, and makes sad havoc as it works its way from sheet to sheet, leaving its filthy and impenetrable web behind it, and crossing its own track or doubling upon its course. Sometimes, even, it is found in honey put by for family use, or taken to market, which then reminds one of the manna that "bred worms" if kept till morning. The worm having eaten to its satisfaction of wax, and being ready for the chrysalis state, weaves a cocoon, and after a while comes out as a moth. Frequently it leaves the hive before preparing for this change, and may be found in cracks and crevices out of the reach of bees. Its appearance at this stage of life is represented in fig. 20.

Fig. 20. Larva of Bee Moth, full grown.

It has now done its mischievous work, but may presently have occasion to seek admission to the hive again, as a moth, to deposit its eggs for the next generation.

This is the most annoying pest to which bees are subject. It has done more to discourage bee-keeping and to fill apiarians with disgust, than anything else connected with the hive. "The worms got in and killed the bees," is the common story told by many who have a stack of empty patent hives laid by in the barn, and who shake their heads at the folly of those who expect to turn bee-keeping to good account.

The carelessness of bee-keepers is a great help to the moth and a great injury to the bees. It is very common to leave large pieces of comb and abandoned hives in places accessible to the moth, where its eggs can be deposited in perfect security. The result is, that hundreds of worms may be matured in the early part of the Summer which soon are changed into moths, to whose attacks the hives are subject at a later season. The progeny of a single moth may thus become so numerous that the bees cannot guard themselves against their entrance. A moth is supposed to lay four or five hundred eggs. To give her, early in the season, uninterrupted possession of a nest where its young can feed in peace, is to insure a rapid and pernicious increase. Last Summer we saw

a deserted hive full of comb, in which were hundreds of worms and cocoons. The owner had been pursuing a let-alone policy, and was about as much of a public benefactor as if he had sown his garden with Canada thistles. He had the good sense however, to condemn the whole concern to the flames as soon as he saw the evil he was bringing on himself and on the neighborhood. It is a wrong idea that the eggs of the moth are hatched only by the heat of the bees, and that there is no danger if the warmth of the hive is intercepted. Though unable to affirm that the worms may be hatched and matured in the open air, exposed to the rain, dew and sunshine, we know that in sheltered places, in upper boxes, and in houses, there is nothing to prevent their coming to maturity, if they have their appropriate food.

A strong colony of bees in a well constructed hive can protect themselves. They can guard the entrance, and can cover their combs sufficiently to avert all danger. But a weak stock works at a disadvantage, and especially if their hive has cracks and crevices where the young of the moth are somewhat out of the way. It does one good, however, to see the promptness with which a worm is drummed out of the camp, when the bees have once brought their forces to bear upon it.

There are other insects that give trouble to the bees within the hive, but not sufficiently important to be noticed now: and there are enemies without the hive, of various kinds; but notwithstanding them all, the bee flourishes and multiplies exceedingly, a comfort and blessing to man, and a perpetual witness of the power and wisdom and providence of the Creator.

Making Bees Swarm Artificially.

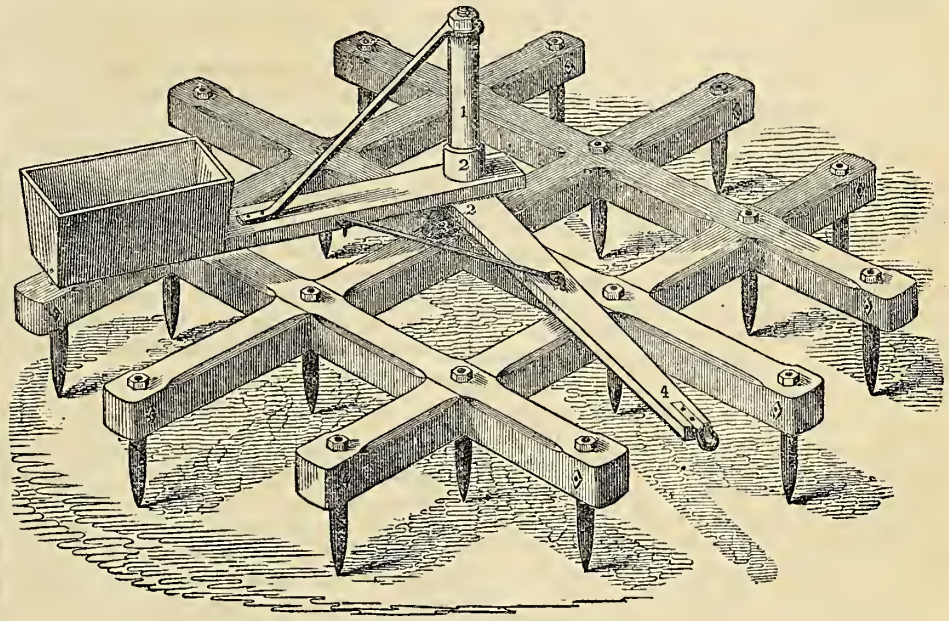
In our last volume, page 129, we suggested a mode of securing artificial swarms, naming, as some of the advantages, that this plan enables the bee-keeper to obtain the new swarms at a convenient day and hour; secures regular and rapid increase; obviates the danger of the uniting of two swarms going out together; enables those selling the increase of their stock to furnish strong swarms at any time agreed on, and in short saves time, trouble, and vexation. The outline of the plan described, which is essentially that of Mr. Langstroth, we re-copy for the benefit of several recent inquirers. (These directions are of course too late for this season, wherever the bees are entirely done swarming.)

After the drones have made their appearance, and when the bees are collecting boney freely, choose about the middle of the day when the bees are abroad in great numbers, and gently lift the hive to be operated upon and turn it *upside down* upon the ground, several feet distant from its usual place. Put over it a box as nearly its own size as possible, having within the box some slats or convenience of clustering, and holes covered with wire-cloth for ventilation; taking care to cover all the cracks and entrances with paper or cloth so that not a bee can escape. Next, place an empty hive on the stand as a decoy to catch the bees returning from the fields. Then proceed to drive the bees out of the first hive into the upper box, by constant drumming with the hands upon the sides to which the combs are attached. The bees, finding escape impossible, proceed at once to fill themselves with honey, and in the course of fifteen or twenty minutes will retreat with the queen to the upper box. When the greater part have gone up, the box is to be quickly lifted and placed upon a bottom board so as to confine the bees, and yet furnish them with air If this forced swarm is to be removed to the distance of a mile or more, it should be treated exactly like a natural swarm, while the first hive is set back in its original place instead of the decoy; the bees from the fields will be glad to regain their home; a new queen will speedily be provided, and the maturing brood will make good the place of those expelled.

The plan thus far described, we have pursued with gratifying success. If, however, the bee-keeper wishes to retain the forced swarm, and cannot send it away for some time, something more must be done. Mr. Langstroth confidently recommends a process which we have not yet tried. He announces as a new and important discovery, that "nearly all the bees which have entered the decoy hive, if now presented with their own, will adhere to it even when its location is changed."

His advice, then is, *after the foraging bees have returned* to the old hive, now standing in its former station instead of the decoy hive, take up this old hive and put it in a *new* place, and in the old place put the hive prepared for the forced swarm. Shake out before it, upon a sheet, the bees forced into the box, and they will quickly ascend and make themselves at home in their new quarters; and having a fertile queen will construct worker cells, and do in all respects as well as a natural swarm. If, however, the new swarm should be kept in by a storm, or by a temporary failure of the honey-harvest, it would be prudent to give them a little food.

Jonas Scholl, Fayette Co., Ind., referring to the above, inquires if it would not do as well to drive the bees immediately into the hive they are to occupy instead of first getting them into a box; and further, would they be likely to return to the old hive if removed a hundred yards or so; To which M. Quinby, (author of *Mysteries of Bee-Keeping explained,*) replies: "You can drive them into the hive you wish them to remain in, providing the hives are of similar size at the bottom. Unless they are carried away more than a mile, the most of the swarm will probably return to the old stand. If it is not convenient to move them that distance, a good way would be to set the new hive on the old stand, and the old hive within two or three feet of it."



Buckeye Rotating Harrow.

We present herewith an engraving of a new harrow, which certainly appears to be a decided improvement over anything previously constructed. We are sorry not to have seen one in actual operation before this, but we have the good authority of our friend, Thomas Brown, of the Ohio Farmer, who in answer to a private letter of inquiry, assures us that he *has seen it work*, and that it merits all that can be said of it. An examination of the construction as shown in the illustration will enable any one to understand its peculiarities and its obvious merits.

First we have the tooth bars, halved into each other at the crossings of the pieces, and held together by the teeth, which are fastened by a screw and nut upon the top. An upright shaft (1), is made fast to the centre of the solid cast plate (3), which is not very plain in the engraving. Around this shaft is the movable thimble (2), to which is fastened the draft bar (4). Attached to this same thimble (2), is a side bar, upon the end of which is a box for holding stones or other weights. This is kept from sagging by a brace, which is supported by a ring placed at the top of the upright shaft (1), and turning upon it.

It will now be seen that the weights upon one side will press down the teeth more upon that side, so that when the harrow moves forward, those teeth will be held back more than upon the other side. This will give a constant rotation to the teeth, so that they will move crosswise as well as forward, and the same side of a tooth will now be on the front and now in the rear. An important end thus gained is, that there can be no clogging by grass or clay. This will avoid the furrowing usually made by substances gathering upon the teeth. The zigzag or side motion of the teeth will also break up and pulverize the soil better than a simple forward motion. The harrow can be made to turn in either direction, by unhooking the horizontal rod, and swinging the weight box to the other side.

The inventors, Messrs. Dewitt & Barrett, of Cleveland, O., claim that "this is the strongest harrow built, and does not cost as much as a common jointed harrow of the same size; that it can be operated like the common harrow, by simply taking off the weight; that the teeth sharpen themselves by the movements in every direction, &c. See their card in advertising columns

American Cattle....V.

[*Continued from page* 173.]

THE AYRSHIRE.

We have never heard the most partial advocates of the Ayrshire, claim for this breed any thing beyond a rare eminence as a dairy cow. We have never seen a steer, or a bullock among the scores of Ayrshires which we have known in several different States, and the Canadas. As a beef animal, or a working ox, they are never mentioned. But having achieved a high reputation during many years past for her feats at the pail in her native land, the cow is still celebrated by her keepers, since her transfer to America. It is the *cow*, then, of which we are chiefly to speak, and we will strive to do her justice.

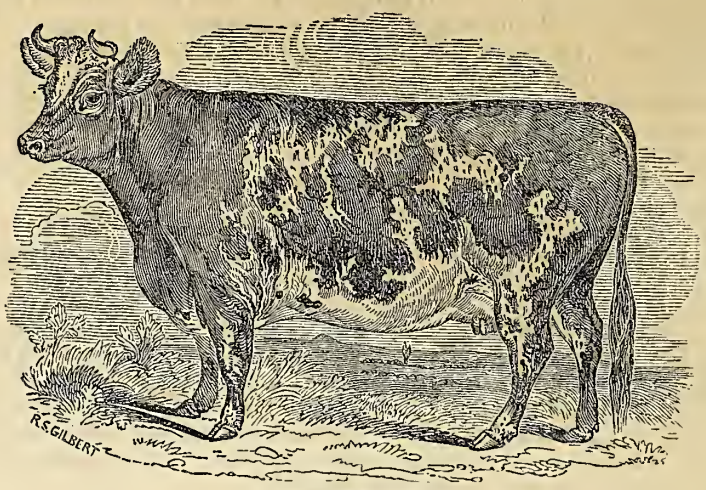
HER HISTORY.

Youatt, in his history of British Cattle, says—writing in the year 1833.—"The origin of the Ayrshire cow is even at the present day a matter of dispute; all that is certainly known about her is, that a century ago there was no such breed in Cunningham or Ayrshire, in Scotland." He quotes the valuable work of McAiton, on the "Dairy husbandry of Scotland," and Ayrshire in particular, to show that "fifty years ago," the cattle of Ayrshire, were a diminutive, ill made race, and not particularly prized for their milking properties. Through several pages of *speculation* as to what crosses have composed the breed known distinctively as "Ayrshires," at the time he wrote, and an elaboration of many facts relating to their yields of milk and butter in the Ayrshire dairies, he leaves the impression that the present breed has sprung from a succession of crosses by Short Horn bulls upon the native Scotch cow; that the produce of these crosses were interbred among themselves with care and an eye to improvement both in form, and dairy quality, which finally resulted in an animal eminently fitted to the climate and soil of South Western Scotland—the best of all they have, for dairy purposes—and become by a persistent course of well managed breeding, a distinct variety in themselves. Such seems to be—not only by Youatt, but from the best information we have been able to obtain from intelligent Scotch farmers who profess to know any thing about it—the upshot of her history. The effort appears first to have been to introduce the Short Horns, and substitute them as a dairy cow in place of their own inferior race. That failed; but the cross of the Short Horn was successful; and hence the breed.

About twenty years ago, they first made their appearance in America—first imported into Boston, Massachusetts, both by some Agricultural Associations, and one or two fine public spirited gentlemen who wanted cows and bulls of decided dairy qualities for their own use, and the improvement of their native stock. These were followed by several other importations into Massachusetts, and New-York, at different times, and these successfully bred, their descendents have been scattered into various other States, so that now the Ayrshire is a name well known among our breeders, and others familiar with the different breeds of improved foreign cattle.

DESCRIPTION.

On the first view, by a judge of the different varieties, the Ayrshire would be called a diminutive Short Horn, in the main, so nearly in figure, color, and prominent characteristics do they approach them. They are about the size of our common stock, compact in form, *exactly* built for a dairy cow—light forward, and heavy behind—with an exceedingly homelike, domestic appearance. In color, they vary, from a brown, running in lighter shades up to red, and into a pale yellow, alternated more or less with white, in distinct patches, rarely mingling into roan. In late importations, the white appears in larger proportions, and the darker shades are less prevalent than formerly—the fashion perhaps. There is scarcely that uniformity of appearance with them that there is in the Short Horns, some being decidedly "Scotchy" in look, while others decidedly take to the Short Horns, evidently showing a tendency to trace back to their ancient lineage on one side, or the other. Yet, they appear to hold true to the dairy quality throughout, which, like a "gentle voice in woman," is an "excellent thing" in a cow. The portraits of a cow, and a bull, which we insert will give a better idea of their appearance than any elaborate delineation we can give in words.



AYRSHIRE COW

THEIR ECONOMICAL USES IN AMERICA.

The Ayrshires have thus far proved, and we have no doubt they will continue to prove, excellent dairy cows in this country. But they do not, so far as we have been able to ascertain, maintain that high superiority as milkers that they do in their native land, and the reasons for the fact are obvious. The climate of Ayrshire is moist and mild. It has neither our heats, nor colds, our floods, nor drouths. Its pastures are green and succulent throughout the Summer, while ours are frequently parched and bare. Twenty years ago we visited a beautiful herd of Ayrshire cows in the neighborhood of Boston, belonging to a gentleman who had imported them without regard to cost, giving his order to his agent abroad for "the best milkers to be obtained." Most of them were "prize" cows in Scotland, and certificates came out with them stating their yields of milk to have been from twenty-four to thirty-three quarts a day. In answer to our inquiries as to how they yielded here in comparison to what they did in Scotland, we were told by their manager, that it was about two-thirds the amount stated in the foreign certificates, namely: eighteen, to twenty-two quarts a day, under the same circumstances as to time from calving. They were imported some two years previously. Yet that was doing well, and satisfactory to their owner, who wanted *certainty* in the milking propensity of his cows, rather than the hap-hazard results attaching to the progeny of the "native" stock, in which he had often, by the miscellaneous manner of their breeding, been disappointed.

Thus, then, on sound physiological principles, the milking quality having, by a long course of years, been deeply bred into the cow until it has become an inherent part of her nature, the Ayrshire is valuable as a dairy beast, and may remain among us as a distinct variety, always reliable in that department of husbandry.

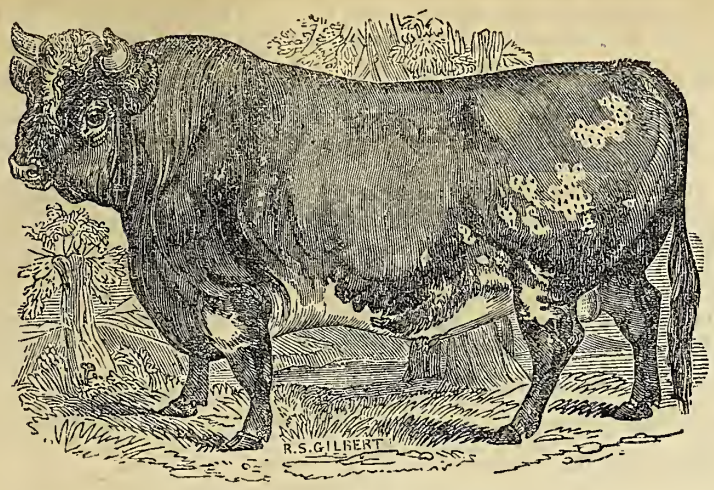
AS A WORKING OX, AND A BEEF MAKING ANIMAL

we have nothing to say. In relation to working we see no particular merit in him; rather the contrary; and as to beef, since they are a kindly feeding race, we presume that when required for the shambles, the Ayrshire will lay on flesh rapidly, and show a satisfactory carcase, cutting up well on the block.

Swelled Udder in Cows.

In addition to what has been already published, we have several letters on this subject. M. D. Adams, of Warren, Trumbull Co., Ohio, writes us: "I had a fine cow four years old, that wandered off to drop her calf, and it was some time before she could be found. She lost her calf, and, as there was excellent pasturage at the time, when she returned her udder was much swollen and very feverish. I could get no milk from her and feared I never should. But, as an experiment, I made a strong solution of saltpetre in water, and washed the bag every two hours through the day. Before sundown the swelling and fever abated, and I drew a pailful of milk, and in 24 hours both swelling and fever had entirely left her. She afterwards did as well as any cow in my herd....Since that time I have seen the same application in many similar cases, with like favorable results, and I believe the above to be one of the best remedies I have ever known used for the complaint. I have also found it useful for various swellings and inflammations, not only on dumb beasts but on human flesh."

Remark—As is the case in most remedies and prescriptions, as well as in a majority of descriptions of modes of culture sent to us, the above is defeetive because certain *particulars* are omitted. Was the solution used hot, warm, or cold. It is important to know *how much* saltpetre was used to a given quantity of water. Does a "strong solution" imply 2 ounces or 2 pounds to a gallon of water? It may he questioned whether it was not the bathing and ruhbing that reduced the swelling, rather than the addition of the saltpetre; or, if this addition be necessary, would not common salt he equally good. We make these remarks as suggestions merely—not to find fault with Mr. Adams' communication for which we



AYRSHIRE BULL

are thankful. Our aim is to gather up from the entire country, just such information in all departments of rural labor.—Ed.]

Docking Cattle.

Docking horses is bad enough, but docking cattle is worse. The appearance of a horse is sometimes improved, *perhaps*, by "setting up" his tail and shortening it: the operation also prevents him from getting his tail over the driver's lines. But these arguments have no pertinence in the case of neat cattle. We believe, moreover, that the practice is injurious to the health and comfort of these animals.

The advocates of docking maintain that cattle need blood-letting every Spring. They say that the end of the tail becomes soft, and in connection with this, the joints of the legs swell and become weak and tremulous, and that the only remedy is a cutting off of the tail. Why do not these doctors inquire whether this Spring sickness is not, more likely, owing to the season, to the change from the dry fodder of the barn to the succulent food of the pasture, and the change from the warm stable and barn-yard to the chilly ground of the open pasture? Cut off a cow's tail, to cure the Spring sickness! Why not as well cut off a man's leg to cure his chilblains? The practice is nonsensical and barbarous. It is cruel, not only because it is painful, and occasions a loss of blood, but because it robs the animal of his chief weapon of defense against annoying insects in Summer. We half suspect that one reason why "hired men" are so fond of doctoring cows in this way, is that this treatment saves them from many a brush of the tail during milking-time.

A writer in one of our foreign exchanges speaks of this docking-mania as prevalent in England, and as mixed up with more superstition than here. He says that many farmers believe that the Spring sickness of cattle begins in the tail, and passes along that to the cow's back, and "that it is on account of something wrong in the tail that she loses the use of her legs; and then some set to work and cut the cow's tail off: while others less cruel or more scientific, make an incision into the under surface, and allow the wound to bleed freely, and then fill it up with a mixture of tar and salt, and I know not what." He then goes on to say that, in some districts, farmers think there is witchcraft in the business, and practice "charms," as well as docking. They bind a twig of the rowan tree on the end of the cow's tail, and compel a black cat to pass three times around the cow, and over her back and under her belly, which so enrages pussy that she mews and scratches with great fury until she breaks away from the necromancers and runs off with flying tail, convincing all beholders that surely the devil has got into the cat!

The writer next proceeds to give a careful analysis of the different parts of the tail of cattle, and shows that what is considered by some a diseased condition of this member, is only a wise provision of nature to prepare the tail for brushing off flies during the Summer. The tail is a scientific whip. "The column of bones within it forms the shaft or handle of the whip—the soft part, the connection between the handle and the thong, while the thickened extremity may be easily recognised to represent the thong, and the hairs to form the lash or point; so that we have a whip to drive away the flies, and so complete a one that the coachman may borrow a lesson from its construction."

From considerations like these, it is plain that the practice of docking cattle is a cruel one, and not worthy of adoption by sensible men. The tail may, indeed, become diseased, in connection with other parts of the body, but it is not the *origin* of the disease; and amputation of it is not a rational treatment of the difficulty. There are remedies, simpler and better.

Weaning Calves.

This, and the next month are the usual seasons for weaning calves from their dams when they have been so far reared at the teat, or for cutting them altogether off from their milk diet—say at the age of four months. We presume they have had plenty of grass and water meantime, both of which they partake freely. But they sadly miss their accustomed milk diet when deprived of it, and to insure their continued growth, a substitute must be given in the shape of corn, oat, or oil meal. The three mixed in about equal quantities are best given at the rate of a pint of the mixture each morning and evening—a quart a day. It may be laid dry, in a capacious trough, and with a slight sprinkling of salt on it, they will soon eat and love it. The pasture should still be fresh and sweet, and after a month of the meal diet it may be gradually discontinued.

Calves, about weaning time, are apt to get lousy, if not in high condition. Look to this, and if any be found, apply the remedies we published page 279 of last volume, which will prove effectual. That is: rub on the lousy places, a little *soft* grease mixed with a sprinkling of common Scotch snuff, which will cause the lice to leave at once. If you have not the snuff, the grease alone will do. The lice take up their abode on poor animals where there is not an abundance of natural oil exuded.

As the season progresses, feed them green corn-stalks, finely cut up if necessary. Pumpkins, when ripe, are capital food for calves; green turnips, beet, and carrot tops, or any other green food they will eat. And so they should progress till ready to go into Winter quarters. A good three-year-old calf which has grown right along from the time of its birth without check or hinderance, will be worth two poor, stunted things. One comes out a fine cow, bull or bullock, while the others are pinched, deformed by poverty, and unsatisfactory altogether.

We have raised hundreds of calves, and in all sorts of ways. A third less *pure milk* drawn from the teat by the calf, is quite as good as the full quantity milked by hand, and then fed the calf. We know this by trial. Sucking is the natural way—feeding is not. But in feeding, skimmed milk and other food may be added, answering good purposes, and rearing the calf at less expense.

Weaning Lambs.

At four months old, lambs ought to be thrifty, vigorous, and in good condition, if their dams have had good pasturage since yeaning; and about this time, or soon after, according to the time they were dropped, they should be weaned. To effect this in the best way, shut up the flock—ewes and lambs—in a close yard or stable; catch the lambs carefully, and separate them from the ewes. Then, after the ewes are driven away, put the lambs into a well fenced field, with plenty of fresh grass (a rowen lot is best) out of sight and hearing of their dams; for if they can get near them there will be continually bleating on both sides, and days will intervene before either lamb or ewe will get quiet and go to feeding. Besides their discontent, they will lose flesh, which it will be hard to recover.

If the lambs be still intended for the butcher, they should have meal or other fattening food, till taken away altogether. If to be reared, grass is sufficient for them—only have enough of it, with plenty of water, and an occasional lick of salt. After a fortnight, or three weeks if necessary, they may be turned with the ewes, but it is better that they be not mixed at all until the next Spring, as they require more nutritious food, and closer attention.

Lambs, if not attended to at shearing time, are apt to get ticky. If so when weaned they should be immersed up to the eyes in a strong decoction of tobacco water. Tobacco stems, steeped, are as good as the leaf itself. Have the decoction in a tub, and each lamb put in by itself, and the liquid well squeezed into and out of the wool, as taken out. This will kill every insect in it effectually. Such is *our* method.

A young gentleman who has just married a little beauty, says "she would have been taller, but she is made of such precious materials that Nature couldn't afford it."

Too many persons are far less ashamed of having done wrong than of being found out. Are you one of them?

Hay Making.

This is a subject often talked and read about—tolerably understood by many farmers, but practiced less well, in general, than understood. There are several different modes of hay-making as well as different opinions about the proper time in its growth to cut grass. They can not all be right, of course; and as the *exactly* proper time can not be hit by any farmer who has a large hay crop to secure, he must make the best *average* time that he can, trusting weather, and other casualties as they may occur. Timothy is the great hay grass of the United States. Orchard-grass, red-top, blue-grass, and the red and white clovers furnish the balance chiefly, excepting some of the wild, or indigenous grasses local to peculiar soils and climates.

Long experience, we believe, has settled the fact that pretty much all grasses are most nutritious in hay when cut at the point of time that the blossom is passing off, and the seeds fully charged with pulp. The stalk, leaf, and head are then full of matured sap, and possess the greatest amount of nutriment. Such, indeed, is our own experience, after many years' practice in both cutting, curing, and feeding hay; and as timothy is the bulk of our Northern hay crop, we take that as a rule to govern other grasses in their cutting.

We consider then, the grass as exactly right for cutting when going from the "blue," into the "white" stage of blossom, and introduce the scythe, or machine as we are supplied with them. A mowing machine is best, of course, where a smooth bottom is found, and it should not go into the field until the dew is off the grass in the morning. If cut then, it rapidly dries and is usually fit to go into windrows, or cocks in the afternoon. We believe decidedly in curing hay in the windrow, or cock, according to its condition. If possible, hay should never lie in the swath over night. Better let it stand in the cock three days, than lie in swath with one dew upon it. Hay, even damp and green, thrown lightly into cocks will cure sweet and well; while in the swath, or spread until quite dry, it loses half its freshness, and more than half its sweetness to the taste, or smell. It should go into the barn, even, not perfectly dry. Discretion is to be used in this, but a farmer who has once made his hay right need never be at a loss about the proper condition to house it. After many seasons of trial, we always prefer to store our hay when it has a slightly damp feeling to the hand. Hay will cure in the mow, or stack, as well as in the cock, or swath, and if not stored positively green, comes out fresh, and aromatic.

Yet, as all can not wait until the very moment arrives when grass *should* be cut, some must be commenced *too early* to avoid a part of it being *too late*. Timothy seed should never shell in the field, if possible to prevent it, although ripened grass will cure in a few hours after cutting, and may be taken directly to the barn afterwards, in clear, dry weather. It also depends somewhat on what kind of stock are to eat the hay we cut. Calves, young cattle, milch-cows and sheep, like early cut hay best, and no doubt it is best for them—they eat it clean; while horses, working oxen, and young bullocks like it equally well if matured so that most of the seed is ripe enough in the course of cutting, to grow.

In fields of mixed grasses, as where timothy, red-clover, white clover, red-top, and blue grass grow together, the prevailing grasses in them should govern the time of cutting. The earliest of all is the blue, or June grass—good when in blow, but worth much less when gone to seed. The clovers should be going into their brown heads, while the leaves and stalks are yet fresh and succulent. Timothy follows the clovers about a week, while the red-top is latest of all, and remaining long in bloom, may be in season a fortnight or three weeks after timothy.

Early cutting in the morning is only necessary for scythe mowing; and that only to save time, and labor. Grass cuts easiest when damp with dew or rain. It takes it several hours longer to dry, when cut in the dew than when dry, and for this only, if for no other purpose, the machine is preferable. The great object with the farmer should be, to get his hay housed as soon after cutting as its condition will permit.

Mode of Curing and Time of Cutting Clover and Other Hay.

To the Editor of the American Agriculturist:

The value of the grass-crop, and the importance of curing and preserving it in the best possible manner, will justify my offering a line upon the subject. There is a variety of opinion as to the best mode of curing hay. Some persons following, to the letter, the old adage, of "making hay while the sun shines," seem to think it can be made at no other time, and that the more the sun shines upon it the better. But is this really so? In storing up hay for our domestic animals in Winter, do we want to save merely the dry fibers of the plant? If so, we might as well wait until the grass and clover are fully ripe, before cutting them, and the more we dry them the better. The fact is, however, that we wish to save as much of the natural juices of these plants as possible. When the gatherer of herbs is seeking for plants to fill his medicine chest, he cuts them just as they are fairly bursting into flower. At this stage of their growth they have their most useful qualities in perfection. If, however, they are dried in the sun, or get soaked and bleached in the rain, they lose many of their valuable properties. Dried in the shade, they retain nearly all their nourishing and healthful juices. Now, let us apply this principle to the cutting and curing of hay. If cutting is delayed too long, the stalks and leaves become hard, wiry and tasteless. Such hay must be not only less pleasant to the animal's taste, but also less nourishing than if cut at its early maturity. With most of the plants used for hay, just the right period for gathering, is when they have fairly unfolded their flowers. Then, there is a large flow of rich, sweet juices in the stalk and leaves, and if the hay is properly cured, most of these properties can be saved.

Clover hay, especially, should not be allowed to become too mature before gathering it. Its principal value lies in its blossoms and leaves, and these should be saved in their best condition. The New-England Farmer expresses my views so perfectly, that I will use his words in preference to my own: "By cutting this grass (clover) when the crop is in full blossom, allowing it to remain in the swarth the first day after mowing, till nearly night, and then turning it carefully with a fork so as to expose a fresh and unwilted surface to the night dews, and cocking it in the afternoon of the second day, in small, compact cocks, of about eighty pounds unmade hay to the cocks, it will make evenly and thoroughly, and may be pitched and even trodden down in the mow without being deprived of its heads or finer leaves. The color will be a most beautiful green, and the flowers as fresh in color as when cut. After cocking, let the weather be fair or foul, no opening or turning of the 'grass cocks' should be allowed, unless in case of a protracted storm. It is unnecessary, as the hay will cure completely through, and the outside, when saturated with water, will soon dry off, and effect no harm whatever to the hay."

I will here add, that if at any time the farmer is obliged to get in hay imperfectly cured, he may save it from material injury by throwing it upon an open scaffold, or storing it in several places, or mixing with it a few layers of old hay or straw, which will act as ventilators, and absorb the excess of moisture. Cattle will eat those layers with great avidity, because they have taken up fresh odors and juices from the new hay. A good ventilation of moist hay may be secured, also, by making a chimney in the center of the mow, of bundles of straw set on end, one on the top of the other. NORTHERN NEW-YORK.

For the American Agriculturist.

Origin of the Horse Rake.

"Sam, I want you to rake all the hay up today. I am going away, and will not be back before night," said farmer Kissam, near fifty years ago. "Yes massa, we have 'um all up right, and no mistake."

Sam and his sable companions took their rakes and proceeded to the hay-field in good earnest; but the sun rose higher and shone hotter and hotter, until they essayed just to stop a bit under the inviting shade of an apple tree. Here they beguiled the time away so pleasantly, listening to Sam's marvellous stories, that, before they were aware, the horn sounded for dinner—and the hay not half raked. Here was a dilemma! If master should come home and find the hay not raked, a settlement would be the consequence. What was to be done?

"I tell you what, Jack, I think we can make a big rake like our hand rakes, and hitch de sorrel to it, and make him help us. Massa has one straight stick, and I will bore him full of holes, and you saw some pins about two feet long and put in dese holes, and I will put a strong stick in de middle to hold him by. Tom, get old sorrel, and tie his traces to de end of de stick with a rope, and we'll have de hay up yet afore night."

And, sure enough, they did get up a hay-rake, and scratched the hay together in a hurry. When the boss came home he noticed a singular looking contrivance in the lot, and, on examining it, he saw at once they had introduced a new idea; and, calling in the aid of a carpenter, he constructed the *first* horse rake in the United States—so the story goes. Said horse rake was made in the town of Jamaica, Long Island, and lazy negroes were the inventors. S.

Hempstead, L. I., June, 1858.

Mixture of Grass Seeds.

We question whether sufficient attention has been paid to this subject in our country. In England, and on the Continent, farmers mix several kinds of seed together, when laying down their lands to grass, because some sorts grow better than others in different seasons, and as such a mixture furnishes a succession of fresh herbage in different parts of the same year. We have seen the following mixture tried, and are prepared to recommend it: Ten pounds of red clover, five pounds of white clover, one peck of herds-grass, and half a bushel of red-top. Let this be salted down with two bushels of plaster.

Let not your tongue cut your throat.

Prolific Clover.

We recently counted seventy-six stalks springing from a single root of the common red clover. It grew upon a reclaimed muck swamp and was very rank. One can see from this instance the enormous productiveness of a single seed of this plant, and its great advantage as a green crop for turning in to ameliorate the condition of the soil. Every one of the myriad leaves draws carbon from the air, and furnishes it to the soil in its most available form. Clover with plaster is an indispensable crop in the rotation adopted by many of the Pennsylvania farmers. It precedes the wheat crop, and secures that fine tilth, which is found to be so important in the cultivation of that cereal.

The roots of the clover plant are much larger than those of the common grasses and extend deeper into the subsoil. The decay of these roots, leaving vacant spaces for the passage of air and water, must have a considerable influence upon the mechanical condition of the soil. As a forage crop, clover is undervalued. The yield is not only very large, but the quality, as tested by experiment, stands among the best.

Hay Caps Again.

If all our older readers kept the last volume, and we had not many thousand new ones to look out for, we would simply say: read last year's suggestions. The fact is, we *know* these hay caps are among the most useful and economical implements for all hay-makers on a small or large scale; and we are also aware that not over one farmer in a hundred has yet tried them, and until they do we shall keep at the subject, giving line upon line, precept upon precept, here a little and there—a good deal.

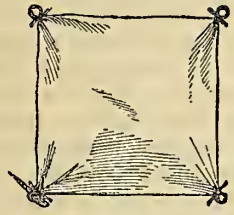


Fig. 1.

By a Hay Cap, we mean a simple square pieces of unbleached, unprepared cotton cloth, with a cord sewed upon each corner and tied to a wooden pin. Our engraving fig. 1, show one of these caps spread out, and fig. 2, one of the pins—*rather* magnified.

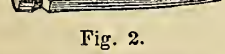


Fig. 2.

To make them, get a piece of cheap, coarse, unbleached cotton, the more closely woven the better. That 2 yards wide is best, though 1½ or 1¼ yards wide will do, if a wider kind is not at hand. Cut or tear this into *square* pieces. The torn edges may be hemmed or not, as they will unravel very little. If there is abundant time, it is better to hem them. Fasten a strong small cord upon each of the four corners, and to this tie a wooden pin about a foot long, say one inch in diameter at the blunt end and sharpened to a point at the other. These pins may be rough or whittled smooth. They may be cut from twigs or from branches of trees; or they may be split from a straight grained inch board sawn into lengths of one foot. A single notch in the blunt end will hold the cord from slipping off. You can cut the cloth, make the pins, tie them on, and complete ten or a dozen caps in an hour. All painting or varnishing preparations upon the cloth are worse than useless. The plain cloth will shed rain as well as a cotton umbrella, while any substance put on to make it water tight will prevent the escape of the moisture from the damp grass, which of course is not desirable.

The engraving, fig. 3, shows how to use the caps. In the cut, however, the hay-cock is represented too flat; in practice it should be more pointed in the center, in order to shed off rain well. Cut down the hay; let it wilt a little; pitch it into cocks, and throw a cap over each, fastening down the four corners with the wooden pins attached to them. Your hay may then stand until it is cured, and afterwards until you are ready to take it in. Twenty or thirty, or more of these caps may be laid flat one upon the other; then two persons can take hold of the bottom one and thus carry them along. They drop the pile by the side of a hay-cock, seize the corner pins of the upper cap, spread it over the hay and pin it down; then take up the remaining caps and go

Fig. 3.

on to the next cock. Two active persons can in this way cover eight or ten tons of hay in a single hour, and as quickly remove and gather the caps.

Advantages.—Every one is familiar with the fact, that hay "cured in the cock" is greatly superior to that dried in the sun. By curing in this way there is far less waste of leaves and "scatterings," than when gathered into windrows *after* being dried. This is especially the case with clover. The *average* annual loss in haying, from damage by rains and dews, is much *greater* than is generally supposed. It is a low estimate to say that this loss is equal to one dollar per ton on all the hay cut in the country. Who can estimate the number of animals which are rendered unhealthy and often lost from eating musty damaged hay? Who that has carried hay to market does not know that bright, green colored, well cured hay will bring two to five dollars a ton more than the same hay in a dark colored, "banged," poorly cured condition. The feeding value of hay depends much upon the amount of sugar, starch and gum it contains, but in sun-drying much of these materials is changed to woody fiber. All of this is obviated by having a supply of cloth hay caps (umbrellas), so that you can not only dry it in cocks despite rains and dews, but also take your own time for doing it. Let us estimate

The cost and profit of Hay Caps.—At 14 cents a yard for the cloth, a cap 1½ yards square will cost 21 cents. The making can be done at odd spells, or on rainy days, and this trifling cost need not be reckoned. A dozen of them, costing $2.50, will cover a ton of hay. They may be used, on an average, at least three times each season. If carefully housed they will last ten years. This will be $2 50 for covers for 30 tons, or about 8 cents per ton. Allowing even 50 per cent for interest and storage, we have a cost of only 12 cents per ton, or a dollar for 8 tons. But we may even double, this last estimate and the cost would then be only *twenty-five cents a ton* for all the advantages to be derived from the use of the caps.

Other uses of the Caps.—The caps provided for hay may also be used for covering wheat and other grains standing in shooks in the field. It will pay to provide them for this purpose alone. We have heard of their being used over corn. When used for this purpose, they are of course subjected to longer exposure to weather, and will not last as many years, but even then they will *pay* we think.

Large Caps for Wagons.—Several persons have used, and recommend providing one or more large sheets to throw over loads of hay and grain in an emergency, and also over stacks necessarily left unfinished at night, or interrupted by showers. The plan is doubtless a good one.

We have received very numerous letters from subscribers, saying that even last Summer, which was a comparatively dry one, they found the caps to pay double their whole cost, in one season. Try a few of them this year, and if your experience is so different from that of others that you do not think they will pay, why the cloth will not be lost. Your wife will tell you that "cotton cloth never comes amiss, no matter what shape it is in."

A Plea for Moles.

To the Editor of the American Agriculturist:

Hogg, the Ettrick shepherd, observed that on lands tenanted by the mole, the foot-rot in sheep was much less prevalent than where they had been extirpated. An intelligent farmer in the south of England, writes: "From long and attentive observation I feel satisfied that no animal is more beneficial in its calling than the mole. The farmer, I think, ignorantly and wantonly destroys them. Were he to reflect a little, and make a few observations he would, in most cases, protect and not destroy them, as they are very interesting assistants to his labors. They destroy the wire-worm and all kinds of grubs, and so beneficial is this, that I have seen many fields of corn greatly injured, if not destroyed, by the moles not being permitted to work in them. I never allow them to be trapped. Year before last I had a field of wheat in which the moles were busily at work. I was anxious to preserve them, but, in my absence, a neighboring mole-catcher entrapped them. Exactly at the place from which they were removed, and for about an acre further into the field, the wire-worm entirely destroyed my wheat. I made it my business to examine many places in the neighborhood where traps were set. In one field I saw eight traps in an area of about an acre of wheat. I examined the place and found the worm at the root of almost all the plants. Several other fields were examined where traps were set in the same manner with results always the the same."

Some time ago I was passing with a friend over a field, and he observed that it would grow nothing on account of the wire-worm. I told him to get moles. "Why," said he, "we cannot keep them out of it; we destroy quantities of them every year!" I said, "don't destroy them." He took my advice, let the moles mind their own business, and since that time the field has borne excellent crops. This may be new to some of your readers.

A Whistler at the Plow.

Fig. 7—HAWTHORN—(*Cratægus Oxycantha.*)

Fig. 11—COCKSPUR THORN (*Cratægus Crus-galli.*)

Hedge Plants..... II.

[*Continued from page* 177.]

In our last number we described and illustrated some of the most valuable hedge plants, and we continue here with a description of some which, though less vigorous and growing less rapidly, are, by many, considered as our best plants for hedging.

The HAWTHORN (*Cratægus oxycantha*), fig. 7, belongs to a genus of plants which in this country is just beginning to attract the attention it deserves. English poetry has long delighted to honor this plant, and it is there associated with all that is beautiful in rural life. It is the chief hedge plant of England, and is among the first plants that greet the rambler as he leaves the town after the Winter's confinement; and it is the first to notify the tardy farmer that the Spring is really upon him. At the time when it puts forth its profusion of delicate white flowers filling the air with sweet perfume, it is difficult to conceive a more beautiful sight than the hedge-environed fields and cottages of England.

The Cratægus affords many species (enumerated by some at over 100) and each year enthusiastic cultivators add to the number by hybridizing. Generally, the flowers (fig 9) are white, but some sorts are beautifully colored. By judiciously selecting the different varieties, a succession of bloom may be produced from early May to the 1st of August, and a pleasing effect may be obtained by grafting differently colored species on one hardy stock, such as the *oxycantha*, and trimming so as to produce a compact, pyramidal form. An elegant "bouquet" upon the Lawn, formed in this way, will not fail to attract great admiration. And as the ripe fruit (fig. 10) which is no less ornamental than the flower, continues upon the tree, in many kinds, until the following Spring, the tree never ceases to be an attractive object.

Fig. 8—LEAF OF HAWTHORN.

Loudon says: "If a man were to be exiled to an estate without a single tree or shrub on it, with permission to choose only one genus of

Fig. 9.

Fig. 10.

FLOWER AND FRUIT OF HAWTHORN.

ligneous plants to form all his plantations, shrubberies, orchards and flower gardens, where would he find a genus that would afford him so many resources as that of the Cratægus?"

Although the Hawthorn has such universal adaptation to the purpose of hedging in England, and even some fine specimens of Hawthorn Hedges are to be found in this country, there are, in the United States, two important objections to its general use. It does not retain its foliage well in a season of severe drouth, and is liable to be attacked by the Apple tree Borer (*Saperda bivittata*). There is no method known by which the attack of the borer may be prevented economically, in a large number of trees; but, where there are only a few trees, a wash of whale oil soap—one pound of soap to one or two gallons of water—applied once a week during the month of June, to the trunk of the tree, will prevent the depositing of the eggs.

The seeds of all the Thorns are difficult to germinate, requiring more than a year to sprout. It is an excellent plan to gather the fruit as soon as ripe in October, mix with them twice their bulk of sand, and place them in a pit dug in dry soil, 18 inches deep. Allow them to remain there until the next Autumn, stirring them well several times during the Summer. They should then be sown, just before the time for frost, in drills one foot apart. The following Spring the young plants will appear above the ground.

COCKSPUR THORN (*Cratægus crus-galli.*)

This plant (fig. 11) is free from the first objection made to the Hawthorn, but is, in some localities, subject to injury from the same insect It is a native of North America, growing from the Canadas to the Carolinas, is perfectly hardy, and really forms an excellent hedge. In England, where it has been introduced from this country, it is highly esteemed; and, in sheltered locations, it is evergreen, retaining its leaves and scarlet fruit throughout the Winter. This is also known by the name of the Newcastle Thorn.

THE BUCKTHORN (*Rhamnus catharticus.*)

This plant (see fig. 12) is a native of North America as well as of Europe, and is entirely hardy. Mr. Derby, of Salem, Mass., says of his Buckthorn Hedge, that it has not lost a plant in thirty-three years, nor has it been attacked by any insect.

It is a low-growing, irregular tree, about 15 feet in hight. The branches are armed with thorns; the leaves are smooth and of a bright green. The flowers are yellowish green, and are succeeded by bluish black berries. It is easily propagated by seed, and also by layers and cuttings. It has berries in abundance, which are much more easily managed than those of the Cratægus. The berries are gathered either in the Autumn or Spring, and the seeds washed out of the pulp by rubbing them in water upon a sieve. They are then dried and kept till wanted, or immediately sown in drills 18 inches apart, in a rich garden soil, covering them 1½ inches deep. The young plants will appear plentifully in the Spring, and should be kept free from weeds. When a year old they may be planted in the Hedge row, or, if desirable, they may be kept until the second year.

It will bear the severest climate of the United States, as it grows wild in Siberia. In all its situations it will withstand poverty of soil and

Fig. 12—BUCKTHORN (*Rhamnus Cathartieus.*)

neglect in cultivation better than almost any other plant, and in its growth is more precocious than the Hawthorn.

With these plants, as with those described in our June number, it is of the greatest importance that strict attention be given to pruning when young. Be not too anxious to form a hedge in a short time. Cut back resolutely twice each season, gaining at each cutting only 4 to 10 inches,—and as the hedge approaches maturity, bring it into the pyramidal shape—never allowing it to assume a flat top, or perpendicular sides. The directions for culture, pruning, &c., were given in June, page 176.

Prune Fruit Trees in July.

SUNDRY HINTS ON THE MODE OF PRUNING.

We have already stated our preferences for July, as a pruning month for the orchard. The *farmer* is apt to object to this season, on account of other pressing work, while a few think it vandalism to remove branches loaded with unripe fruit. Many erroneously suppose that the wound caused by removing a limb or branch in the Spring will soonest heal over when the greatest flow of sap takes place. On the contrary, the sap escapes from the wound, and not only does the tree suffer from this loss of its vital fluid, but the same sap running down the side of the tree, becomes acidified, and acts as a poison upon the trunk. This we may frequently observe, by tracing the black, decayed bark, and wood even, in its track. The sap is not in a *wood-making state* until it has ascended the trunk, been changed and carbonized in the lungs (leaves) of the tree, and returned downward upon the outer surface, between the wood and bark, depositing a thin layer (cambium), which gives another ring or circle of wood to the growing tree.

During July, the sap is descending and forming new wood, which spreads itself over a smooth, even wound upon a tree, and the healing process at once takes place. Again, the dense foliage serves to protect the wood from sun-check, although we would advise a coating of shellac and alcohol, or grafting cement, where the removed branch is of so large a size as to require two or three years to heal over.

The orchardist, however, who plants his own trees, should never be obliged to remove such limbs; but with pruning knife in hand, he should go over his young orchard every Summer, and by a judicious cutting out of the small branches, obviate the necessity of afterwards removing large limbs. In doing this, he should constantly have in mind the idea of securing a well shaped tree of large size. The main thing is to keep a moderately open head, free from cross or interlocking branches, but do not remove the side spurs, which will have a tendency to cause the condemned growth, or form, illustrated on page 24 of the January *Agriculturist*.

In removing large or small limbs, cut close to the body of the tree, or larger branch, so that the new growth will have the shortest possible space to fill up, before entirely covering the wound. The practice of *hacking* off the branches of a tree with an ax, leaving a *stub* six inches or a foot in length, as a *ladder* by which to climb the tree, cannot be too strongly condemned. We have seen many such instances, where the new wood rolled up about them was more than sufficient to have entirely healed over the cut, but which showed, instead, cavities caused by the decay of the stump, sometimes large enough for squirrels to burrow in, and which every storm fills with water, thus hastening the decay of the tree.

Pruning Evergreens.

Evergreens used for edges or ornamental screens, generally need an annual shearing. Also, those planted as lawn-trees sometimes grow too luxuriantly, or awkwardly with the branches longer on one side than another. Or there may be gaps in the outline which require filling up. The pruning-knife may be used on evergreens, as well as on other trees, but it should be handled, in this case, less often, and more considerately. For shearing hedges and screens, a sharp sickle or hook is a good implement. For spruces and pines, the knife or pruning shears should be employed.

It has generally been supposed that the rampant growing pine could not, or should not be pruned. As a general rule, we think it had better be left alone; Nature has had long experience in shaping trees, and man can hardly improve upon her models. But whenever it is desired to keep the pine within certain limits, or when the tree-grower wishes to see into what fanciful forms he can mold the tree, he can accomplish his purpose by pruning. In the Spring, just before the buds start, cut off the end of the middle shoot of each limb, and the side shoots will push laterally, and convert the tree into a globe of bright green foliage. This result will not be fully accomplished in a single year, but the effect will be visible the first season. We do not, however, advise an indiscriminate pruning of evergreens; and, least of all do we favor the lopping off of the lower branches of these trees, as is sometimes ignorantly done.

The Orchard....VI.

THE PEACH.

Wherever this delicious fruit will grow, it is next in importance to the apple, as an orchard and market fruit. Its favorite localities lie in various districts of country, from Eastern Florida, westward to Louisiana, and thence northwardly to Iowa, and eastward along the southern borders of the Great Lakes, to the Atlantic, following a sort of isothermal line from its western known point of growth.

Intermediate, throughout all the States, they flourish, more or less, as soil, climate and local circumstances may govern. It is scarcely worth while to enumerate the most favorable districts for their growth, as peaches are so generally a favorite with all fruit lovers and orchardists, that they are attempted almost everywhere, and abandoned only in those places where they utterly refuse to thrive. Its *northerly* border within the United States may be limited to the south shore of Lake Ontario, west of Oswego, in New York. East of that point, in the same latitude, they rarely thrive, and with difficulty, north of the Catskills on the Hudson, or the northerly boundaries of Connecticut and Rhode Island. In large sections of the interior, where other fruits flourish abundantly, the peach refuses to thrive at all, its sensitiveness to Spring frosts, or other casualties cutting off its fruit. The seaboard, from Virginia to Long Island, is perhaps more prolific and *sure* in its growth than any other section of the United States, excepting the south shores of Lakes Ontario and Erie; the humidity of the atmosphere on these great bodies of water, and the absence of killing frosts protecting them in that comparatively high latitude, while much further south, on elevated grounds, or in depressed valleys, they refuse, excepting in few and far between situations, to thrive at all.

A hundred, fifty, forty, even as late as thirty years ago, the peach flourished in many sections of the country, when new and recently brought into cultivation, where they have since refused to bear fruit at all, or but seldom. The cause of this decline is, perhaps, not yet understood; yet, of the fact all are convinced; and no remedy for their recovery has, so far, been discovered; and the upshot of our experience may be recorded, that the peach is now a *local* fruit of diverse and scattered climates, soils, and altitudes; determined, not on any general rules or principles, but definitely ascertained only on a trial. We know localities, scarce ten miles apart, every way alike situated, except perhaps, a slight difference in soil, but on the same levels and streams. In one, the peach utterly refuses to grow and yield its fruit, while in the other it grows and bears in high perfection. A current of wind, a warmer exposure, hardly perceptible to human observation, may make the difference, so sensitive is the peach to subtle differences, in soil or atmosphere. It may, however be grown, in adverse localities, by aid of

ARTIFICIAL EXPOSURES AND PROTECTION.

Not under glass, as the grape, but in well protected inclosures, under walls or fences, and sheltered by them, or belts of growing wood In

such situations, if free from frosts in the blooming, and setting of the fruit season, with sufficient warmth of atmosphere, and a suitable soil, they may be raised, either for family supply or market. In such positions, they require extraordinary culture, pruning and training, which must all be taken into account for profitable production, and these determined, they can be produced at pleasure.

SOIL AND POSITION.

A naturally warm, quick, dry soil, with a porous, well-drained bottom, to take away all falling water, is indispensably necessary for the peach. It will not bear standing water, or a damp soil, and, therefore, land requiring under-drains is scarcely favorable to its growth, unless the drains be quite close together, as it often takes too much time for the falling rains and melting snows to escape, for the health and benefit of the tree. It does not matter so much what the composition of the soil may be, whether a stiff clay, or a light loam, or leechy gravel, if it possess the proper food of the plant. We have seen equally good peaches on all these soils, where the drainage was complete. *Very* rich land is not important. A secondary, or middling quality, sufficiently good for ordinary crops, is rich enough, and many soils, much too poor for these, frequently produce the peach in high perfection, like the hungry lands of New Jersey, scarce fit for anything else, where, although short-lived, it yields a profitable crop.

PLANTING.

The land should be prepared by a thorough, and deep plowing, to perfect mellowness; the holes dug sufficiently large, the roots well planted, and the young wood cut back, as directed in the books. If the intermediate land, not occupied by the trees, be required for root crops, or beans the first year, it may be so cultivated, but afterwards no crop of any kind should interfere with them. The trees may be in rows, from fifteen to twenty feet apart, each way, and plowed between the rows two or three times during the Summer, and kept free of weeds, particularly near the trees. A bush, or shrub shape should be given to the trees, by letting them branch near the ground, both for convenience in picking the fruit, and pruning the wood, as is best done by annually shortening in the terminal branches to half the length of the previous year's growth. They are thus protected from injury by high winds, and severe exposure to sun and cold, operating on their otherwise long and naked branches. Manures may be added, or not, as the nature or the condition of the soil may demand, and those manures may consist of ashes, lime, marl, compost, barn, or street manure, or artificial compounds, as may be most available. In thin, old, and worn soils the trees may last five to ten years, while in new or fertile grounds they will remain double, or treble those periods. We now know trees thirty years old, in constant bearing, and promising many years of vigorous life to come. The peach is a gross feeder, and rapidly exhausts the soil on which it stands; and when it finally fails, a few years of renovating culture with other crops should be adopted before the land be again devoted to their occupation

DISPOSITION OF THE FRUIT.

Where peaches will *net* half a dollar a bushel, or more, at the tree, or on the farm, an immediate sale of the crop is by far the most profitable; and at that price, where readily grown, they afford a large profit. If a market be not at hand, cutting and drying them as soon as they begin to ripen, is their best purpose. This is best done by cutting them into quarters, throwing out the stone, spreading them on wire screens, and placing them in drying houses, or ovens, warmed by fire heat, so as to cure them in twenty-four hours. A long flue, inclosed in a brick wall, and arch, with a door to enter it, and the screens laid on iron racks within, in tiers, is the best. When *thoroughly* dried, they may be either put into sacks or barrels, when they are ready for market. The price of choice dried peaches is always high, and the market can scarcely be overstocked with them. It is hardly necessary to say, that for drying, as well as for fresh eating, none but the choice kinds should be cultivated, as they are enough better, both in quality and price, to pay the small extra expense in their purchase, or the trouble of budding them. The common, late, sour, frost peaches are not worth cultivation.

For swine feeding, or distilling, perhaps, the peach can hardly be recommended as a paying crop, yet the surplus of very productive orchards are frequently devoted to these secondary purposes, so that none need be wasted. With the present facilities of railroads, and steamboat communication, together with the increasing disposition and ability of our population throughout the country to consume them, the peach culture, wherever they thrive successfully, may be almost indefinitely and advantageously extended.

VARIETIES.

Of these we have little to say, other than that those which are best adapted to the soil, climate, and market should be chosen. The peach is especially a warm weather fruit, and, therefore, the earliest are usually the most remunerative in price, according to quantity; while hardihood, steadiness in bearing, quantity and quality, all are to be considered in the bulk of the crop at large. The red, white and yellow rare-ripes, early York, and Crawford's early and late Melocoton, are, although scarce equal in flavor to some others, perhaps the most popular and profitable of all in the Northern markets. Those who propose going into peach culture, will soon get "the hang" of this branch of their pursuit; and with a well devised plan, and thorough attention to all the details, they can scarce fail in their object. Every man who has a garden where the peach will grow, should cultivate them for his own family use; for, as a tea-table luxury, a dish of pared, cut, and sugared peaches has no rival among the fruits.

Summer Fruits.

We are now getting into Midsummer, and its varieties of the smaller fruits, as currants, cherries, raspberries, blackberries, huckleberries, to say nothing of green apples and other tarts. Strawberries have already passed by, with their attendant luxuries of cream and sugar, leaving, as the only sorrowful memorial of their season, that it would not last forever! Since rhubarb has become so common and cheap in our gardens and markets, green currants, as the material for tarts, has been mostly superceded; and well that it is so, as rhubarb is much the better and more convenient article. Yet the currant, in *full ripeness*, as a tea-table dessert, for pies and puddings, is a valuable contribution to the table. In drinks, its expressed juice makes a delicious shrub, with the addition of sugar. The white is the most delicate for tea-table uses, or, mixed with the red, which adds piquancy to the flavor; both are delicious. To make them perfect in this disposition of them, they should be picked in the morning soon after breakfast, stemmed, washed clean, and drained. Then put them into the table dish, and sprinkle white powdered sugar freely over them, cover closely, and let them stand till the table is set. By that time the sugar will have dissolved, and percolated through them into a delicious treacle, and no Havana sweetmeat is comparable to this simple dish of sugared currants.

Currants will, in a good season, hang on the bush in perfection for a month or six weeks. They should be largely cultivated by every country family, as no fruit of the season is more convenient, economical, or healthy as an every-day table luxury. But, to be eaten with impunity, they should be fully ripe, which is readily indicated by their transparancy, and full, plump appearance.

The other Summer fruits we have named are used in pretty much the same way as currants. Cherries are ripe about the same time, and are equally nutricious and wholesome, either raw or cooked. Some people swallow the stone with the pulp. This is a bad practice. It passes the stomach undigested, obstructs the digestive glands, and we have known serious bowel diseases as the consequence. When cooked in pie or pudding they should always be stoned in advance, as well as for drying.

Raspberries are good—any way. The pulp is so soft that they need no preparation for the table other than sugar—sometimes not that. For tarts, pies and puddings they are delicious, and for a shrub in warm weather drinks, nothing can be more grateful to the palate, or to quench the thirst.

Blackberries are the only astringent Summer fruits of the berries, and, when well ripe, may be eaten with much advantage by both children and adults addicted to bowel complaints. They are simple, and nourishing to the system, grateful to the stomach, and sweet to the taste—well ripened, of course. For all edible uses they go with the raspberries, and where not abounding wild should be liberally cultivated.

The huckleberry, wherever grown, is so general a favorite that a recommendation of its virtues is scarcely needed. It is, perhaps, in its many varieties, the sweetest and best of all our berries. With bread and milk, what luxury so grateful to children, and what better for adults? Even while writing of them our memory gloats over our boyhood days of the huckleberry season! Every, any, all ways, the huckleberry is an unadulterated, unalloyed luxury.

Parents, indulge yourselves and your children all that you can in the *ripe*, choice, Summer fruits.

Mandrake or May Apple—Cultivation.

On page 154, May number, it was asked whether any one had tried cultivating the common Mandrake (*podophyllum peltatum*) to ascertain whether it would be thus improved in the size and quality of the fruit. W. Day, of Morristown, N. J., writes: "Some years ago I removed a few plants from the woods to my garden, where they grew and did well. They have had good garden culture ever since, but I cannot perceive that the cultivation is of any benefit to them. My father, an aged man of 84 years, was pleased with them, and they have been nourished on his account. The only advantage I could ever perceive was, that the fruit could be allowed to get *ripe*, while in the woods the boys could take them off *green*."

A bankrupt friend of ours was condoled with the other day for his embarrasment. "Oh, I am not embarrassed, at all," said he: "It is my creditors that are embarrassed."

Enemies of the Pear Tree.

We refer now not to those who *write* against the pear tree—and we confess that our own occasional ill success in its cultivation tempts us to throw our quill at it now and then—but we allude to the unintelligent enemies which infest its bark and leaves and fruit. And, enough for this time if we speak only of the slimy slug which attacks the leaf. It pounces upon your trees all at once; suddenly, before you are aware, the leaves are riddled, the soft part of the leaf is eaten up, leaving only the net-work, resembling a piece of loose gauze. The slug is about a quarter of an inch long, dark brown, slimy, and shaped like a tadpole.

Every fruit grower should inspect his trees frequently during the months of June and July, and as soon as the slugs appear he should be armed and equipped to give them a warm welcome. Prepare a loose bag of coarse cotton cloth, put in two quarts of air-slacked lime or fresh ashes, fasten the bag to the end of a ten-foot pole, and in the morning, when the dew is on the leaves, raise the bag over the infested trees, and give the pole a few raps with a mallet, moving the bag about among the leaves until every slug gets his breakfast; they will want no dinner. Five minutes' work will answer for each tree. For dwarf pears and young standards, diluted whale oil soap applied with a broom, sprinkling-pot, or better, a hand-syringe with a sprinkler at the end, will answer an excellent purpose. As the depredations of the slug are confined almost wholly to the upper surface of the leaf, there is little need of the garden-syringe with upturned nose, except on trees beyond the reach of the watering-pot.

Ravages upon Trees by Mice.

Under the above head, a writer in the N. Y. *Observer* says: "Our vinery (a cold house) has suffered very much this Winter from their attacks, some of our best vines, two inches in diameter, having been cut clean off about four inches under the soil. Before laying down the vines I took precaution to guard against their attacks by wrapping sheets of tin around the lower part of the vines, as far down in the soil as the roots would allow, but all to no purpose, as they cut the main stem off below where the roots put out into the soil. I have tried every remedy I could think of to get rid of them, but to very little purpose. They will not touch poison in any shape, and they scarce ever come to the surface of the ground, so that we might catch them with traps. The drainage of our border affords them a secure retreat and nesting place, and consequently they are always on hand to trouble us, and our border being light and porous, they work through it with ease. Can anything be done or applied to keep them off, or could any composition be mixed with the soil close to the stems that would be offensive to them, or how can their ravages be prevented?"

This is a new case, but not at all surprising, after the havoc made among our own trees, and shrubbery, by the mice, during the Winter of 1855-6, where they did us injuries, both in number and extent, which can never be repaired. That Winter, we apprehend, has scarcely been equaled in the memory of man, for the extent of damage done to fruit trees by the field mouse; and no sooner had it been ascertained, and told of, than the agricultural and other presses, from the Bay of Fundy down to Opelousas, were running over with all sorts of specifics to prevent the mice aforesaid, or those which might come after them, from repeating the mischief. And not a single one of these nostrums, detailed with so much confidence, would be worth a copper to either prevent or repair the damages such as we saw and suffered.

We care not to repeat them here, for many of them have been repeated annually in almanacs, and receipt-books, and newspapers, ever since we were old enough to read, and in *given cases* may do well enough. But damages of such extraordinary kind as then occurred, no possible foresight or ingenuity could guard against. The mice girdled our trees six feet above the ground, where the snow-drift encircled them—even out on to the extremities of the limbs; and from the crutch of the trees down to six or eight inches below the surface, cutting off roots as large as our thumb, so that when the frost left the ground in the Spring, the trees fell out, sharpened at the ground end like a bean-pole shaped for sticking. Such extraordinary ravages as these may be set down with "fire, pestilence and famine," intended to root out and destroy, beyond the precaution of man, his long cherished labors and loves.

Treading down the snow, piling up earth round the roots, wrapping tin or sheet-lead about the trunks, may do very well in ordinary times, but in such extremities as we have witnessed, and as are above detailed, it is hard either to guess that they will again occur, or to devise a preventive. Where do the mice come from? In June, perhaps, you can scarcely find a field-mouse in the fields. In November they will be in thousands, and with a light, feathery, early snow, lasting all Winter, you will find myriads of them in the Spring, and almost every living thing, of grass, herbage, and trees, thoroughly cut up and girdled, when the ground becomes bare!

The damage having occured, how is it to be repaired, asks every one? Some, with more of theory than practice, recommend inserting young scions into the separated barks, above and below the girdling, thus tying the barks together, and so repairing the tree by a new connection of the sap vessels. Such a plan is indeed plausible, and has been now and then apparently successful, but it is of little account; for although it will connect the sap vessels together, and keep the tree alive, the denuded wood is perfectly dead, and in a few years will rot away, the young scions, although they may grow, will never unite side by side, to make a solid trunk; and in a few years more the tree will break off and die. Some trees, when the entire bark is not cut off, will still grow, and if only a thin film remain, so that the sap will circulate through, may finally recover. Such has been the case frequently, and by the application of various unguents, the tree has lived, while the parties applying them, not knowing that the film of bark was left, but supposing the girdling had been complete, notified the world that they had restored *completely* girdled trees by their applications! They were only mistaken as to the *fact*, in supposing that their applications had restored the bark, when in reality the *entire* bark had not been destroyed, and would have recovered without the application.

We never knew a completely dissevered bark restored—indeed, it is physically impossible that it can be. No *new bark* can grow from bare wood. The bark is as much a distinct organ of life as the leaf itself, and no other distinct part of the organization of the tree can supply its place.

We would gladly relieve the complainant above, in relation to his grape vines, but unless he exterminates the mice beforehand, or stops his drains, so that they no longer afford a retreat for the vermin, we not see that we can help him. In the case of all such destruction, when it is *known* to be fatal, our best advice is to root out the plants, be they what they may, and replant others in their place. A radical injury of that kind is scarcely ever to be recovered by tinkering.

The Failure of Young Fruit Trees.

The complaint is often made by farmers and other fruit-growers, that their trees do not succeed. They look well when first received from the nursery, but soon many of them begin to droop, some become stunted, and others die. The planter gets discouraged; he blames the nurseryman, or he thinks that his soil and exposure are unsuitable for trees, or he concludes that there is some mystery in fruit-raising which he cannot master; so that, on the whole, the business falls into bad repute with him. Happily, this is not the experience of all; but it is with not a few, and for them we now wish to say a few words

Dear unfortunates, how did you plant your trees? Perhaps the nurseryman was in haste when he took them up for you, and he cut the roots rather short. That was to be regretted, but did you try to mend the matter by shortening the tops a little, before planting, so as to restore the balance between the limbs and roots? And did you pare off the ends of the bruised roots with a sharp knife, so that they might heal over rapidly? The trees, as they grow in the nursery, had the advantage of an excellent soil. The cultivator was run often between the rows, and the hoe followed after, keeping the ground light and clean. Insects were not allowed to harbor in the bush or foliage, and the pruning knife, skillfully used, kept the trees in good habit of growth. Now, how has your treatment compared with this? You set some of your trees in tough, green sward, making a hole just large enough to crowd the roots in, throwing back the sod upon them, and ramming it down with the heel of your boot. "But we set some of them in plowed land, and they did only a little better." Yes, in plowed land, but without manuring the soil, and then you planted corn in the same field, so that the trees were soon overtopped and smothered by the corn. Your plowman, moreover, was careless in doing his work, for he allowed his horses to run over the trees, and his whiffle-trees to bark them. You should, also, have tied up your trees, the first year, to stakes with withes of straw, to prevent their being blown about by the winds.

It should never be forgotten that trees, like animals, need good food and care, in order to prosper. Remove well-fed stock from the barn and compel them to pick up their living by the road-side, and they will show the change in their condition at once. So with trees. Take them from the well-tilled nursery and set them in sterile soil, in naked fields, exposed to bitter winds, and where their trunks will be barked and their limbs broken by horses and cattle, and where they will receive little or no cultivation, it is no wonder that they should often fail. We had almost said they *ought* to fail; the farmer does not deserve to succeed if he takes so little care of his trees.

Now, to conclude our exhortation, we counsel unsuccessful planters to read the papers and books which treat of tree culture, and to visit their neighbors whose fruit orchards prosper. Ask these men the secret of their success. Undoubtedly you will find that there is no great mystery about it, and that all your trees need is a little more skill and care on the part of their owner.

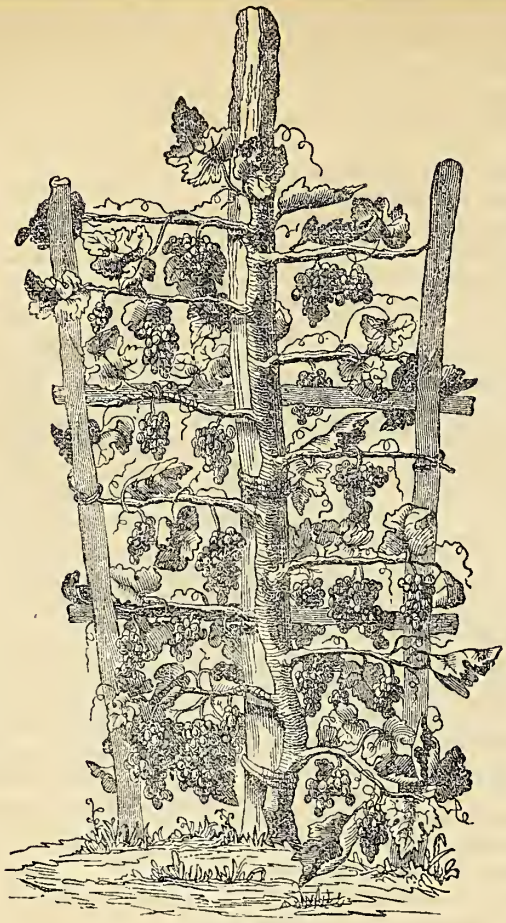


Fig 1.

Training the Grape.

We shall not now go into a lengthy discussion of the culture or training of the grape. An elaborate series on these topics extended through the entire volume of last year, and this subject will receive future attention. We now propose to show a few of the most approved methods of training the vine to induce *fruitfulness*, and at the same time keep it within convenient reach.

The novice at grape growing, looking upon the lengthy vine in its *wild* state striving to overtop the tallest forest trees, is too much inclined to allow it the "largest liberty," and he almost scrupulously avoids cutting back. Not so with the experienced and successful vine grower, whose aim is to secure fruit rather than wood.

The engraving, fig. 1, shows a method of low training, so as evenly to distribute the bunches and render the management easy and convenient. This vine occupies a space of only four feet high and three feet wide, and according to a correspondent of the Horticulturist, it ripened sixty-seven bunches of fruit in a season. If allowed to extend to about six feet in hight and four feet in width it would give a good sized vine, capable of producing a large number of bunches. Three stakes, about two feet distant from each other, may be used singly as in the figure, or it may be a continuous trellis. For vineyard culture we would run the rows north and south, eight feet apart, setting the vines six feet distant in the row, training to a trellis of this kind six feet in hight. They can be worked in one direction by the cultivator or harrow, assisted by the hand-hoe. Another method, and one quite extensively practiced in field culture, is training to a single stake. In this mode the vines are planted from six to eight feet apart each way, and the cultivator or harrow used to work the ground both ways leaving but little for hand-hoes. Two vines —one of the present and one of the past year's growth—are usually trained to a stake some seven feet in hight. After bearing, the older shoot is cut out in the Fall, leaving the new one for bearing the next year. A new shoot is trained up and the old one, cut away each season, keeping the wood young and healthy.

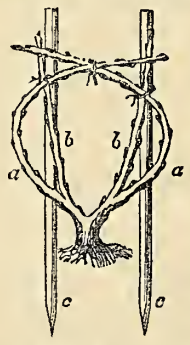


Fig. 2.

In our cut opposite, (fig. 2,) the vine is permitted to branch near the root, and each division has its bearing and new shoot, the former making a sort of circle, slightly compressing the sap vessels and throwing the fluids into the fruit bunches upon the sides. After cutting them away in the Fall the upright ones are curved in the same way, and two new shoots are trained up. Thus each vine has two bearing branches at all times.

Still another plan in the renewal system is seen at figure 3 below, which we re-introduce for illustration.

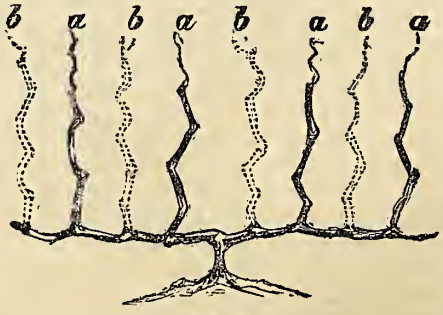


Fig. 3.

The vine is allowed to branch as before and trained permanently to the bottom slat or wire of the trellis. From these horizontals, perpendicular shoots are allowed to grow, at first two feet apart, to form the bearing branches, *a*, *a*, *a*. While these are producing a crop, new shoots, shown by the dotted lines, *b*, *b*, *b*, are allowed to grow mid-way between them which in turn produce a crop and are cut away.

In training over an arbor, the first or third modes may be adopted, but the side branches should not be allowed to ramble at pleasure, as is too frequently the case, completely matting the whole upper surface.

Lead Wire for Tying Vines, &c.

This is new to us, and it strikes us as being decidedly useful. It is very readily bent to any desired shape, and easily tied with the fingers; and, being unelastic, it remains in whatever position it is placed. When put around a vine or branch, it yields to any irregularities of the surface, and will not cut into the bark like the more inflexible copper or iron wire. Another important thing is its *cheapness*. We bought a small quantity of No. 16 at 20 cents a pound, retail; the price by the large quantity is much less. The retail price of the same No. of copper wire, is about 60 cents per pound. Our No. 16 measures 40 feet to the pound—a much smaller size would answer for most purposes. We are not aware who manufactures this lead wire, but it is for sale at the agricultural warehouses and stores in this city, and we presume it will soon be on sale generally.

Rise and Fall of Sap.

The commonly received theory of the ascent and descent of sap in trees and plants, is now and then combated with earnestness, and with some show of learning. We are told that there is no evidence of the rise of sap to the leaves, of its elaboration there, and its descent to form new wood, bark, leaves and roots. The sap, it is asserted, goes directly from the root to the part needing it, and there, in the cells of the plant, is assimilated and made a part of the growing structure. In proof of this, we are told, first, that the *presumption* is against the long and indirect process involved in the rise and fall of the sap; it is absurd to suppose that the juices of a tree travel up a certain set of pipes, often a hundred feet long, into the air, in order to be manufactured into woody substance, and then travel down, perhaps the same distance, in order to feed a branch near the ground. It is more consistent to suppose that Nature takes the shortest road to accomplish her ends. Then, we are referred to the following experiment of a French chemist, as a settler: A blood beet was grafted upon a white one, and each part, in growing, retained its respective color. "Now," says Parlezvous, "if the sap descended from the leaves of the blood beet into the fleshy part of the white, the latter would have been colored, and the red would have overgrown the white". And Brother Jonathon adds: "If the sap is elaborated in the leaves and descends, why does not the wood of a graft grow over the wood of the stock below it?"

But without dwelling longer on the aspects of the new system, we will briefly state the current doctrine of vegetable growth, and then leave our readers to judge between them. We shall have accomplished a useful purpose if we excite our youthful readers to habits of observation. It will

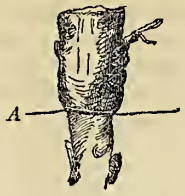
appear, also, before we finish, that the subject has some practical bearings.

During the warm days of Winter and early Spring, the spongioles (minute absorbing tubes) of the root gather up the crude sap. During frosty weather there is only a little circulation in the tree; but as soon as Spring opens, the sap, with which the roots and lower part of the trunk have become gorged, rapidly ascends through the cells of the new *wood* into the leaves. We do not presume to say precisely by what power it is caused to rise. Capillary attraction may account for it in part, hut not wholly, and the principal called "*endosmose*" may share some of the honor; but, after all our speculations and large words, the mystery is left unexplained. The plant has no propelling engine, like the heart of an animal, to force its fluids to the extremities of the system. The sap runs up hill in spite of the laws of gravitation. Yet it does not rise in a dead tree, though that tree may have all its cells as perfect as a living one. This principle is wholly beyond our explanation. The exercise of Divine power alone can account for it.

The sap having reached the leaves, its water is exhaled, oxygen is given off, and carbon and hydrogen are retained to furnish food for the growing plant. The leaves absorb carbonic acid from the air. The sap being properly elaborated, now begins its descent through the *inner* bark, and is deposited all along the tree in the form of new wood, buds, leaves, bark and roots. If we cut into a tree, at certain seasons, we find a mucilage between the inner bark and the sap-wood, which is supposed to be the elaborated sap descending to form the new growth of the tree. It deposits a new layer of *wood* on the outside of the last year's growth, and a new layer of *bark* within the previous one. Thus, concentric layers or rings are formed, by which the age of trees can be determined with more or less accuracy. When the leaves fall, in the Autumn, this process of circulation is materially arrested, and continues so until the return of another Spring.

Does not this theory account for all the important phenomena of vegetable growth? The *presumption* urged against it by the new theory is not very formidable. After seeing a corn-stalk grow eight feet in a single Summer, a child might say that nature could not be so slow and indirect in her movements as to take a century for growing an oak. The Frenchman probably thought his vegetable experiment could not be *beat*. But the difficulty in that case is no greater than is presented in every instance of a grafted tree. The descending sap of the graft does not deposit wood of its own sort on the stock itself, because the bark—whether of the graft or the stock—determines what shall be the individual character of the wood beneath it. Or the cells themselves may take up the descending sap and form new cells around them of their own character.

A similar law may explain the beet mystery. If we graft rings of the bark of various allied species, such as the pear, apple and quince upon different parts of the same trunk, we shall find, after a few years, that the pear bark has deposited pear wood, the quince bark quince wood, and so on. Such experiments go to show that the character of the wood depends on the hark which over-lays it. If we fasten a cord or wire around a growing branch, we shall find, in the course of a year, that the portion of the branch below the ligature makes but little increase in size, while that above enlarges rapidly. And why? Because the ligature compresses the outer bark so that the *descending* sap can not pass under it freely and make deposits of new wood below it The branch will appear something like what is shown in the engraving. *A*, represents the point encircled by the ligature, the branch above being larger than that below it.



But without enlarging further on this topic, we find in the theory just stated, the *principle* on which several important operations in farming and gardening rest. It has been found by experience, that the old custom of topping corn just as it begins to glaze, is injurious to the crop. The loss in weight of the corn so managed is greater than the value of the stalks And why this injury? Because, as soon as the tops of the stalks are cut off, the ascent and descent of sap are stopped, and the ears get little or no further food.

Ignorant gardeners sometimes strip off the leaves from their grape vines, in order to expose the clusters to the sun and so to hasten their ripening. But this is always injurious, because the leaves are essential to elaborate the juices which go to mature and ripen the fruit.

Falling Fruits.

Already the apples, pears and plums are heginning to drop abundantly from the trees. If you examine these, you will discover not a single sound specimen among them. They have fallen, not by the winds, but, quite likely, prematurely from disease. Cut them open, and you find either eggs, or grubs already at work upon the substance of the fruit. Every one of these fruits is a pest-house, to be immediately destroyed. It is good work for the boys to pick them up, and throw them into the pigstye, where they will be devoured, or rot among the fermenting manures. We are persuaded that the destruction caused by the curculio, and by the grubs that prey upon the apples and pears, is caused, mainly, by the neglect of this simple precaution. The fallen fruit is suffered to lie upon the ground, and mature its progeny of insects. The next year they swarm in increasing numbers, and the farmer complains that there is something peculiar in his soil and climate; he cannot grow good fruit. The difficulty is in the man and not in his soil. Pick up the fallen fruit.

And this reminds us of an apple orchard we visited last season. The proprietor had been accustomed for years to turn in his store pigs, and to keep them through the season, until the apples were sufficiently mature for making cider. Not an apple escaped the pigs from July to September. The consequence of this policy was, that he had fair, handsome apples to sell, while his neighbors were complaining that their crop was nearly all perforated with worms. Shall the pigs have a chance at the fallen fruit?

What is the Matter with the Apple Trees?

To the Readers of the American Agriculturist:

Have you noticed their feeble growth and the falling of the young fruit in unusual quantities? Look at the bottom for the trouble. Remove the dirt from around the collar with a hoe and with your sharp pointed knife, examine for the borer. Very likely you will find the tree half girdled with this insect. Most orchards are ruined before their owners begin to suspect the cause. They presume that everything is right with the tree, because the top remains green; while the worm is doing his work under the bark. Nothing but vigilance—a careful examination of the collar of the tree twice a year—will secure it against the borer. If this was not done last month, let it be attended to now. It will be some satisfaction to see where the enemy has been, and to know where to expect him in the Autumn. We have frequently seen thrifty trees of eight or ten years' growth completely killed for want of ten minutes' work with a sharp knife and a bit of wire. Bore the borer or he will bore your trees. CONNECTICUT.

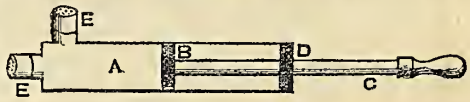
German Prune. (*Zwetschge.*)

According to the statement of Dr. Chas. Schaum in the Bauern Journal, it appears that there has been a mistake among the German population of this country with regard to the culture of their most cherished Fall fruit, the *zwetschge* (German Prune). They have labored under the supposition that this variety degenerated here into the common prune of the country. Opposed to this belief he cites the fact that Mr. Backhaus, a well-known farmer of Long Island, planted, some ten years ago, a quantity of the *zwetschge* trees which are now yielding the genuine fruit, or so scarcely removed from it as hardly to be perceived. F Pfeifer of Indiana Co. Pa., and Mr. Tattler of Oneida Co., N Y., corroborate the same, having raised the real German prune for a longer time.

A Cheap Double Garden Syringe.

To the Editor of the American Agriculturist.

I notice with pleasure, in your paper, illustrations of various new implements for the more convenient and practical operations in agriculture and horticulture. I have just finished, for myself, a little instrument to exterminate the lice and green worms on my rose bushes, and other shrubbery; and finding that it works so admirably, and is so cheap, I am induced to send a sketch of it



to the readers of the *Agriculturist*, if you think proper to have it engraved. *A*, is a tin tube, 12 inches long and 2 inches in diameter. *B*, the plunger, or piston, with a wooden handle, *C*. This head, *B*, is a short tin tube, a little smaller than the main barrel with a piece of circular tin upon each end and fitting the barrel, which leaves a place for winding on yarn, to make it water tight. *D*, is a thin *wooden* head-piece, fitted into the end of the tin barrel, with a hole in the centre of sufficient size to admit the piston rod, or handle.

E, E, are tin nozzles, one upon the end of the barrel, and one upon the side near the end, with two covers to slip snugly upon them. The covers are about the size of an ordinary tin pepper-box cover, one being perforated with a few holes, and the other a tight top, so that they can be shifted and the water thrown from the end or from the side at pleasure.

The object of the side nozzle is, that when held under the bushes the exterminating fluid may be thrown up on the under side of the leaves, which saturates them thoroughly, and, in falling, gives the other leaves a beautiful shower-bath.

The whale oil soap I presume is best, but as I cannot get it here I use the common soft soap.

B. B. CUSHING.

Frankfort, Me., June 1st, 1858.

Pride in a beauty is like a flaw in a diamond.

The Pea Weevil.

Not the least among the annoyances of the farmer and gardener, are the depredations of this insect. In Canada, Maine, Vermont, and New Hampshire, the weevil is but little troublesome; further south, it does great damage annually. It does not always destroy the germ of the pea into which it enters, but it weakens the growth of the young plants, renders the fruit unfit for culinary uses, both when green and dry, and diminishes its weight nearly one-half.

While the peas are very small, the beetle punctures the side of the tender pod, directly against the pea, and deposits an egg. A worm is soon hatched from this egg, and makes its way directly into the centre of the pea, on which it feeds. The larva grows with the growing pea, and usually attains its full size—about an eighth of an inch—when the pea has reached maturity and ripeness. Dr. Harris coolly observes that "few persons, while indulging in the luxury of green peas, are aware how many worms they unconsciously swallow." Perhaps, too, some find their way into modern coffee, roasted and ground. But we refrain from corrupting the public imagination any further! The larva lies in a partly dormant state until late in the Autumn or Winter, when it is transformed into a beetle, ready for the work of devastation, on the opening of Spring.

The only birds known to feed on this insect, are the crow blackbird, and the oriole, but they do not sensibly diminish its increase. It is important, therefore, that every man who sows peas, whether in the field or garden, should use his best endeavors to exterminate this pest. One method is to pour boiling water upon a lot of peas, and stir them smartly for a few minutes. This may destroy the life of a few of the seed, but not of many. A better way, perhaps, is to put a small quantity of peas into a colander, and set them over a kettle of boiling water. The colander should be covered loosely with a plate. The steam will then penetrate the mass of peas, and kill the insects without injuring the germ of the peas. This may be done in the Autumn, soon after the peas are gathered, the insect being then more easily dispatched than afterwards.

Lamp-black for Flowers and Grass.

To the Editor of the American Agriculturist.

Reading, some time since, that powdered charcoal applied to the roots of flowers was said to give intensity to their color—its virtue being attributed to the free supply of carbon—it occurred to me whether it might not be appropriated by the plant from lamp-black, more readily. I procured a quantity from a person using it, by wholesale, and liberally dusted my rose bush roots with it—dug it into the soil even. The result justified my expectations. The flowers were brighter than ever before, and the *grass* that grew near them of a *much darker green*. J. H. M.

Lancaster Co., Pa.

Remark.—We have no doubt as to the result obtained, but question the theory of the article to which J. H. M. refers. Plants probably obtain the *carbon* entering into their composition, from the carbonic acid of the air which is absorbed through the leaves. Lamp-black is simply charcoal in a very finely divided condition, and, when put around the roots of plants, it acts both as a mulch, and as an absorber of ammonia. It therefore promotes the growth and vigor of the plant, and this, as a matter of course, increases the size and beauty of the flower.—Ed.]

Not too Late to Plant Tomatoes.

Tomatoes seldom come amiss. Raw, or cooked, in the ripening season they furnish a good dish upon the table, daily, for weeks in succession. The surplus crop, saved so easily for fresh fruit in Winter, in cans, jars or bottles—or, as preserves, in figs and catsups—are doubly welcome in Winter, when "salt junk" is the too prevailing diet of the farmer. We speak of these things now, to remind our readers that it is not too late to set out tomato plants for a full late crop. If new plants are not to be got, a part of those set too thickly may be safely removed to a new place, by wetting the earth around them and taking up a large ball of it with the roots. There are vacant spots in the gardens or fields, or where early peas and cabbages are being harvested, which may be used for tomatoes or turnips instead of allowing the ground to lie idle for the remainder of the season. Among early potatoes soon to be dug, plant tomatoes, and if, perchance, you have ten or a dozen bushels more than are wanted for cooking and preserving in the various ways named, boil them in the hog-mess, or give them to milch cows.

Weeds in Gardens.

The only way to keep weeds in subjection is to treat them with "eternal vigilance." There is no royal road to a neat garden. On walking recently through a neighbor's grounds, noted for their good order and neatness, we asked him the secret of his success in exterminating weeds. He replied that he had only one leading rule on the subject, and that was, "*never to allow a weed to go to seed.*" If every person owning a garden will devote his leisure moments daily to the destruction of weeds, he will find it a comparatively easy matter to keep them down. And this systematic, daily hoeing will not only keep his garden neat, but will keep the soil in the best possible condition for the growth of his plants.

Bugs on Vines.

In addition to the remedies mentioned in our last, we now add, from a responsible source, that the ashes of anthracite coal are a good protection to plants against the striped and the black bug. A gentleman informs us that, after trying gypsum, soot and sulphur, in vain, he tried coal ashes, sifting on about half a pint to each hill of cucumbers, and the effect was at once apparent. Every bug disappeared and did not return. A remedy so simple and so cheap, ought to be known. Perhaps it will turn out, by and by, that nothing has been made in vain.

Flying.—A fellow having imbibed rather freely took it into his head that he could fly, and to get a good position, ascended a sign post and started. He was questioned next day as to how he liked flying. "Oh!" said he, "it's nothing to fly, the lighting is the hardest part of the operation."

Good wives, like filberts, will remain good for a long time: but it depends upon the care you take of them, i. e., how you *husband* them.

Mr. Gunn, having been sent to Congress, did not make noise enough to gratify his constituents, and they elected Mr. Cannon, as his successor.

Not prosperity, but adversity is the true balance to weigh friends in.

IN DOOR WORK.

Food for Children—Important Hints on its Preparation.

Just now, our city is much agitated on the question of "swill milk," and, if we are to believe the statistic makers, in this city alone—to say nothing of the country at large—at least 50,000 children have been slain by this fell destroyer during the past eight or ten years. Every mother who has lost a child in times past, whether by her own carelessness or not, now very complacently charges the murder of her offspring upon the swill-milk venders. We would by no means give either aid or comfort to the venders of the villanous compounds sold under the name of *milk*, in this city and *elsewhere*, whether it be from the distilleries or chalk shops; but as bad and unfit for human diet as are these so called "milks," we verily believe that the untimely deaths among children, and grown up people too, would be diminished at least one-half, if the chief diet was only this milk—or if nothing *worse* were swallowed.

WHAT DOES KILL THE CHILDREN, THEN.?

We answer unhesitatingly that it is mainly unmasticated or unground *food*—To say nothing of mortality among grown people, we undertake to affirm, that, if food for children be invariably prepared according to the prescription we shall give further on, the deaths among them will be diminished two-thirds, the "pains under their aprons" will become very rare, and their wakeful restlessness at night will, in nine cases out of ten, be exchanged for sound repose.

When food goes into the stomach it must all be reduced to a fluid state, or at least to a pulpy mass, or it will lie there for a few hours, and then either be passed out by vomiting, or, as is usually the case, be thrown off into the intestines to make its way through the long channel, and be thrown out in the excrements. Now, if any one will take the trouble to examine the excrements of children, they will, in perhaps a majority of cases, find undigested lumps of food, such as pieces of potato, meat, fruit &c. But how is it possible that a piece of potato or fruit, for example, though no larger than a pea, can make its way through the whole length of the small intestines—a distance of 25 feet in a grown person, and 12 to 15 feet in small children—without producing irritation sufficient to disturb the health of the system? Yet how very few children get through a week without thus evacuating a score or a hundred such lumps of food?

People forget, or do not understand what process the food put into their own or their children's mouths, is to go through with. Just imagine all the food that goes down the neck at a meal, dropped into a bowl where it could be examined, instead of into the stomach. We should find it full of bits of meat, potato, pickle, turnip &c. &c. Pour into this a quantity of water or other fluid, and stir it for two or three hours, and we shall find a considerable quantity of lumpy food remaining undissolved. But suppose we take the same food and cut the meat into small bits no larger than a shot, mash up the potato to a powdered state, treat the pickles, fruit &c. in the same way, and then stir the whole together. In a few minutes they would become a pulpy mass.

Now this is just what takes place in the sto mach, both of the child and the adult. This or gan receives just whatever may be sent to it. It keeps up a constant motion so long as there is food remaining in it, but it is not supplied with an

upper and nether millstone, capable of reducing to a pulp the hard, lumpy materials thrown in. It works faithfully, grinding off the corners and wearing away the surfaces, but it has not the power to mash down many of the lumpy substances that are committted to it. The very attempt to do so produces irritation, and, after a time, it forces out the dissolved and undissolved material into the intestines; which, by their peristaltic (spiral or worm-like) motion, rub against the materials, forcing them along until they are finally discharged. Oftentimes, the stomach itself is so irritated with the substances that it can not work up, that it vomits them forth through the opening where they entered—and were this always done it would save much of the irritation in the intestines, resulting in griping pains, colics, bowel complaints &c.

So long as there are undissolved lumps of food, of any kind, in either the stomach or intestines, so long there must be irritation; and a continuance of this irritation must, in time, result in pain and ultimate disease.

Grown up persons may masticate or chew their food to a fine, easily dissolved mass, before swallowing it, but children will not do this, and as certainly as you place food before them in lumps, so certainly will they swallow, at least a portion of it, in this condition.

OUR OWN RULES FOR FEEDING CHILDREN

are these: They usually eat at breakfast and dinner the same food as older persons—meat, potatoes, and other vegetables, fruits, bread, butter, &c.—but *no article of food of any kind is to be placed before them which has not been previously reduced to so finely divided a condition that not a single portion can be swallowed larger than the smallest pea.* Meat is cut with a sharp knife to the smallest possible bits, and not left to be swallowed in pieces suitable for an internal poultice. Potatoes, however cooked or prepared, are not merely mashed under a knife blade, but they are ground down on the plate, almost as fine as flour. Fruit, whenever given, is scraped or mashed to a pulp. Raisins, and all kinds of dried fruit, and nuts, if given at all, are cut up as fine as shot. All kinds of vegetables—in short, whatever is to be eaten—is in like manner reduced to this fine state, unless it be bread, or something that will of itself dissolve readily in the fluids of the stomach.

The third or last meal of the day, is invariably "bread and milk," or "mush and milk," which are soon digested and out of the way, leaving them to sleep soundly and sweetly—if they are not allowed to overload the stomach.

This plan, which is so consonant with reason and sound theory, is productive of the happiest results in practice, and we can but earnestly commend it to all parents, and those who have the care of children. For the children's sake, for their own comfort, we are constrained to beg parents to think upon this matter, and to make a thorough trial of the plan of preparing food which we have recommended. Do not say, as some have said to us when urging the matter upon them, "Oh, this is too much trouble, I have not the time or patience for such a course;" or, "my children eat anything and everything, and I do not see but they are as healthy as your children who are so carefully attended." *It is not so.* Our word for it, adopt the course we have recommended, and you will find it time and health saved in the end, to say nothing of a saving in physicians' fees. And do not be satisfied with merely directing a servant to prepare the food thus, and so, but yourself see that it *is* done. If you will make the experiment for six months—only taking care to prepare the food as we have suggested, and to have a little care also that the stomach be not overloaded—we can almost warrant that your children will pass through the season with good health, and without their usual Summer complaints. The cherries, and currants, and berries are now ripening. If you allow the children to swallow these fruits unmasticated, they will go through the intestines in that condition, producing irritation all the way. If your children are healthy now, take the very course that will keep them so. Remember the adage that "an ounce of prevention is worth a pound of cure."

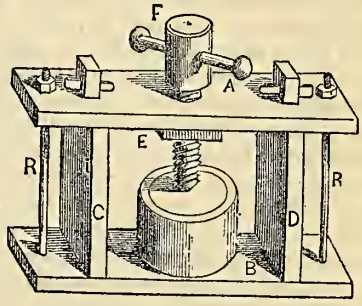
One word more. While looking out for your children, remember your own stomach; and when through haste or carelessness you swallow lumps of meat, vegetables, or fruit, think what a work that stomach has got to do before it can use up the food. When you have a headache, or other ache, you may put it down as certain that there is some trouble, some clogging of the wheels, down in the engine room, where originates the force which keeps the wheels of the system in healthy action.

What Encouragement does for Children.

How many parents make a sad mistake in considering their duty done if they reprove or correct their children when in fault. They go upon the principle that to do right is no more than the child's duty, needing no praise. A word of approval for a good act, often does more to encourage its repetition than a thousand reproofs for a contrary course. The distinguished painter, Benjamin West, referring to the fact that his mother kissed him eagerly when he showed her a likeness he had sketched of his baby sister, remarked: "That kiss made me a painter." We knew a little farmer boy, whose impulses were good, but he had only been accustomed to hear his trivial faults spoken of, and he finally came to consider that the only acts he could do worthy of notice were bad ones, and he lost all ambition to try to do well. But on one occasion the boy overheard a conversation in an adjoining room, between his mother and the family physician. The physician, partly in flattery to the mother it is true, remarked that "her boy was a bright lad, with good sympathies, and would doubtless make a good and great man," or words to that effect. The expression sunk deep into the child's heart. The fact that one, for whose opinions he had great respect, thought it possible for him to accomplish anything worthy, stirred his ambition, and he made a new resolve to be not only great but also good. He has since filled many stations of usefulness in society and in the church, and we have often heard him attribute all efforts he had made to do right, to those simple words of the physician.

Take another instance: A little lad received from an uncle the gift of two pennies. These were to him quite a treasure, for pocket money was something he knew nothing of. Some time after, a missionary agent called, and pictured in glowing terms the visit of the Flat-head Indians who came from beyond the Rocky Mountains in search of the White-man's book that told about the Great Spirit. The little boy listened to the narrative until his sympathies became interested, and going to his mother he asked for one of his pennies which she had kept laid away for him, and brought it to the agent to help buy bibles for the poor Indians. The agent, who was a venerable minister, took the lad upon his knee and talked to him of Zaccheus who gave half of his goods to the poor, and expressed a hope that he too would perhaps sometime teach the word of God to the heathen. The boy was previously of a nervous, desponding temperament, and had few lofty aspirations, or rather hopes; but he was changed from that hour. If so good a man as he thought the minister to be, had ventured to hope that he could ever accomplish anything, he would certainly *try*. A few subsequent words that the best way to *be* good, is to seek an interest in the Saviour's precious blood, and the aid of the Holy Spirit in striving to follow the example of Christ's life on earth, was the means of leading that boy to seek, and ever after strive to pursue an exalted christian course of conduct. We have heard him attribute all his future efforts for the good of others, to the simple incident we have related in his own words. Could we trace back to their sources, the springs of human actions, how many thousands of instances could be found, where a single word has influenced all future action. We have often compared these influences, trifling in themselves, to the little tongue (*i.e.*, the "frog" moved by the switch) upon the railroad track, which one can move with his finger; yet it is the *point* which keeps the ponderous engine upon the straight track, or if wrongly placed, starts it aside, when it is perhaps soon hurled down a steep embankment to certain destruction.

Parents, watch these turning points in your child's life; and while you reprimand for errors do not forget to mingle words of encouragement.



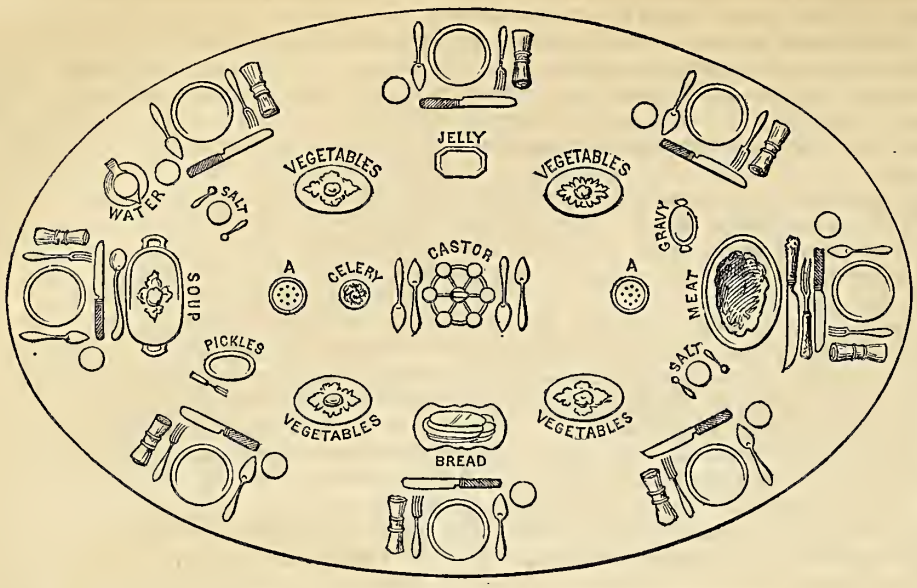
A Simple Cheese Press.

Mr. J. Pettee, of Salisbury, Conn., sends us a sketch and description of a cheap, simple *Cheese Press*, for farm or dairy use, where only small cheeses are to be made. Mr. P. claims originality for this, but he has not patented it, and he says "it is therefore lawful plunder." It is made thus:

A stout frame, *a*, *b*, *c*, *d*, is made of white oak plank, 1½ inches thick, and 16 inches wide. The pieces *a* and *b* are 30 inches long; *c* and *d* are 18 inches long. These are dovetailed at the corners, or fastened by a tenon and toggle. Iron rods, *r*, *r*, with screw and nut upon one end, are added to give strength. A carpenter's work-bench screw, *f*, with the nut, *e*—the two costing but 50 cents—serve to give the pressure. The nut block, *e*, is nailed upon the under side of the upper cross piece. Mr. Pettee adds: "Your machine is then complete, at a cost of two dollars,—or less if you happen to be much of a tinker—and if you get a good screw, I will warrant the press to do the work properly."

"My dear Polly, I am surprised at you wearing another woman's hair on your head," said Mr. Smith to his wife. "My dear Joe, I am equally astonished that you persist in wearing another sheep's wool on your back.

Refuse even the favors of a mercenary man.



Setting out a Table—Hints on Deportment while at the Table, &c.

[A "Young Housekeeper" in the West writes us to the following effect: "My parents moved from New-England to Indiana before I was born, and they settled in a heavily wooded locality, where it took twenty years of hard labor to get the stumps out, the farm paid for, and a good house fitted up to live in. My Mother died before we girls had scarcely learned to 'keep house,' but we did the best we could, and kept our home with our father and brothers. You will of course conceive that we had little opportunity to learn *how* other people managed; and many and long were the chats we sisters had, about how to set out our table neatly, and how to wait upon it correctly, when we expected company. Well, I have now married and come further West, and being in good circumstances I often have company whom I would like to entertain in good style. Now I have for years looked to the *Agriculturist* as a guide, not only in the paternal garden, but in the paternal mansion (log house), and remembering that several years since your contributor Anna Hope, gave us some good advice, on setting out a table, it occurred to me to suggest that you would do a special favor, not to me only, but to many country housekeepers, and country girls too, if you would ask Anna H., to give us from time to time further *minute* directions, not only upon setting a table, but also on matters pertaining to household etiquette. Excuse the suggestion, but please respond to it if you find it consistent to do so...."

We have often thought of this subject and are thankful to "Young Housekeeper," for calling our attention to it. We forwarded her letter to Anna Hope, and are happy to give the following response, with the above sketch acompanying it, which we have had engraved for the *Agriculturist*.—Ed.]

It always gives me pleasure to learn that what I have written has been of use, and has met the wants of any individual. I do not consider it a small matter to have been a friend to a motherless daughter, and to have aided her in her efforts for improvement. These incidental rewards, which come to us from time to time, are among the sweetest, and most precious we receive, and it is impossible not to look upon those persons who thus welcome us, as personal friends. I am particularly interested in farmers' families. My grandfather was a farmer on the very outskirts of civilization, so far toward the cold North, that the smoke of no white man's chimney curled up to heaven between him and Canada. My father, although, by profession a lawyer, was a farmer also, and did more for agricultural improvement than almost any other man in his native state. I have inherited his love for mother earth, and his respect for those who till the soil, and it affords me true pleasure to comply with the request of "A Young Housekeeper" presented through our friend, the editor of the *Agriculturist*.

It is impossible not to form an opinion of the cultivation of a family from the appearance of the table. If there is nothing but mush-and-milk upon it, good taste will impart a grace which is as obvious, as in the getting up of an elaborate dinner. Simplicity and vulgarity are as far removed from each other as possible. In families of ordinary means simplicity is always desirable; and I shall have nothing to say to those who keep a retinue of servants, and sit down to dine with only flowers on the table—the courses of meat, &c., being on the side-board or side-table. Nor shall I have a word now to say for those who have more than one course of meat, followed by a dessert.

THE TABLE.

I have sketched a table on which I have arranged a simple dinner, in a style suitable for a family keeping one or two domestics, or none. I have placed the soup on the table with the meat, although if there be any one whose business it is to wait upon table, it is better to have the soup served alone, the meat and vegetables being brought on when that is removed. The lady of the house distributes the soup. It is not considered proper, as a general thing, to be helped a second time to soup. The soup plates should be placed before each person, and not in a pile by the tureen. As each one finishes his soup, his plate may be removed by the waiter, and a plate for the meat set before him. If there is no waiter it is better for each one to retain his plate till all have laid down their spoons, and then one of the family can quietly put them aside.

There should always be regularity in the laying of a table. The dishes should not look as if they had fallen down like hail-stones, wherever it may happen. I have provided for four kinds of vegetables—if there are only two, they might be placed in the middle of the table, opposite the casters.* If bread and water are put upon the table they must be put in some unobtrusive place, and not interfere with the general arrangement.

If there are no domestics in a family, a small table, within reach of the lady's hand, may serve as a "dumb-waiter," and receive the plates that are to be changed. A "waiter" with two shelves, and a raised edge about them, as in a butler's tray—or in a trunk-tray—is sometimes desirable, and on this the dessert can be placed. There should be as little leaving the table as possible during meals. If the family wait upon themselves, some one person should do it, and not have a general jumping for a missing article. I have sat at tables where two or three, or even more, would be absent at the same time—one, perhaps, for bread, another for water, and others for something else. The *daughters* of a family can take turns in doing this. The lady at the head of the table should never leave her seat, till by rising, she intimates that the repast is finished. No member of the family should leave the table before all are ready to leave, without asking to be excused by the lady of the house, and it is far better, unless some urgent reason prevents, for all to remain till the close of the meal.

It is *not* now customary for those first served to wait till all are helped, thus insuring to themselves a cold dinner, but each one assumes his knife and fork as his plate is furnished.

The carver should serve meat as he cuts it, and not dissect a whole fowl at once, or fill his dish with fragments heaped up and lying about like a slaughtered army. Do not help too abundantly to either meat or vegetables. It is easy to pass a plate a second time. The present style is to pass the vegetables and let each one help himself. In cold weather the plates should always be warmed. It is unpleasant to see gravy stiffening on the plate.

The seat of honor for a guest is: for a lady, at the right hand of the gentleman; and for a gentleman, a seat at the right hand of the lady who presides at table. The lady of the house leads the way from the parlor to the dining-room—the gentleman follows the others. Where there is company to dine, and much form is to be observed, the most distinguished guest of the gentlemen is invited by the host to escort the lady, and the gentleman of the house takes upon his arm the most distinguished lady-visitor.

Habits of eating are important, and no little straw shows more plainly which way the wind blows, than these show one's acquaintance, or want of acquaintance, with society. When I was a child, I ate with my knife, and the great lesson was to teach me to put it to my mouth with the sharp edge *from* the lips. But now, in polite society, it is considered as great an offense against propriety to use the knife for any other purpose than to *cut* the food, as it then was to put it in the month in such a way as to be in danger of mingling my blood with my dinner.

"Don't put your knife in your mouth *so*—you will cut yourself," was then the reproof that fell upon the child's ears. Now he hears, or should hear: "Don't put your *knife* in your mouth—use your fork." I advise every child, and every young person to be very particular in regard to this mat-

* The engraver has spelled this word *castor*. We follow Mr. Webster in printing it *casters*. As far as we have observed, custom varies. Some say *cruet stand*, calling each bottle a *cruet*. Others adapt the word *caster* for each bottle used to cast pepper, &c., upon food, and call the whole, stand and bottles, *casters*. This is according to Webster, though he also gives the word *cruet* with the same definitions as *caster*. We must leave the ladies to settle this question. It may as well be settled first as last.

ter, for although it may seem unimportant, I am well assured that it is not. Our usefulness depends much on small matters, and whatever custom, and good society have made important, is really so, if we would be at home in good society. To use the knife, instead of the fork, betrays want of association with refined life.

Above all do not use the lips to wipe your knife, as I, not long since, saw done by a young gentleman (?). I suppose this did not mar the beauty of his dinner, but I am sure it did of mine. While I would say to the young, do not put the knife to your mouth any sooner than you would put it to your throat, which simply means, don't do it, I would at the same time say, never allow yourself to be troubled because your father or mother choose to retain the habits of their childhood. They have a right to do so, and no child has a right to treat them with any less respect or reverence because of it. Young persons are too apt to forget this, and to fail sadly in rendering to their parents the honor that is their due.

Clear, smooth, white table linen is of the utmost consequence. No table can look well without it. If table linen is starched, it should be only very slightly. If ironed, when quite damp, thoroughly ironed, it is glossy and stiff enough. Napkins are now considered essential, and should be found upon the table for breakfast, dinner and tea. They are very convenient at all times, to say the least. They should be large enough to protect the dress, and yet not as large as towels. It is quite desirable to have ivory, or other rings, numbered or marked with the initials, so that each person may have his own from meal to meal, unless clean napkins are used at every meal, and this makes too much washing, except where an establishment is so large that a laundress is attached to it. Soon after being seated at table, and before handling anything else, the napkin is quietly taken from the ring, opened and spread over the lap, and when there is occasion to wipe the mouth, the napkin should be used. A handkerchief is made for another purpose. At the close of the repast, if a ring is furnished, the napkin should be neatly folded and put through the ring. If there is no ring, it may be folded and laid by the side of the plate, or thrown loosely by it, according to the general style in which a family live, the number of domestics, &c. It is easy by a little observation to learn what is expected of you. I have been thus particular in regard to the use of a napkin, because I have seen those who did not seem to have any idea what it was for, and consequently did not use it when chancing to dine in families who would quite as soon think of leaving off the table-cloth as the napkins.

Do not pull the dishes askew as you help from them, and if I happen to dine with you, please do not flood my plate with gravy without asking if I like it, for you would almost certainly spoil *my* dinner, and my taste is like that of many others.

In waiting upon table have the water poured at the right hand of the one helped; everything but water should be passed to the left. As the glass stands at the right of the plate it is convenient to fill it there. It should not be lifted to be filled. In hot weather it is well to have a bit of ice put in each glass before filling it with water. In some families the bits of ice are set upon the table in a glass or china dish, to be used in water or milk as desired, and this certainly has a refreshing look on a warm Summer day. Bread and other things are passed to the left, because it is more convenient to receive them. If passed to the right it is very awkward to take them, unless with the left hand, and that no one ever thinks of doing

The lady of the house should not finish her dinner before her guests, but should *continue to eat* till they lay down their knife and fork. It is extremely awkward for a visitor to find he is keeping a whole family waiting for him, and true politeness requires that we should make our friends, even in the smallest matters, as comfortable as possible.

When you have eaten all you wish, put your knife and fork side by side upon the plate, in close and loving union—with the handles at the right; and do not push the plate from you, but let it stand where you have used it.

Never use your own knife or fork to help yourself to salt, butter, vegetables or anything else. It is an abomination.

When you rise from the table do not put the chair back against the wall, or push it under the table, but leave it where it is.

When jelly or sauce is used at dinner it does not require a small plate, but should *be put on the dinner plate.*

Have the salts full, and the top nicely smoothed by passing a knife over it. Leave no salt scattered on the top of the glass. Be careful not to forget salt-spoons.

Do not touch your hair while at table, nor pick your teeth—and above all do not suck them. That is enough to drive a person of refinement away from the table. It is worse than going round Point Judith, to hear such a sound. The very thought of it is nauseating.

It is not customary to put *butter* upon the dinner-table. It is not needed with meat and gravy. Bread is to be eaten with meat—not bread and butter. Bread and butter is for dessert. With baked potatoes, however, butter is necessary—and it might be put upon the table where stand the dishes marked *A*. That, too, is a suitable place for any extra dish—as radishes, in their season. Other condiments, as French mustard, Worcestershire-sauce, which do not find a place in the caster, can stand there. Vases of flowers are always beautiful upon the table, and exert a most refining influence.

I have written so particularly that I have not made much progress. I have remembered "A Young Housekeeper's" request for "minute directions," and hope my suggestions may be such as she desires, even if she finds many of them unnecessary for herself. As rapid eating is neither consistent with good manners, nor good digestion, I must leave my friends at the table, to wait for the dessert—which will be ready next month.

ANNA HOPE.

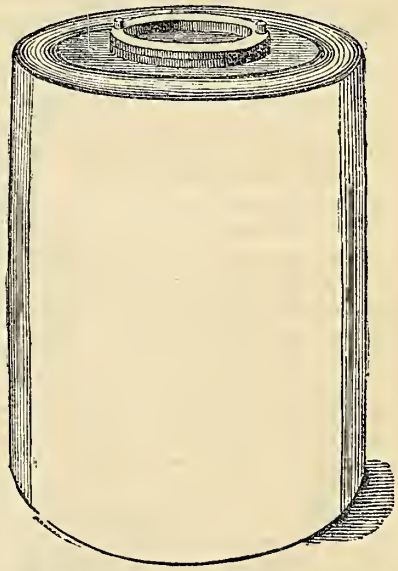
CULTIVATING AND COOKING SPINACH.—To inquiries of Mrs. M. W., Howard Co., Iowa, we reply: Sow spinach seed at almost any time and in any place. When large enough for "greens," pick, wash, and boil fifteen or twenty minutes in water, skimming off any scum that arises, and, when soft, drain in a colander. Serve up with butter, pepper and vinegar, as may be desired. It is quite customary to put upon the plate with it, boiled eggs cut in pieces. We know of no better way than the above. Others may have some better way; if so, let our readers know it.

A certain lady we wot of is so high-minded that she disdains *common* sense. She is not the only one of that sort.

I say, fellow, how can I get at this liquid without drawing the cork, or breaking the bottle? "Push the cork in."

Preserving Fruit Fresh.

We have often, hitherto, condemned the practice of preserving fruits by boiling them down with sugar to an indigestible mass. We have had through the season, and have now, an abundant supply of tomatoes, cherries, peaches, blackberries, strawberries, huckleberries, pears, and other fruits, which are as fresh and good as they were when first gathered, and they have been kept thus with even less expense than in the old mode of making them into "preserves." These have been kept, mainly, in what are called self-sealing, or air-tight tin cans. The fruits were slightly cooked, and prepared as if for table use, and then sealed up perfectly air-tight, as described below. After several years' experience, we shall use the tin cans chiefly this year, with a few wide-necked glass bottles. We present herewith an outline of one of the cans.



They are made of various sizes, holding from a quart to a gallon.* In the upper end is a large opening, into which a cap is inserted with a screw, We have used those made by Wells & Provost, and by Ketcham & Co., about equal quantities of each kind, and find them both efficacious—not having lost a single can of fruit out of nearly one hundred put up. These cans are somewhat costly at first ($2.50 per dozen for quart sizes), but the saving in sugar, the better keeping of fruit, and the number of years they can be used, render them in the end cheaper than the old-fashioned mode, and they are infinitely better, both as regards taste and health. As stated on page 152, May number, these cans are too bulky for convenient transportation to a distance, and hence it is more economical to obtain from the manufacturers a quantity of the covers ready fitted with the screws, and have them put on to the main body of the can, which can be made by any good tin-worker. The covers can be closely packed, and the transportation is small compared with that of the full-sized cans.

MODE OF PUTTING UP THE FRUIT.

As each manufacturer furnishes full directions for doing this, we hardly need occupy two or three columns with details. We will, however, give some hints drawn from our own experience.

The fruits to be preserved are to be taken as near perfect ripening as may be, but not over ripe, nor in the least stale.

For all kinds of *berries*, take the clean dry fruit,

* The engraving above is only a general outline. Most cans of recent make have a wider opening than the one here shown, which is a desirable improvement.

avoiding washing it, unless really necessary; fill the cans *full*, and pour in a syrup, made by boiling together good white, or better, refined sugar, and water. We use one pound of sugar to a pint of water. Those putting up fruit for marketing say that so much sugar shrinks the fruit, and does not leave so good a flavor as if only ¾ lb, or even ½ lb. of sugar be used to the pint of water. A small amount of syrup will fill the spaces between the fruit. It is to be poured in scalding hot. Let the cans be entirely filled with it. Next put on the cover and screw it down, but not tightly. Then set the can, or cans into a common wash-boiler, or other convenient vessel, containing hot water enough to nearly cover them, and keep the water boiling for about fifteen minutes. Lift them out and remove the cover quickly, that the steam may escape in a volume, and carry off with it the most of the inclosed air that was held in the syrup, and in and around the fruit. The cap should remain off but a few seconds, and then screwed on loosely as before, and the can returned to the boiling water for four or five minutes, or until it is well heated. Then take it out and quickly screw down the cover as closely as possible with the aid of the wrench that goes with the cans. While still hot, pour over the top of the cans some melted bees-wax, to cover every possible opening, and let it cool. You may then set the cans away in almost any place, and depend upon finding, after six months or a year, a nice lot of fresh berries, retaining all their natural aroma and deliciousness. The sugar used will sweeten them just about enough for the table.

Peaches, cherries, plums, apricots, quinces, apples, &c., may all be put up in the same manner. The pits should be removed from peaches, and cherries are all the better for being first stoned, besides the advantage of getting more fruit into a can. It is, perhaps, better with all these fruits, except peaches, to cook them in the cans five or ten minutes longer than recommended for the berries. The main object of cooking at all is to expel the inclosed air. They may all be heated the required time *out* of the cans, and poured in, boiling hot, making the cans even full, and sealing them up at once; but boiling them inside the cans retains the flavor much better, and the extra labor is very trifling, after a little practice.

Apples, pears and quinces are better for being cooked half an hour to an hour. Tomatoes we cook in the cans for about half an hour. We also put up a large quantity last Fall, as follows: They were skinned, cut up and stewed in a kettle until reduced nearly one-half; then poured boiling hot into the cans, previously warmed, and immediately sealed. Those prepared thus occupied less room, and they are now apparently as good as those cooked within the cans, there being little aroma in the tomato to escape while cooking in the air. Indeed, all kinds of *stewed* sauce, when sweetened and made ready for the table, may be put hot into the cans, sealed up, and kept all ready for immediate use, a year or more afterwards.

Rhubarb, stewed soft, and sweetened as for pies, comes out nice and fresh in Mid-Winter or Spring. Currants are also similarly kept, but these should be fully *ripe*, and be well cooked and sweetened with a strong syrup. Green peas, beans and corn may also be kept, but they need to be cooked in the cans for at least six hours, or they are liable to spoil. We recently tried a can of corn put up by Wells & Provost two years previously, and found it in excellent condition and flavor.

Glass or porcelain bottles and jars, if *well* fitted with good corks or stoppers, may be used precisely like the cans, only that in boiling them, the bottles must be put into cold water, and gradually heated to boiling at first, to prevent breaking them. Any sudden change of temperature is liable to crack the glass, and on this account they are less convenient, though preferable to tin in some respects—especially for very sour fruit. The corks dipped in melted beeswax must be pressed in while the contents of the bottle are still boiling hot, and then well covered over with melted beeswax.

For small families, the quart cans are preferable to those of larger size, since a quart of fruit is enough to open at a time. When first opening a can, we advise to empty the entire contents immediately into a glass or earthern vessel; and at once scald the can, dry it, and set it away in a dry place for another year's use. If this be done, they will remain bright and clean, and last for many years.

Where the screw-top cans, or good bottles or jars can not be obtained, all the fruits &c., named above, and prepared in the same manner, may be kept in plain tin cans, with the aid of a soldering iron. Prepare the cans with an opening in the top, say 2½ to 3 inches in diameter; fill them *full* with the fruit and syrup; solder tightly upon the opening, a circular piece of tin with a pin hole in the center. Set into boiling water, and when the fruit has cooked well, lift the can out of the boiling water, which should just come up to the top, and drop upon the pin hole a bit of solder, or press down upon it a small lump of beeswax melted on its under side.

We shall be happy to answer any further queries next month, if the particulars are not stated above with sufficient minuteness. We advise our readers to dispense with all the old fashioned, unhealthy "preserves," and try the plan of keeping fruits in a *fresh state*

Currant Wine.

To inquiries of G. B. Forbush, Wis., and others, we offer the following, contributed by an intelligent, practical correspondent:

Squeeze the fresh, but fully ripe berries, till the juice ceases to run freely. Pour over the *pulp* as much water as there is juice, and press again. Repeat the process which will extract all the juice and form a liquid of the proper consistence, viz.: two parts water and one part juice. Add one third of its weight of white sugar and place in wide open vessels, in a moderately cool place to ferment. In two or three days it will be ready for bottling. Great care is required that the fermentation be not too rapid, tending to form vinegar. When this is the case, place in a cooler situation. It is sometimes desirable to have the fermentation go on quite slowly, in which case put it in casks, leaving the bung open and keep in a cool place for a week, or two even, before drawing off or bottling. Add cloves or cinnamon to flavor it if you desire.

Recipes.—Many valuable ones are on hand waiting room.

A woman was testifying in behalf of her son, and swore "that he had worked on a farm ever since he was born."

The would-be-smart lawyer, who cross-examined her, said: "You assert that your son has worked on a farm ever since he was born?"

"I do."

"What did he do the first year?"

"*He milked.*"

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

To Correspondents.—There are probably more than two hundred thousand intelligent regular *readers* of this Journal, very few of whom do not have, during each year, some thought or suggestion, worthy of communicating. From such an aggregation of mind, we have a vast store-house to draw from. It will not be wondered at, however, that we find it utterly impossible to refer by name to a considerable portion of the valuable letters and communications received. We often wish all our subscribers would pay for a paper four times as large even as this, and published four times as often! We should find little trouble in filling it well; our present most laborious task is selecting and *condensing*.

Mulching Explained.—W. Cratshy, Trumbull Co., O, and others. By the term *mulching*, we mean a coating with straw, leaves, old manure, &c. Where we allude to mulching about newly planted trees, we simply mean spreading straw, or leaves, around the roots to keep the earth from drying up.

Toads in the Garden.—G. T. Schank, of Cecil Co., Md., says toads are the best protection for cucumber vines. He places bits of boards near the vines to afford the toads a shelter from sun and rain and gives his boys six cents for every new toad they bring into the garden. To use his own language: "I would as lieve a person would kill one of my chickens, as a toad among my vines." We are of nearly the same opinion, and have, during the past month, watched with no little interest the "ugly toads" in the garden hopping around among the plants and gobbling down the insects by the dozen—as many at a time as their capacious mouths could compass.

Currant Lice.—Dr. Sylvester, Wayne Co., N. Y., writes that, in the absence of whale oil soap, he destroyed these with a solution of one pint of soft soap and six pints of water. The cheap garden syringe described on page 213, will be a good instrument to apply it with, saturating both under and upper sides of the leaves.

Prairie Flowers.—J. F. Sanborn, Woodbury Co., Iowa—The "wild flower" you inclosed, must be very beautiful when growing upon the prairie. It would be highly prized here at the East, on account of its variegated foliage. Can you collect a few seeds during the coming season? Some enterprising florist would not only benefit others, but find it a paying enterprize to collect a variety of the flowers growing so abundantly on the prairies, and introduce them to gardens at the East.

K. P. Corn and Poland Oats at the South.—S. J. Wheeler, P. M. Murfreesboro, N. C. in a business letter dated June 16, writes that Mr. Parker of that place requested him to say that: "The King Philip Corn and White Poland Oats, received in our distribution, were planted April 15th.; and at that date (June 16) the oats were 4 feet high, and beginning to head. From 25 to 45 stalks grew from the single grains, which were planted 6 inches apart, in drills 2½ feet apart; the stalks branch so as to even meet across from drill to drill. The corn commenced tasseling at 2 feet high. He thinks it will not be profitable. Both corn and oats were side by side, on a rich, moderately stiff soil. The Sugar Beets look very well, and will succeed in North Carolina."—[The K. P. corn is adapted to short, cold northern seasons, and to very late planting in the Middle States. It is of small growth, and needs to be planted close to realize a large yield.—ED.]

Cranberries.—A. McMcekin, Canada West—A Hayward, Middlesex Co., Mass—P. Whitman, Berks Co., Pa., and may others, make sundry inquiries respecting cranberry culture, upland cranberries &c. Most of these questions we answered on page 82 of this volume (March No.), pages 9, 31, 130, 204 and 212 of last volume. The subject is treated at length in the articles referred to, but we will publish any further information that may be received. The plants desired are advertised in this journal from time to time. We are not prepared, from personal observation, or from information, to recommend the upland variety.

Indian Cetonia (Cetonia Inda).—Wm. Day of New Jersey. The beetles you enclose are the above-named variety, or order, of the Coleoptera family. They are often seen the latter part of April, or first of May after which we miss them until about the middle of September, when new broods appear to come forth from the ground, and often attack corn stalks, pumpkins and peaches. They are especially fond of the latter, burrowing in and greedily devouring them. They are also frequently found upon the trunks of trees, as though after the juices or sap. As they are particularly fond of sweets, the best way to destroy them is to entrap them in open bottles, partially filled with sweetened water.

Agricultural Exhibitions for 1858.

STATE.

Place.	Where held	Date.
California	Marysville	Aug. 23—28
Missouri	St. Louis	Sept. 6—11
Amer. Pomol. Soc	New-York	" —14
No. Western Virginia	Wheeling Island	" 14—16
Vermont	Burlington	" 14—17
Ohio	Sandusky	" 14—17
New-Jersey,	Trenton	" 14—17
National Horse Show	Springfield, Mass.	" 14—17
Illinois	Centralia	" 14—18
Rhode-Island	Providence	" 14—18
Maine	Augusta	" 21—24
Pennsylvania	Pittsburg	Sept. 28 Oct. 1
Iowa	Oscaloosa	" 28 " 1
Kentucky	Louisville	" 28 " 2
Wisconsin	Madison	Oct. 4— 8
Indiana	Indianapolis	" 4— 9
New York	Syracuse	" 5— 8
New Hampshire	Dover	" 6— 8
Connecticut	Hartford	" 12—15
Alabama	Montgomery	" 18—22
United States	Richmond, Va.	" 25—30
North Carolina	Raleigh	Nov. 2— 6
South Carolina	Columbia	" 9—12

COUNTY FAIRS.

ILLINOIS.

Pike	Pittsfield	Sept. 8—10
Montgomery	Hillsboro	" 28 Oct. — 1
Edgar (Wabash Valley)	Paris	" 28 " 1—
Adams	Quincy	" 29 " 1—
Tazewell	Tremont	Oct. 6— 7

MAINE.

Oxford	South Paris	Oct. 5— 7
Androscoggin	Lewiston	" 5— 7
West Somerset	Anson	" 6— 7
York	Saco	" 12—13
North Penobscot	Lee	" 13—14

MASSACHUSETTS

Middlesex North	Lowell	Sept. 15—17
Middlesex South	Framingham	" 21—22
Bristol	Taunton	" 22—23
Housatonic	Great Barrington	" 22—24
Worcester	North Fitchburg	" 24—
Hampden	Springfield	" 28—30
Norfolk	Dedham	" 28—29
Middlesex	Concord	" 29—
Plymouth	Bridgewater	" 29—30
Essex	Danvers	" 29—30
Worcester South	Sturbridge	" 29—
Worceste West.	Barre	" 30—
Hampden East	Palmer Depot	Oct. 5— 6
Worcester	Worcester	" 6— 7
Franklin	Greenfield	" 6— 7
Barnstable	Barnstable	" 6— 7
Berkshire.	Pittsfield	" 6— 8
Hampshire	Amherst	" 12—13
Nantucket	Nantucket	" 13—14
Hampshire, Franklin and Hampden		" 13—14

NEW-YORK.

Saratoga	Mechanicsville	Sept. 7— 8
Monroe	Rochester	" 14—17
Oswego	Mexico	" 15—17
Chenango	Norwich	" 21—24
Onondaga	Syracuse	" 22—23
Livingston	Geneseo	" 22—24
Washington	Salem	" 23—24
Yates	Penn Yan	" 23—24
Skaneateles	Skaneateles	" 29—
Ontario	Canandaigua	Sept. 29 Oct. 1
Seneca	Farmersville	Oct. 13—15
Montgomery	Fonda	" 26—

OHIO.

Ashtabula	Jefferson	Sept. 7— 9
Fayette	Washington	" 7— 9
Hamilton	Carthage	" 7—10
Summit (Union)	Twinsburg	" 8—10
Clermont	Bantam	" 14—17
Portage	Ravenna	" 20—22
Clermont	Olive Branch	" 21—24
Geauga	Burton	" 22—24
Lawrence	Ironton	" 22—24
Lake	Painsville	" 22—24
Noble	Sarahsville	" 23—24
Marion	Marion	" 26—27
Green	Xenia	" 28—30
Knox	Mt. Vernon	" 28—30
Geauga (Free)	Claridon	" 28—30
Adams	West Union	" 28—30
Hardin	Kenton	" 29—30
Champaign	Urbana	Sept. 28 Oct. — 1
Belmont	St. Clairsville	" 28 " — 1
Crawford	Bucyrus	" 29 " — 1
Richland	Mansfield	" 29 " — 1
Columbiana	New Lisbon	" 29 " — 1
Delaware	Delaware	" 29 " — 1
Tuscarawas	New Philadelphia	" 29 " — 1
Mahoning	Canfield	Oct. 5— 7
Stark	Massillon	" 5— 7
Licking	Newark	" 6— 7
Washington	Marietta	" 6— 8
Butler	Hamilton	" 6— 8
Summit	Akron	" 6— 8
Williams	Bryan	" 6— 8
Sandusky	Fremont	" 6— 8
Morgan	McConnellsville,	" 6— 8
Harrison	Cadiz	" 6— 8
Erie	Huron	" 6— 8
Clark	Springfield	" 6— 8
Defiance	Defiance	" 6— 8
Putnam	Kalida	" 7— 8

PENNSYLVANIA.

Tioga	Wellsboro	Sept. 29—30
Crawford	Conneautville	Oct. 5— 7
York	York	" 6— 9

Boys' and Girls' Own Columns.

About Microscopes.

This month we will write something about the microscope, which we hope will both interest and instruct our young readers—and perhaps older ones, too.

We suppose you all know that a *Microscope* is an instrument which *magnifies* objects, that is, makes them look a great deal larger than they really are. With the aid of this we can make a very small thing—one so small that we can hardly see it—appear so large that the minutest part of it will appear plain to the eye. And this instrument reveals a world of wonders to us, which, without its aid, we should never have dreamed of. There are thousands of curious common things which we see and handle daily; but there are a thousand times as many very curious things that we have not seen. The moss by the brook or on a tree, the flowers, the insects, are all familiar, and you perhaps think you have seen all that is interesting or beautiful in them. But in their delicate structure are things more marvelous than their external or visible forms and colors. For example, the bluish mold on an old shoe, or on stale bread, looks like an irregular mass of filth; but the microscope presents the smallest particle of this mold as a beautiful forest of trees—and such it is—with branches and foliage as perfect as the finest grove of oaks. The eye of the common house-fly appears but an oval globule, without special beauty or interest; the microscope shows it to be composed of many hundreds of perfect little eyes placed side by side. And so it is of the different parts of various insects, plants, etc.

To see all these things in their greatest perfection, we need large costly instruments; but one object of this article is to show you that there are instruments so simple and cheap that almost any boy or girl could get one perfect enough to show much that is hidden to us without its aid. We have, for several years, carried in our vest pocket a microscope that cost less than three dollars, which has answered in most cases where we have desired to examine insects, plants, or soils, to ascertain their structure.

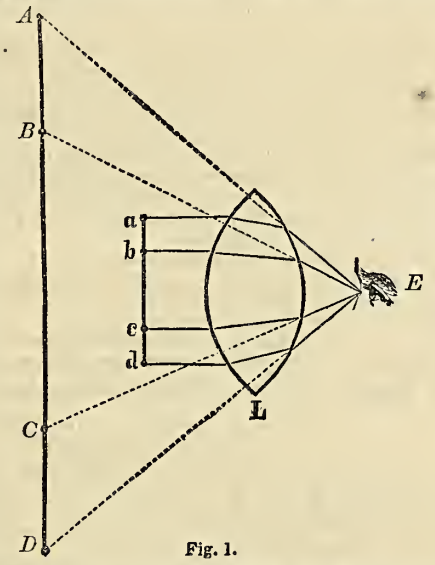


Fig. 1.

But first let us try and understand something of *how* it is that a bit of glass magnifies a small object—though we must refer you to your school books for a *full* explanation of the laws of light, etc.

We *see* an object by means of rays of light which come from *every part* of it, and entering the eye, make an impression upon it. These rays of light usually go in straight lines, and we suppose a thing, or any part of a thing, to be just where the rays of light from it *appear* to come from.

But these rays are often turned out of their course, as when they pass through water, or glass. Let us examine fig. 1, which we have drawn to illustrate this. *L* is a solid piece of clear glass of oval shape, called a *Lens*, which is placed between the eye *E*, and the little rod *a*, *b*, *c*, *d*. Upon the rod we have marked the four dots, *a*, *b*, *c*, *d*. Now, a ray of light going from *a* through the glass is bent down a little, and as it goes out on the other side, it is bent down still more, and goes *straight* into the eye. But the eye is deceived by the *direction* in which the ray entering it, appears to come from, and so the dot *a* appears to be at *A*. On the contrary, the ray going from *d*, is bent upward, and the eye sees *d* at *D*. For the same reason *b* is seen at *B*, and *c* at *C*. But there are millions of little points between *a* and *d*, and these are *seen* all along between *A* and *D*. In this way the short line *a*—*d* is, to the eye, lengthened to *A*—*D*. As the glass *L* is round, the line is *widened* also at the same time by other rays; that is, it is magnified in every direction. Any other small object, put in the place of the rod, would, in like manner, be enlarged. Its myriads of points would be spread over greater apparent space, so that the eye could examine each minute part.

Now, a *microscope* is neither more nor less than a *convex lens*, that is, a piece of clear glass, shaped, like *L* in fig. 1. It is usually put into a frame, as in *a*, fig. 2, for convenience of holding and carrying it. When a higher magnifying power is desired, we often place two glasses or lenses, one upon the other, to bend the rays more than one would do, and this makes the object look still larger. In

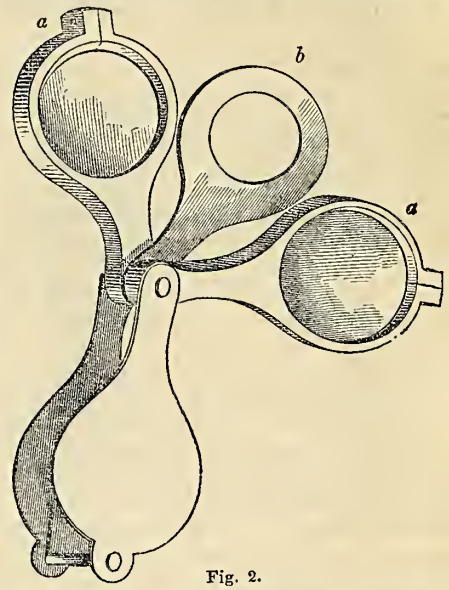


Fig. 2.

fig. 2, there are two of these glasses, *a*, *a*, which are put together when used, so that we see an object through both of them. In this instrument there is also a thin slip of metal, *b*, with a hole through the centre of it. The ob

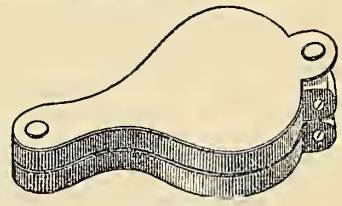


Fig. 3.

ject of *b* is to cut off superfluous light from other objects, and admit, only, rays from the object directly before it. It also prevents distorted rays entering the eye from the imperfect edges of the glass.

Fig. 3 shows fig. 2 closed up, for carrying in the pocket. They are usually just about the size of our engraving, though sometimes smaller.

But, for reasons we cannot now explain, a very small glass or *lens* is superior to a large one, and good magnifying glasses are seldom made larger than those shown in figs. 4 and 5.

In fig. 4, *a* is a piece of glass, partly ground out in the middle, so as to leave a little *lens* upon each end. It is then put into the short tube having the twisted handle and ring to hold it by. When not in use, the double cap, *b*,

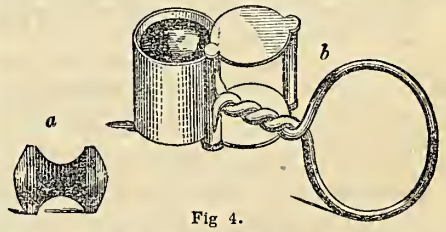


Fig 4.

is closed over the glass, to protect and keep it clean. As the whole apparatus is no larger than our engraving of it, you will see that it can be put into the pocket, or even carried upon a watch-chain, ready for use at any time you want to examine an insect that is destroying your garden or field plants, or look at any small object, or a portion of one. To use it, the object to be examined is brought near the eye, and the glass interposed, as shown in fig. 1. A full light should shine upon the object to be examined; and a little practice is necessary to get it in just the right position, and also to learn to hold the glass steadily.

Fig. 5. (next page,) is another form of casing. *a* is the tube holding the double lens, and *b* the double cap. The two cuts are the same instrument, opened and closed.

The form shown by fig. 2 is quite common. Figs. 4 and

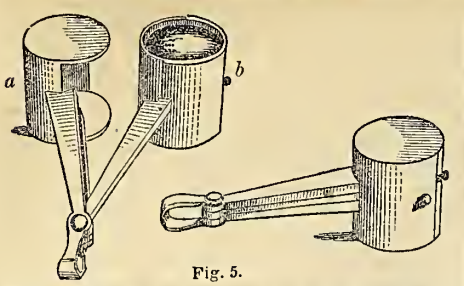


Fig. 5.

5 are somewhat new. You have seen in the *Agriculturist* several magnified drawings of insects, such as the pear-slug, bark-louse, etc., made by our contributor, A. O. Moore. In examining and drawing these insects, he generally uses only the little instrument shown by fig. 5; and at our request, he made for us this drawing of it.

The case of fig. 2 is usually horn, or German silver. Figs. 4 and 5 are made either of German silver, or pure silver—the former is cheaper, and for all practical purposes, is just as good. Fig 2 costs from $1,50 to $2,50, or more, according to perfection of glass, etc. Fig. 4, in German silver, costs about $2,50, and in silver, $3,00. Fig. 5, in German silver, costs about $3,00, and in silver, $4,00.

Either fig. 5, or fig 4, is very convenient, and, as you see, the price is not so great, but that a boy or girl may, by saving their pennies, in time, be able to own a good microscope. Mr. Moore is such an enthusiast with the microscope, and so used to it, that he ought to be able to judge of their quality; and though he is only a publisher of books, we have urged him to get a lot of these instruments, to be sent by mail to any who may want them. He has partly promised to do so. If he does, he will probably advertise them. We do not know that those illustrated in figs. 4 and 5 are made on this side of the Atlantic, though they may be—they ought to be.

We think great *practical* good would result, if farmers, with, or even without the aid of the microscope, would study more carefully the habits of the minute insects that commit such vast depredations upon our wheat and other grains, as well as upon our fruits. Many millions of dollars are annually lost by insects so small that few persons ever see them. We hope our boys and girls at least, will commence to study them.

P. S.—Since writing the above, a new idea has occurred to us. We have a standing offer of Webster's large Dictionary to every boy or girl who will get forty subscribers during any one year. Several great boxes full of these books have already been purchased this year and sent as premiums, to boys and girls in different parts of the country. Now, though we have asked Mr. Moore to get a supply of the Microscopes, we have a notion of getting some also—if we can—and offer them as premiums to boys and girls, for getting a smaller number of subscribers than is required to secure a Dictionary. We will see what we can do by next month.

Books.

With much extra labor during the month, in getting the machinery of our New Edition (German) of this journal into regular operation, we have scarcely had time to look into the new books that have been placed upon our desk. We must not fail, however, to announce one new work:

A MANUEL for the Propagation, Planting, Cultivation, and Management of the PEAR TREE, with descriptions and illustrations of the most productive of the finer varieties, and selections of kinds most perfectly grown for market; by Thos. W. Field. A. O. Moore, Publisher; 286 pages. Price, $0.75.

We have been cognizant of the progress of this work for many months past, and we can bear testimony to the fact that a very great amount of diligent labor has been devoted to its preparation. It contains a large number of original and valuable illustrations, and condensed but good instruction for all who are cultivating, or proposing to cultivate this excellent fruit. Though we may differ somewhat from the author in his theory of manuring trees, the value he places upon the dwarf pear, and in the feasibility of growing pears as a generally profitable market crop, yet much that is contained in this work is of a highly instructive and valuable character, and we commend the book to general notice.

Good and Bad for Seedsmen.

This heading is rather paradoxical, but it is true, nevertheless. From all we can gather, we judge that about one-half of all the seed sowed or planted between April 25th and May 15th literally rotted in the ground. With us, seeds germinated finely when planted in pots and carried in during the long rains, while other seeds, taken from the same packages, and planted in the open ground, failed to grow at all. Indeed, some garden and flower seeds have only recently come up, after the second and third planting. The fine weather in April very naturally tempted people to hurry seed into the ground. A lady of our acquaintance planted 81 varieties of flower-seeds, received from friends in various parts of the country, and scarcely half-a-dozen grew at all. These numerous failures have caused an unusual demand for seeds, and so far, it has been *good* for seedmen. But, on the contrary, a great number of people who have lost their seed, have laid the blame entirely at the door of the sellers. These complaints, most frequently unjust, have been long and loud, and certainly, so far, it has been *bad* for the seedsmen. We have suffered in common with these dealers, for though we have charged nothing for the 135,000 parcels of seed we distributed, we shall lose much of the pleasure and credit we should have received, had not the weather been such as to injure, if not destroy, the growth of very many of those sent out. We know, by actual trial, that all our seeds were good, yet, judging from the results on our own grounds, we shall be very glad to be assured that one-half, or even one-third of the seeds distributed have grown. But we, like our readers, have no other way but to try again, hoping that favoring skies in the future may make amends for the past.

Business Notices.

☞ *Fifty Cents a Line*

National Horse Exhibition at Springfield Mass., in September.

The brilliant success of former Horse Shows at Springfield is notorious. As collections of distinguished men and horses, they are without rivals. A third Exhibition is set down for September 14, 15, 16 and 17 next, and the arrangements are on a more liberal scale than heretofore. Some of the first citizens of Springfield constitute the board of managers, with George Bliss, the well known president of the Michigan Southern railroad, at its head. A new and splendid 60 acre Park, with both a half mile and mile track, is set apart as the Exhibition ground. The premiums offered amount to *three thousand dollars*, covering 24 different classes of animals—thorough breds, stallions of various kinds, mares, colts, spans, fancy horses, family horses, farm horses, saddle ditto., ponies, etc.,—and embracing two premiums of $200 each, eleven of $100, two of $75, and thirteen of $50. A splendid state prize banner, costing $100, is to be presented to the agricultural society of the state that contributes the largest number of valuable animals. All animals and their grooms, destined for the Exhibition, will be passed free both ways over all the railroads leading into Springfield. There is the utmost confidence felt by the managers in the grandest collection of horses on this occasion ever seen in the United States. They have already had the promise of the presence of some rare blood animals from Kentucky, the property of a distinguished politician of that state. Those who desire full particulars as to the Exhibition can secure them by addressing George Dwight, chief marshal, or J. N. Bagg, secretary, Springfield, Mass.

Thorough-bred Devonshire and Ayrshire Cattle.—Bulls, bull-calves, heifers and cows, with Herd Book pedigrees, for sale low, by
Alfred M. Tredwell, 251 Pearl-st.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW-YORK, May 23, 1858.

The following remarks refer to a period of 30 days preceding the above date. During this period the Wholesale Produce Markets have fluctuated considerably. With increasing receipts during the month, receivers have manifested no disposition to hold on to their stock. Owing to the continuous rains and reports of insect ravages, there has recently been a fair inquiry from speculators. This demand has also been stimulated by the accumulation of money in the N. Y. banks. Reduction in freights to foreign countries has occasioned a better inquiry from shippers. With the return of good weather and improved prospects of good crops, speculation has died out, and the market for wheat closes heavily. The first arrival of new wheat (60 bush. from Savannah) reached this port June 8th.; it was sold by sample on the previous day, at $1,60 per bush. The first lot last year, arrived June 24, and sold for $2,50 per bush. New flour from the Plant Mills, St. Louis, the first from the West, was sold at $8, Saturday, June 16.....Corn is in light supply, but with limited request, and closes with a downward tendency in prices. Rye is scarce and closes with a rising demand and price.....Barley, dull, and little offering.....Oats, for a time active and buoyant, are now plentier and languid .....Cotton was lightly dealt in and declined ⅛c. @ ¼c. per lb, but within the past week, with a livlier demand the decline has been fully recovered, and the market closes firmly. Available supply, 88,104 bales against 56,850 at same date last year. Total export this season, 2,941,978 bales; against 2,859, 343 bales for same time last year.....Provisions have been in fair demand, except Hog products which have been in superabundance, with low and downward prices...Salt. Beef, firm...Butter and Cheese, plenty and heavy...Hay and Hops, freely inquired for at full rates...Grass Seed and Hemp, inactive...Riec, easier rates, but attracting considerable attention from shippers...Tobacco, less active, yet steady...Domestic Wool, was at first active, but the prospect of increasing clip, for a time drew attention from old stock, the latter, however, being now in small supply, holders are firm, though the present feeling is depressed by the expectation of a large crop We have heard of no important sales of new wool....Other articles of produce have presented no noticeable variation from the previous month.

CURRENT WHOLESALE PRICES.

	May 25.		June 22.	
FLOUR—Com'n to Extra State	$3 00 @ 4 15		$3 80 @ 4 05	
Common to Fancy Western..	3 80 @ 4 15		3 80 @ 4 15	
Extra Western.....	4 00 @ 7 00		4 10 @ 7 00	
Fancy to Extra Genesee.....	4 15 @ 6 50		4 25 @ 6 50	
Mixed to Extra Southern....	4 40 @ 7 00		4 50 @ 7 50	
RYE FLOUR—Fine and Super.	3 00 @ 3 40		3 00 @ 3 37	
CORN MEAL.....	3 50 @ 3 87½		3 50 @ 3 90	
WHEAT—Canada White.....	1 02½@ 1 20		1 02 @ 1 15	
Western White.....	1 05 @ 1 22		1 00 @ 1 25	
Southern White.....	1 08 @ 1 30		1 15 @ 1 33	
All kinds of Red.....	80 @ 1 10		80 @ 1 16	
CORN—Yellow.....	75 @ 77		77 @ 79	
White.....	72 @ 74		75 @ 78	
OATS—Western.....	41 @ 42½		45 @ 46	
State.....	39 @ 41		44 @ 45	
Southern.....	26 @ 32		34 @ 39	
RYE.....	67 @ 69		71 @ 71½	
BARLEY.....	56 @ 64		50 @ 60	
White Beans.....	1 06¼@ 1 12½		1 06¼@ 1 12½	
Black-eyed Peas, per 2 bush...	3 37½@ 3 50		3 37½@ 3 50	
HAY, in bales, per 100 lbs.....	40 @ 70		40 @ 70	
COTTON—Middlings, per lb....	12¼@ 12½		12¼@ 12½	
RICE, per 100 lbs.....	3 25 @ 4 00		3 00 @ 3 75	
HOPS, per lb.....	4½@ 7		4½@ 7	
PORK—Mess, per bbl.....	17 85 @18 00		@16 80	
Prime, per bbl.....	14 @14 37½		13 75 @13 80	
BEEF—Repacked Mess.....	11 75 @13 50		12 00 @13 50	
Country mess	10 50 @11 50		10 75 @11 50	
" prime.....	8 00 @ 8 50		none selling.	
HOGS, Dressed, per lb...	6 @ 6¾		5 @ 6	
Lard, in bbls. per lb	11½@ 11½		10½@ 11	
BUTTER—Western, per lb.....	12 @ 19		10 @ 17	
State, per lb.	14 @ 25		12 @ 22	
CHEESE, per lb	6 @ 8		4 @ 8	
EGGS—Fresh, per dozen.....	11 @ 12		10 @ 12½	
FEATHERS, Live Geese per lb.	40 @ 50		40 @ 50	
SEED—Clover, per lb	7 @ 7¾		7 @ 7¼	
Timothy, per bushel..	1 75 @ 2 25		1 75 @ 2 00	
SUGAR, Brown, per lb.....	5¾@ 7¾		5 @ 7¼	
MOLASSES, New-Orleans, prgl	35½@ 37		36 @ 37	
COFFEE, Rio, per lb.....	9¾@ 11½		9¾@ 11¾	
TOBACCO—Kentucky, &c. pr lb	6 @ 17		6½@ 16	
Seed Leaf per lb.....	9 @ 35		9 @ 25	
WOOL—Domestic fleece, per lb.	27 @ 45		27 @ 45	
Domestic, pulled, per lb	22 @ 35		25 @ 38	
HEMP—Undr'd Amer'n pr ton.	105 @115		110 @125	
Dressed American, per ton....	170 @185		170 @185	
TALLOW, per lb..	@ 10¼		9½@ 9¼	
OIL CAKE, per ton.....	36 00 @36 50		31 50 @37 50	
POTATOES—Bermudas, per bbl	4 00 @ 5 00		5 00 @	
Mercers, per bbl.....	2 25 @ 2 75		2 50 @ 2 75	
Peach Blow, per bbl.....	2 25 @ 2 75		2 25 @	
Carters, per bbl.	2 75 @ 3 00		2 75 @ 3 00	
Charleston, per bbl.....			@ 3 75	
Turnips—New per 100 bnchs.			3 00 @ 4 50	
Onions, per 100 bunches.....			4 00 @ 5 00	
APPLES—Russets, per bbl.....	2 50 @ 5 00		5 00 @ 6 00	
New Charleston per bbl.....			@ 2 50	
Cherries, per lb.....			8 @ 12	
Strawberries, per 100 baskets..			2 00 @ 4 00	
Asparagus—per bunch.....	12 @ 18		10 @ 12	
Green Peas—L. I per bush....	@		50 @ 62	
Rhubarb—per 100 bunches.....	3 00 @ 4 00		2 50 @ 3 50	
POULTRY—Fowls, per lb.....	14 @ 15		14 @ 15	
Chickens, Spring, per pair.....	36 @ 1 00		50 @ 75	
Ducks, per pair.....			75 @ 1 25	
Turkeys, per lb.....	15 @ 18		15 @	
Pigeons—Wild, per doz.....			88 @ 1 00	

Total receipts and the total sales of Breadstuffs for 24 business days, ending with to-day, and comparison with 27 business days the previous month:

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley*	*Oats.*
27 bus days *last* mon.	274,700	539,000	592,200	26,760	.....	173,350
24 bus. days *this* mon.	423,578	1,367,800	903,125	38,050	2,100	208,450

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
27 business days *last* month.	317,470	730,250	741,600	74,400	101,300
24 business days *this* month.	415,100	1,632,000	847 000	76,500	37,500

Exports from port of New-York from Jan. 1 to June 14 both days included.

	1857.	1858.	Increase in 1858.
Wheat Flour, bbls.....	400,384	635,890	235,516
Wheat, bush.....	923,157	1,503,986	580,829
Corn, bush...	1,487,957	1,389,957	.....
Corn Meal, bbls....	25,475	34.952	9,477

N. Y. LIVE STOCK MARKETS—BEEVES—Receipts for our weeks ending June 16. were 12.435, or 995 less than during the four weeks preceding. Receipts and variation of prices were for weeks ending May 26, 2,892 head, averaging ¼c. advance; June 2, 3,572 at ¼c. decline; June 9, 2,856, at ¼c. advance; June 16, 3,115, with an advance of ¾c., making a rise of 1c. during the month. ...June 16, prices ranged on estimated dressed weights as follows: First quality 10c. @ 10½c.; Average of all sales 9¾c.

VEAL CALVES have been in large supply for the past four weeks, the receipts footing up 3.625 head. They are now selling at 5c. @ 6c. per lb gross weight. A few of the finer bring 6½c.

SHEEP AND LAMBS.—Receipts continue to increase, the numbers for the past four weeks being 24.212 against 20,585 for the previous four weeks. Prices have fluctuated somewhat, and are now lower than they were last month. The sheep are all sheared, and bring 4½c. @ 5c. per lb. live weight; a very few 5½c. Lambs sell mainly at $3,50 @ $4,50 per head. Very fat ones command even $6,00 just now, as they are somewhat scarce.

HOGS.—Arrivals have been very large, numbering some 30,000 for the past four weeks. Prices are correspondingly low, and a general dullness pervades the trade. Good corn-fed hogs brought but 4½c. @ 4¾ per lb. live weight, on the 16th. inst., and have not improved in price since.

THE WEATHER, during the past four weeks, has been warm, with sufficient rain to keep the ground in a good condition for growing crops. Corn is rather backward, owing to a cold, wet May, but it is not too late to count upon a good season yet....Other crops promise well.

Our condensed WEATHER NOTES read: May 25, cloudy A.M., rain P.M.; 26 and 27, drizzling rain. May 28 to June 5, mostly clear, warm, Summer weather, the mercury reaching 83° on the 5th.; June 6, clear A.M., cloudy P.M., with showers at night; 7, clear and warm; 8, very warm and showery; 9 and 10, clear and warm; 11, clear A.M., thunder showers P.M., with heavy rain at night, which continued during the 12th., producing freshets, and causing much damage in some places; 13 to 16, cool, cloudy weather; 17, fog A.M., clear and warm P.M.; 18 to 20, clear, fine, warm weather; 21, clear and very warm A.M., mercury reaching 90°. Heavy thunder shower, accompanied by hail and gust of wind P.M. Trees and buildings were blown down in its track, and life and property destroyed. 22, clear and warm.

☞ The actual circulation of the Agriculturist to regular subscribers, is believed to be much larger than that of any other Agricultural or Horticultural Journal in the world.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 18th of the preceding month.

TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.

Twenty-five cents per line of *space* for each insertion About 9 words make a line, if matter is set.
One whole column (145 lines) or more, $30 per column.
☞ Business Notices *Fifty* cents per line

FOR THE GERMAN EDITION ONLY.

Ten cents per line of *space* for each insertion.
One whole column, (130 lines), or more, $11 per column.
☞ Business Notices *twenty* cents per line.

FOR BOTH EDITIONS—ENGLISH AND GERMAN.

Thirty-one cents per line; $33 per column.
☞ Business Notices *Sixty-five* cents per line.

IMPORTANT TO FARMERS!

THE BUCKEYE ROTATING HARROW.

IN offering this implement to farmers we do it with the confident expectation that they will find it an implement after which they have long been seeking, namely, a thorough pulverizer of the soil.

TO FARMERS

We would say, read the following from "THE OHIO FARMER" of May first.

"An entire change in the form of the Harrow has been projected, which in our opinion bids fair to supercede the old-fashioned forms. It consists of a frame made of cross-bars, the ends of which, and points of junction, are armed with teeth in the usual form. The method by which circular motion is produced in this Harrow, is very simple. The center of the wheel or frame rotates freely on a pin or journal, and to this pin is attached a lever, one arm of which stands at right angles with the other. To one of these the horse or ox is fastened by proper appliances, while the end of the other arm carries a weight. This makes the one side of the harrow heavier than the other, and thus sinks the teeth of that side deeper in the soil. When this Harrow is dragged over the ground, the teeth on the light side move rapidly forward, and thus change their relative position, and thus each tooth in turn acts as the fulcrum on which all the rest move. By this means, lines formed by the teeth are in the center nearly rhomboidal, while at the sides they cut each other at very acute angles. The ground by this means is thoroughly pulverized, and no furrows are left on the surface, and if a large stone or root should obstruct the passage of the Harrow, it will pass around. Instead of clogging, by getting large clods fastened between the teeth, this circular motion either grinds those up, or throws them aside at once. We know that this form of Harrow will soon supercede the old one in the estimation of our Farmers, for we have seen it in operation, and it does its work well and thoroughly, saving labor, and making a more evenly field by a more thorough comminution of the surface, and a filling up of furrows"

These Harrows are made of the best material, and in the best style of workmanship. They are delivered at the depot, to be shipped according to directions, on the receipt of fifteen dollars. All orders addressed to ROBINSON & CO., 21 Bank Street, Cleveland, Ohio, will receive prompt attention.

TO PATENT-RIGHT MEN.

The Improvement, called the Buckeye Rotating Harrow, recently patented by Mr. DeWitt and O. D. Barrett, of this city, is having a more rapid sale than any other improvement that has come to our notice for many a year. Read what the great patent-vender of the West says. R. Fanning, of Clarksfield, Huron County, Ohio, now selling in Indiana, under date of May second to the patentees says: "I never saw a thing get up so great an excitement as the Harrow does. The farmers speak well of it to a man." The patentees intend to sell out a part of their territory immediately. They will make arrangements with energetic patent-venders to take hold of this improvement in such a way as to ensure larger returns to the venders than can be obtained by selling any other right.

For further information, address the General Agents for the United States, ROBINSON & CO., 21 Bank Street, Cleveland, Ohio.

TO MECHANICS.

There is no business that pays as well as the Agricultural Implement Manufacturing business at the present time. Notwithstanding the present hard times, all this class of manufacturers are receiving more orders this year than ever before. Men in every part of the country, with exclusive privileges, are wanted to engage in the manufacturing of the BUCKEYE ROTATING HARROW. Any common mechanic can start the business. For further information address ROBINSON & CO.,

21 Bank Street, Cleveland, Ohio.

TO CAPITALISTS.

One of the best opportunities is now offered for capitalists to invest their funds so that instead of drawing from six to ten per cent, they will draw from seventy-five to one-hundred per cent. Every one knows that *genuine agricultural improvements* have invariably enriched all who have invested in them.

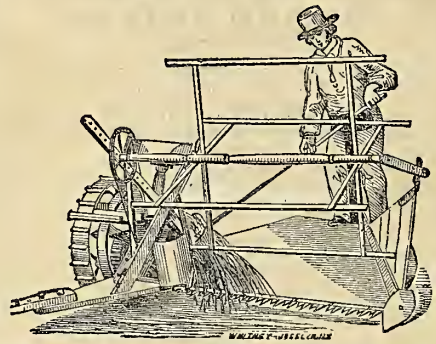
☞ Send for a Circular.

Address, ROBINSON & CO.,

21 Bank Street, Cleveland, Ohio.

FOR THE HARVEST OF 1858.

The best Combined Reaping and Mowing Machine in use, as endorsed by the United States Agricultural Society.



Manny's Patent with Wood's Improvement.

It is with much pleasure and renewed confidence, that I offer my machine to the Farmers for the coming harvest, with all its improvements and increased high reputation as a combined Machine and Single mower. The large sale the past season, and great success at the National Trial of Harvest Implements at Syracuse in July last, where it was awarded one Gold and two Silver Medals, is conclusive to every unprejudiced farmer that it is the most approved machine of the kind in use, and the subscriber begs to say that they will be perfect and complete in workmanship and material, and are offered to them on terms accommodating and suited to the times. With each machine will be furnished two scythes, two extra guards two extra sections, one extra pinion, and wrench.

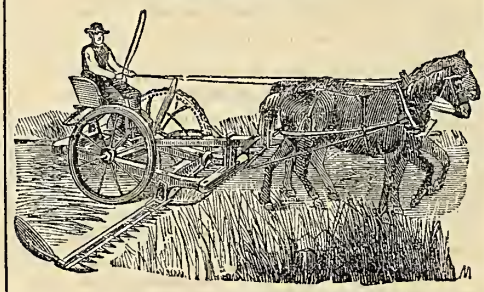
Warranted capable of cutting from 10 to 15 acres of grass or grain per day, in a workmanlike manner.

Price of Machines as heretofore. The Combined Machine varies in price according to width of cut and its adaptation in size and strength to different sections of the country, from $125 to $150, delivered here on the cars.

Price of Single Mower, steel Bar.....$115.00

WALTER A. WOOD,
Manufacturer and Proprietor.
Hoosick Falls, N. Y.

SOMETHING NEW.



Farmers wishing to purchase Mowing Machines this season, are invited to examine THE MOWING MACHINE which we offer for sale. We are satisfied that they will give it the preference over any other machine now in use, it is a very light draft without the least side draft or weight on the neck of the horses, the cutter bar can be raised in an instant to go over obstructions, stones, stumps, &c. Many other advantages too numerous to mention in a newspaper advertisement. We will forward a circular with full particulars on application.

For sale by JOHN MAYHER & CO.,
United States Agricultural Warehouse and Seed Store
197 Water-Street, New York.

PRICE, $110,00.

KIRBY'S
Little American Mower and Reaper
RECEIVED THE
SILVER MEDAL
AT THE SYRACUSE TRIAL.

For lightness of draft, freeness from side draft, adaptation to smooth and uneven surfaces, strength, durability, simplicity of construction, we challenge the world to produce a machine to excel it. It cannot be clogged in any kind of grass, be it wet or dry.

PRICE OF MOWER $106; Mower and Reaper combined, $128. A pamphlet containing every information will be given free on application.

GRIFFING, BROTHER & CO., Agents,
60 Cortlandt Street.
Send your orders early. New York City.

TO THE FARMERS. HAY DEALERS,

AND PLANTERS OF THE UNITED STATES—INGERSOLL'S IMPROVED PORTABLE HAY and COTTON PRESS, combines greater power and portability, requires less labor, occupies less space, and costs less money than any other hand power machine for baling HAY or COTTON ever offered to the public. It has recently been much improved, and is warranted to give satisfaction.

We have numerous letters from those who have seen and used these presses during the past season similar to the following from Wm. Thompson, Esq., South Londondary, Vt., who writes Feb. 8, 1858, as follows:

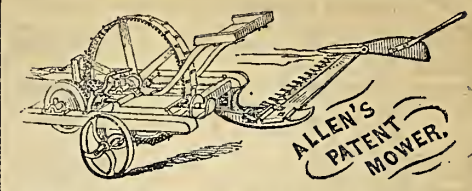
GENTS: "I think your press, with the improvement you have made recently, will exceed anything of the kind yet got up, for it will press more in a day, with only two hands to work it, and do it easier, than any other press in New-England."

No. 1 Press—Weight of Bale 150 to 200 pounds.
No. 2 Press— " " 250 to 300 "

Presses constantly on hand and other sizes and for other purposes made to order. For further information call or address the

FARMERS' MANUFACTURING CO.,
Greenpoint, opposite New-York.

N. B.—The Brooklyn and Williamsburg City Cars run up to Greenpoint, and the New-York Dry Dock stages go to the Greenpoint Ferry.



STRONG AND DURABLE.—LIGHT OF draft to the team. Will cut all kinds of grass better than it can be done with a scythe—leaving it spread—so as to save labor of spreading it. It can be worked at a slow or fast gait and by oxen if desired. It is easily managed and safe to the driver.

All we claim for it is admitted by those who use it and it has received their universal approbation

I am making them for the coming season, when desired with a hoist for raising the finger board, a very simple and efficient addition, and can also furnish when desired a very simple Reaping attachment—which does not at all affect its simplicity or efficiency as a mower. R. L. ALLEN, 191 Water-st.

MR. R. L. ALLEN, NEW-YORK:—The subscriber having seen Allen's Patent Mowing Machine in use, both in heavy and light grass, of different sorts, is prepared to speak of its performance with the highest approbation. It was drawn by a pair of light horses with apparent ease, cutting a wide swarth perfectly clean, whether the grass were standing or badly lodged, and leaving it spread in the best possible manner: This was done during and immediately after a heavy shower, and without any clogging of the knives.

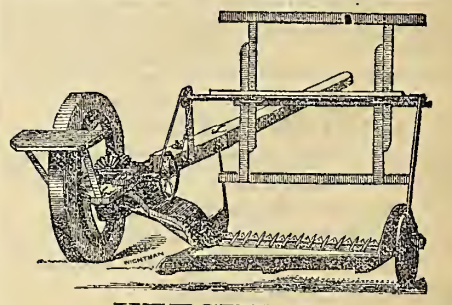
MARSHALL P. WILDER,
President of the U. S. Agricultural Society.

I used one of your Mowers in cutting my entire crop this season; then sold it, and it afterward out the crops of three other farmers, each of whom bought it. One man paid $140 for it. The whole cost of repairs for the season was not one dollar. Another neighbor cut 240 acres with it at no expense for repairs of any consequence. We all consider it in this neighborhood as the only satisfactory machine ever used here.

JAMES E. DUNLAP.
Jacksonville, Morgan Co., Ill., Dec. 1857.

We cut our entire crop of grass with your Allen Mower this season, and then sold it for $240. It is now in constant use and gives full satisfaction. It is daily running in such grass and clover as used to be considered impossible to be cut by machines.

C. G. & A. STARKWEATHER.
Stockton, California, June 17, 1857.



KETCHUM'S
Combined Harvester for 1858,
Without any Frame, and with a Reel!

THE IMROVEMENTS ON THIS CELEBRATED MACHINE, for 1858, will render it the most desirable machine ever offered to the public. Among these improvements are the following:

1st—An expanding Reel, very simple, and ingeniously arranged so as to be readily attached, and is propelled by the main shaft.

2d—A new, strong and well-braced guard, which will not clog.

3d—An adjustable Roller with a lever, by which the driver, while in his seat, can elevate the finger-bar, and hold it in any desired position, for transportation, to pass over obstructions, and to aid in backing or turning corners.

4th—A Roller in the outer shoe, on which the finger-bar rests, which obviates all side draft and very much lessens the direct draft

The SIMPLE MOWERS have wrought-iron frames, with all of the other improvements except a Reel. With these improvements the draft of the KETCHUM Machine is as light as any machine known, and by the test with the Dynamometer at Syracuse, by the U. S Ag Society last July, the draft of the Reaper was more than one-quarter less than any other of the 13 Reapers on trial. The result is obtained by enlarging the main wheel for Reaping, which lessens the motion of the knives and the actual draft of the machine fully one-quarter

The VERY BEST MATERIAL is used throughout, and no pains or money are spared to make the KETCHUM MACHINE what the farmer needs.

Sample machines can be seen at all the principal places, and persons are invited to examine them before buying any other—remembering that THE BEST IS ALWAYS THE CHEAPEST.

BUFFALO, N. Y., (near N. Y. Central Depot, on Chicago-st.,) April, 1858. } R. L HOWARD.

PERKINS' Corn Husking Machine, $5 50

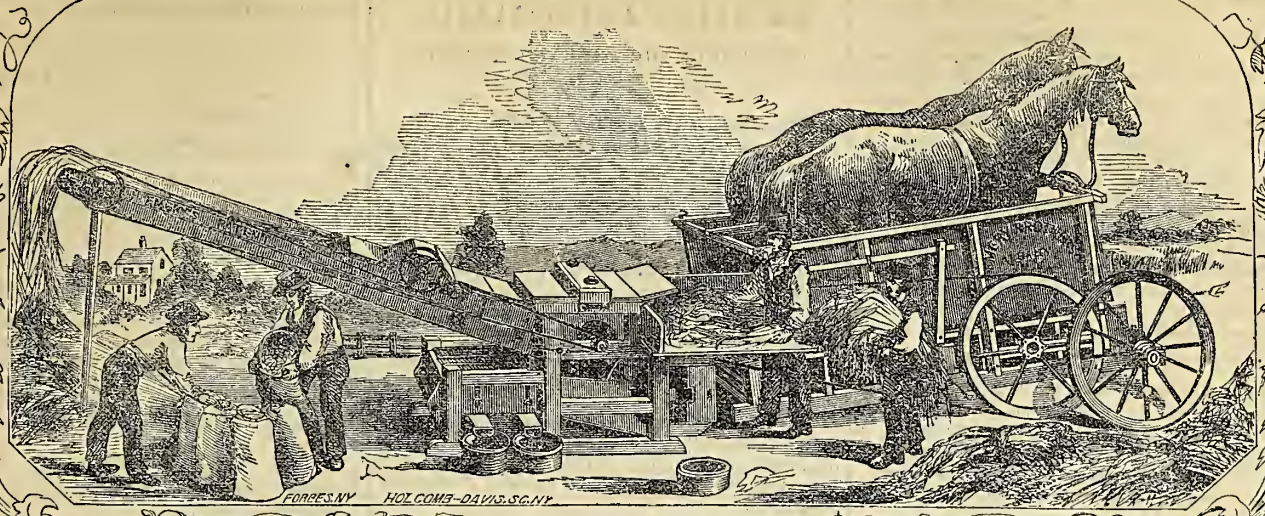
Agents wanted to solicit orders in every Town and County Terms usually liberal. Address J. PERKINS & CO., West Killingby, Conn.

TEAS. A full assortment of Green Teas Also, choice kinds of Black Teas Oolong, English Breakfast, &c. in half chests, or boxes 10 to 15 lbs Storekeepers in villages who have a demand for fine teas are invited to look at our stock.

TEAS.

TEAS.

JAMES CASSIDY & CO.
135 Front-St., New-York



EMERY BROTHERS

EMERY BROTHERS,
PROPRIETORS OF THE
ALBANY AGRICULTURAL WORKS,
ALBANY, N. Y.
MANUFACTURERS OF
EMERY'S PATENT R.R. HORSE POWERS,
ALSO OF
The largest and best variety of AGRICULTURAL MACHINERY in this Country, and adapted to the wants of all parts of the World.
ALL ARTICLES WARRANTED.

OFFICES, SALES ROOMS AND SEED STORE,
No. 52
STATE STREET,
ALBANY,
N. Y.

ILLUMINATED CATALOGUE.
THE PROPRIETORS OF THE
ALBANY AGRICULTURAL WORKS
Have just completed their new Catalogue, the most complete and beautifully illustrated work ever published by any manufacturer. As a work of art it deserves a place in every library. It contains nearly 30 pages new engravings, of which the above is a specimen.
On receipt of six cents in stamps to prepay postage, it will be sent to all applicants.
Local Agencies solicited for the sale of the above machines.

H. A. Lothrop's Patent Hoe.

The subscribers, in presenting this new Hoe to the public, only ask a trial to satisfy the most skeptical of its advantages over the common hoe either in the field or garden, and believing the following testimonial in its favor, among many others received, is more satisfactory to the public than anything we can say in its praise; we will leave it with the public to judge of its merits.

BOSTON, May 13, 1858.

H. A. LOTHROP, ESQ.—MY DEAR SIR:—I am so much pleased with your Patent Hoe that I can not refrain from expressing my great satisfaction in the r use. They are a decided improvement over any similar implement I have ever met with, leaving the ground light and level and accomplishing much more than the common hoe with the same application of power. I think a trial of a few moments will satisfy any one of the correctness of these opinions.

I shall use no other hoe on my grounds, and I would thank you to send me, by express, half a dozen of each size, with bill of the same. Yours respectfully,
MARSHALL P. WILDER.

Manufactured by H. A. LOTHROP & CO., Sharon, Mass.

R. S. STENTON'S LANDSIDE Cutter and Improved Plow.

Patented February 16, 1858. A recent, and one of the greatest improvements in plows ever invented, particularly adapted for breaking up OLD GROUND SOD, and PRAIRIE lands, giving one third more breadth of work for the same team and draught, and in the same time, that is to say, a Plow that, as at present constructed, will turn TWELVE inches, will, with this Landside attachment, cut and turn SIXTEEN inches, with less labor for the man and without any more strain upon the team.

Western men are particularly invited to call and see this great, yet simple improvement which can be adapted to any sod-breaking Plow now in use. Thus an EIGHTEEN inch Western Prairie Breaker can be made to cut and turn a TWENTY-FOUR furrow-slice without any addition to the team. Larger or smaller plows work in the same ratio.

Address or call on R. S. STENTON, 229 Pearl-St., New-York. Licenses or rights for Sale.

RICH'S PATENT IRON BEAM PLOWS.

Having made an arrangement with the Patentee for the Manufacture and sale of the above plows, we are now prepared to furnish them in any quantity. These plows have given the utmost satisfaction where ever they have been tried The beam being short brings the horses nearer the work and enables the man to guide the plow with more ease. The beam being high and crooked prevents them from being choked out by vines or weeds —for sale by JOHN MAYHER & CO.,
197 Water-street, N. Y.

SCHOOLEY'S PATENT PRESERVATORY.

FOR PRESERVING MEATS, FRUITS, VEGETABLES, the products of the Farm and Dairy, and all perishable articles, WITHOUT DAMAGE from heat and moisture in SUMMER, OR COLD IN WINTER.

Invaluable for Farmers, Grocers, Butchers, Candle and Oil Makers, Hotels, Restaurant Keepers, AND IS THE BEST DAIRY OR MILK HOUSE IN THE WORLD

Milk can be kept sweet for weeks in Summer and Butter made with equal facility the entire season.

A MILK HOUSE on this plan can be kept at 40° the entire season, causing a perfect yield of cream, and the purest butter known.

For rights, plans, or estimates, apply to the undersigned.

H. C Getty, at John Gebney's, West Street, New-York, is acting in the City of New-York.

J. L. ALBERGER,
Buffalo, N. Y

Delano's Independent Tooth Hay and Grain Rake.

This Rake has given universal satisfaction wherever it has been introduced. The ease and facility with which the hay may be placed in windrows, or bunched or cocked preparatory to loading, with entire freedom from dust: its superiority as a gleaner; the adaptation of the teeth to all surfaces, however irregular, are qualities which commend the DELANO RAKE, and must ultimately bring it into exclusive use; in short, it is as greatly superior to the revolver or any other, as the revolver was, when first introduced, to the hand rake. We know of farmers who harvest their entire crop of hay by the use of the DELANO RAKE and the fork alone—no hand rake being needed in the field.

Price with wheels complete $25.

SELF ADJUSTING HAY ELEVATOR OR HOISTING FORK.

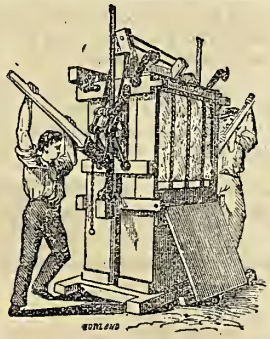
By the use of this simple and low priced apparatus, a two-horse wagon-load may be unloaded and deposited in the mow, just where it is needed, within ten minutes; and if unusual exertion be made, to avoid a threatened storm, in half that time, the workmen being fresh and ready for re-loading.

Those manufactured by us are of improved construction. We also manufacture the Anti-Friction Blocks, to accompany the Forks. As these blocks cannot take fire, they are therefore cheaper than the common low-priced blocks.

Price of Hay Elevator $8. Anti-Friction Blocks, per set $5. Manufactured and for sale by

D. LANDRETH & SON.
Agricultural Warehouse,
Nos. 21 & 23 south-6th, Philadelphia.

LANDRETH'S RURAL REGISTER AND ALMANAC, published annually, containing a monthly Calendar for the Farm, Garden and Green House, furnished gratis to all applicants.



Ingersoll's

Premium Portable

HAY PRESS.

THIS PRESS combines greater power and portability, requires less labor, occupies less space, and costs less money, than any other machine for baling hay ever offered to the public.

It is equally convenient for pressing cotton, hemp, hops, broom corn, rags, husks, &c. Samples may be seen at our warehouse, and circulars, with cuts and full descriptions, will be furnished upon application, by letter or otherwise, to

FAIRBANKS & CO., Scale Manufacturers,
No. 189 Broadway, New-York.

PITKINS' Potato Digger will dig as fast as fifteen men can pick up—for sale at Agricultural Depot, 100 Murray-St., N. Y. HENRY F. DIBBLEE.

RUSSIA OR BASS MATS, selected expressly for budding and tying. GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by D. W. MANWARING, Importer,
248 Front-street, New-York.

A Wonderful Pump.

"On invitation of the Agent, JAMES M EDNEY, we, with many others, visited an exhibition of a pump on the 26th of May, and certify that we saw it worked by two men with both hands, then with one hand each, and by one man alone, to the hight of one hundred and fifteen feet perpendicular, raising water with ease, regularity and rapidity; and we see no reason why two men may not work it easily at one hundred and fifty or more feet. The pump is very simple, strong and cheap for deep wells, etc., etc. Signed

Wm. H. Neilson, President of the Board of Education; John Elliott, of Riggs & Co.; and T. J. Coleman, Bankers, Wall-st, P. L. Ross, of Ross, Falconer & Co.; B. M. Whitlock, of B. M. & E. A. Whitlock & Co.; John Powers, Machinist; F. C. Cooper, of A. H Gale & Co.; E. S. Halstead, of Halstead, Stiles & Co.; Henry M. Platt, of Platt & Brother; A. B. Clark, of Sun Mutual Ins. Company; J. Q. Brown, Agt. of Board of Underwriters, and 100 others."

New-York, May 28, 1858.

This pump is warranted to work in all depths under 150 feet by hand. It works direct and by lever power. Drawings with prices sent free. Address JAMES M. EDNEY,
147 Chambers-st., N. Y.

Cane Mills and Distilleries.

GENERAL COPPER-SMITH WORK.

Distilleries of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills syrup pans, skimmers, dippers, syrup guages and pumps, brewing apparatus, by steam or fire JOHN W. REID, 11 Old-slip.

PIANOS! elegant 6¼ oct. rosewood Pianos new and perfect for $150; do. round corners, $165; 7 oct. do. $185; do. inlaid with pearl and serpentine moldings, $210; warranted. Melodeons in proportion. J. M. EDNEY, 147 Chamber-st

Bone Manure.

SAWINGS, TURNINGS AND CRUSHED BONES FOR Sale by the Manufacturers in large or small quantities.

A. LISTER & CO.,
Tarrytown,
Westchester Co., N. Y.

PERUVIAN GUANO—BONE DUST—Superphosphate of Lime—Poudrette—Land Plaster—warranted of best quality. For Sale by R. L ALLEN.
191 Water St., New-York.

WHEAT SOWING.

Important to Agriculturists.

LANGMAN'S FARMER'S FRIEND.

A SURE and certain remedy for SMUT in Wheat, and the ravages of the Slug Grub and Wire Worm. It will promote the germination and growth of the Seed Wheat, and increase the produce of the Crop quite equal to a change of Seed.

LANGMAN'S FARMER'S FRIEND is strongly recommended by the most eminent and practical Farmers of Great Britain. One packet at the cost of Seventy-five cents is sufficient to dress three bushels of Seed Wheat.

In using it no lime or brine is required. The preparation of Seed is attended with less labor; and it is easier and drier for the earth than any other plan. Full directions are given for use with each packet.

Manufactured by F. LANGMAN,

Who can be addressed at the office of Jno Moore, Agricultural Warehouse, 193 Front-st, N. Y.

Also for Sale at the Agricultural Warehouses of R. L. Allen, 191 Water-st., N. Y., and Griffing Brothers, 60 Cortland-st, N. Y.

Please Speak of the German Edition.

Many of our readers have German friends and neighbors, who do not read the English language. By speaking to them respecting our German Edition, they will not only favor our new enterprize, but confer a benefit upon those they may induce to subscribe. While there are several million Germans in this country, there is not another journal of this character and size, printed in their language—this is now the *only* German Agricultural paper in the United States.

☞Any one desiring copies of the German Edition (to be shown as specimens), will be cheerfully supplied on making the fact known to us. The German Edition is in all respects, like the English, both in matter and engravings—the reading matter of course being in the German language.

An Article to be Carefully Read.

After stereotyping the article on "Preparing Food for Children," page 214 of this number, an intelligent physician happening to read a proof of it, thought it of so much importance, that we ought to call special attention to it, lest any reader should chance to pass it over.

A Good Time to begin New Subscriptions.

This number is the commencement of the second half of volume XVII, and now is a convenient time for new subscribers to begin. The *second* half volume will be furnished *this* year, at the annual rates—fifty cents for single subscribers or 40 cents in clubs of ten or more. As the paper is stereotyped, we can at any time furnish any previous number desired—as far back as the begining of last year.

The Long White French Turnip Seed

Is being rapidly called for, and will run out, we fear, before all who call for it can be supplied. Many subscribers, who have had other seeds previously, send to us for this in addition. We beg to repeat again, that our supply is so small, comparatively, that we can only give it out, this year, as premiums for new subscribers.

Any person sending in new subscribers for either the English or German edition, may order an ounce for each dollar forwarded. A 3-cent postage stamp should hereafter be sent to prepay the postage on each half ounce ordered. The seed may be sown any time in July, or the first week in August.

An ounce package will suffice for twenty square rods, if carefully sown, and this will furnish a fine supply of turnips for table use next Winter and Spring, and some for feeding. We are now using some of last year's crop, and find them white, firm, sweet, free from rankness of taste, or woody texture. As previously stated, we believe this the best turnip ever raised in this country, and we expect to be able to obtain a large supply of the seed to add to our list of seeds for general distribution to all subscribers next Winter.

EXTRA PREMIUMS,

offered *only* in return for time and services to persons procuring and forwarding *new* subscribers to the *American Agriculturist*. The subscribers obtained will themselves be entitled to receive the seeds offered in our regular list, No. 1 to No. 52. ☞ Only *one* of the following premiums will be given on the same new subscriber.

Premium No. 4.

To any person obtaining a *new* subscriber for 1858 (vol. 17), after May 1st, we will, in return for the favor, send *an ounce* package of the seed of the *Long White French Turnip*, described on page 134 of May number. An ounce will be given for *each* new name. The new subscriber will himself be entitled to select the usual packages of the seeds, Nos. 1 to 52, offered in our February number. The names may be sent at $1 each (or at club rates when for new clubs or additions to those already formed): but when the seed is to go to Canada or to the Pacific Coast, 14 cents additional will need to be sent to us for extra postage on each ounce of seed forwarded.

Premium No. 1.

Webster's Unabridged Dictionary, is still offered for 40 subscribers, obtained at club rates.

When Mailed.—This July number (English edition) will be mailed from the 24th to the 28th of June, those going farthest being sent off first. The mailing of the German edition will follow immediately, that is, on June 28 and 29.....Our present large edition—though worked on a *double* Steam Press, which prints *both* sides of the sheet at once—requires about a week for printing the outside sheets alone. The engravings, to be well printed, will not admit of a higher rate of speed.

PROSPECTUS OF THE

American Agriculturist.

PRINTED IN THE GERMAN LANGUAGE.

Beginning July 1st, 1858.

We take pleasure in Announcing to the large class of German people interested in Farming, Gardening, Fruit Growing, Stock raising, Implements, &c., as well as those who have, perchance, but a small village or city plot under culture, that in order to meet the wants of those who as yet read only the German Language, we have completed arrangements, by which hereafter, the *American Agriculturist* will be printed simualtaneously in both the English and GERMAN LANGUAGES.

There are in the United States alone, several millions of German people, among whom are found a large number of our most industrious and pains-taking cultivators of the Soil. In Germany more investigations are being made in Scientific and practical Agriculture, than in almost any other Country; and besides a large number of Agricultural Schools and Colleges, there are several periodicals devoted especially to practical Agriculture and Horticulture. But in this country next to nothing has been done in this department.

We, therefore, in response to oft repeated calls from the German people, very cheerfully enter the open field, and will endeavor to supply what seems to be a great desideratum, viz.: a Journal in the *German* Language, devoted exclusively to subjects connected with SOIL CULTURE, or to the out-door and In-door labors of Rural Life.

Since practical operations are founded upon the same principles, and the modes of tillage are the same, whether pursued by those speaking English or German, we believe that a Journal carried on in both Languages may be better in each, than if published in either Language only, since a wider class of practical experience will thus be drawn from.

Again, the use of the same engravings and editorials, as well as publishing force, in both editions, will economize expense, so that a much cheaper Journal, or a better one can be supplied for the same cost, than if two separate enterprizes were carried on.

The *American Agriculturist* was originated in 1842, and it has now attained a circulation *greater than any other like journal in the world*, while it is on all hands acknowledged to be a standard work, unequalled for the large amount of practical information it supplies at a very small cost. Time, patience and long experience have been required to bring it to its present standard. The subscribers to the German edition will at once reap the benefit of all these advantages.

The teachings of the AGRICULTURIST *are confined to no State or Territory, but are adapted to the wants of all sections of the country—it is, as its name indicates, truly* AMERICAN IN ITS CHARACTER.

The German edition will be of the same size and price as the English, and contain all of its reading matter, and its numerous illustrative engravings.

TERMS—INVARIABLY IN ADVANCE.

One copy one year.....$1 00
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Postage anywhere in the United States and Territories must be paid by the subscriber, and is *only six cents a year*, if paid in advance at the office where received.

Subscriptions can begin Jan. 1st., July 1st., or at any other dates if specially desired. (For the present, year, subscriptions to the German edition, when desired, will be taken from July to December inclusive, at half the above yearly rates.)

The paper is considered *paid* for whenever it is sent, and will be promptly discontinued when the time for which it is ordered expires.

All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD,
No. 189 Water st, New-York.

☞Be careful to give plain directions for the name of each subscriber, and of his Post Office, County and State.

☞ *Both* Editions are **Stereotyped**—so that back numbers of the English Edition from June 1, 1857, and of the German from July 1858, *can always be supplied.*

Contents for July, 1858.

Agricultural Exhibition Lists Desired.

On page 219, we have given a list of State and County Exhibitions, for many of which we are indebted to our correspondents. We solicit further reports from the entire country, that we may give next month as complete a table as possible.

We have just received the following County Reports; *Indiana*—Fayette Co., at Connersville, Sept. 7—10; Rush Co., at Rushville, Sept. 14—17. *Iowa*—Johnson Co., at Iowa City. *Nebraska*—Nemaha Co., at Brownville, Oct 13—16. *New-Hampshire*—Sullivan Co., at Charlestown, Sept 15—16 *New-Jersey*—Burlington Co., at Mt Holly, Oct. 5—6. *Wisconsin*—St. Croix and Pierce Counties, a River Falls, Sept. 22—23.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

ORANGE JUDD, A. M., EDITOR AND PROPRIETOR. | ESTABLISHED IN 1842. | $1.00 PER ANNUM, IN ADVANCE. SINGLE NUMBERS 10 CENTS.

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☞Office at 189 Water-st., (Near Fulton-st.)

☞For Contents, Terms, &c. see page 256.

American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of Uniform size, and contain as nearly as possible the same Articles and Illustrations. The German Edition is furnished at the same rates as the English.

August.

"Happy the man who flies the city's throng!
Ev'ry tree, ev'ry brook that flows along,
Ev'ry pebble within its sparkling brim
Preaches wisdom and holiness to him.

Each shadowy copse, is a temple shrine,
Where Heaven o'erflows his soul with love divine,
Where ev'ry hillock, and each verdant clod
An altar is, where he bows down to God."—HOLTY.

Country life is a favorite theme with the poets. Both English and German poetry is full of its praises. Its every aspect is invested with rose color, from the soaring of the lark heavenward at early dawn, till twilight has faded, and the stars are shining. It is eulogized as the most useful, the most beautiful, and the most favorable to virtue, of all the conditions in life in which men can be placed. These positions are probably true. The only wonder is, that those who enjoy the blessings of country life furnish almost exclusively the skeptics in regard to the lessons the poets teach. Multitudes grow discontented every year, sell out their farms, and rush to the city as if it were a paradise. If they should chance to take this month for their entrance upon city life, we think their dreams of happiness here would be very suddenly dissipated. With the thermometer at ninety and upwards by day, in the shade, and only a little less hot by night, with the sweat pouring off from every part of the body in streams, with the streets at noon-day like the breath of a furnace, with the gutters sending up an unsavory smells, we should like to see a man fall in love with city life. He must be, at least, half Salamander to do it. Here, almost without exception, the longing is for the country air, the green fields, the forests, the mountains, the sea shore, where the lungs may inhale a cool fresh breeze.

Why is it that country people are so often discontented with their lot, and that the young in such numbers seek the artificial excitements of the city? With many it is purely a love of adventure. To them the city is an unknown land, that they have only read of in books, or heard of from some chance fortunate individuals who have visited it. They hear of its wealth and splendor, its fete days, and gorgeous displays, its places of amusement, its parks and fountains, its ships and steamers, its streets thronged with people in splendid dress. It seems to them, that the people have nothing to do but to dress well, live fast, and enjoy themselves. Their ideal of enjoyment is very much that of the hero in the once popular song of "Old Zip Coon."

"Were I General Jackson, president of these United States
I'd lick 'lasses candy and swing upon the gates."

The city is the very place where they would enter upon this elevated enjoyment. They hear nothing of the gaunt poverty of the city, nothing of the narrow filthy abodes where the poor congregate, nothing of the want of work and want of bread, which press so heavily upon multitudes. They want to see the gay city, of which they have heard so much, and dreamed so often. It is that spirit of adventure which leads many to choose a sea faring life, to hunt the whale in the Arctic seas, or the seal and the walrus upon their barren rocks. They come hither, and have their eyes opened.

Others are led to the city, mainly, by the pecuniary argument. They have no doubt that country life is, on the whole, the most pleasant and happy. They have grown up amid rural scenes, and they have a hearty enjoyment of the simple pleasures of the husbandman. They love the smell of the clover fields when waving with blossoms, or reeking with the odor of new mown hay. They rejoice in the fat pastures, and the fatter kine, in the fields of wheat and maize, in the sty where grunters luxuriate, and in the yard where geese gabble, turkeys strut and gobble, ducks quack, and hens announce their astonishment at new laid eggs. But they have an utter want of faith in the *profitableness* of these pursuits. "What does it profit," say they, "though the farmer have his fields full of the yellow wheat, and his bins full of the golden corn; he has precious little of the yellow metal in his purse. He may have a home indeed, but he has to stay there for want of the money to get away. He must be closely confined to his labors, or they will not prove profitable. He must be content to know little, and to be little known, beyond the limits of his own town. In society he is an uncouth man, that gentlemen do not wish to associate with."

This consideration probably has more weight with the young, than any other. They want to be richer and more influential in the world than they think they can be on the farm. But this idea, that a man is rich in proportion to the money his labor commands, is fallacious. More than one half of the necessaries of life is furnished to the farmer directly by his own labor. It is none the less valuable, because the money is not paid for it. The mechanic and the clerk in the city have to pay cash for these articles.

Let us look a moment at some of the things which the farmer is accustomed to overlook in the estimate of his blessings. In the first place, his capital, invested in his farm and buildings, is the most *secure* form of investment. The land will not run away, nor greatly depreciate. If he improve it well, it will double in value every ten years, in most cases. Then his buildings are much less exposed to fire, and insurance is very cheap. The clerk or other person, in the city, has no security of this kind. He receives ten or twelve hundred dollars a year for his services—though in reality very *few* get half of that sum. All his capital, at the beginning, is invested in his person, and if his health fail, his means of support are cut off. He has nothing to fall back upon. If he accumulate capital and invest it in his business, the articles in which he trades are generally perishable, and liable to suffer loss by fire or flood.

Then the clerk has to pay several hundred dollars a year for house rent—and if he live in the suburbs, as is the fashion, from fifty to one hundred more, for traveling expenses, between his home and his business. The farmer, in the main, supplies his own table—except a small bill at the grocer's, for tea, sugar and coffee, which he pays in barter, and if he is sharp, generally contrives to bring the grocer in debt, with his wood and lumber, his butter and cheese, his eggs and chickens. The clerk has to pay for everything in cash. The head of lettuce or cabbage, the cucumbers and squashes, the green corn and beans, the potatoes and turnips, and other products of the garden, which cost the clerk a heap of money, are so common with the farmer, that he hardly thinks of them as costing any thing. He raises his own meats, eggs, and poultry. The clerk pays for similar articles from one to two hundred dollars. The farmer can live and dress as he has a mind to. The clerk has his style of living and dress prescribed to him. He must come up to the standard or lose caste in his circle. He is in bondage to social usage. The farmer is independent. If he wants to wear his hat or coat five years, instead of one, nobody quarrels with him; his wife does not give him curtain lectures. He sleeps well of nights though his boots and pantaloons both have patches. Whatever his learning, he passes for a gentleman and a scholar, and is far more likely than the clerk, to go to the State Legislature or to Congress.

With the spare cash which the farmer has at the end of the year, he can obtain all that the clerk can, with his large salary. The salary alas! is too often all gone before the year comes around. The farmer, at least, always knows where his dinner is coming from, and how the next quarter's rent is to be paid. These are often solemn

questions with the clerk, and beyond his arithmetic to answer.

For the *large majority* of the race, there can be no doubt, that country life is the most lucrative as well as the most beautiful. Their skill and labor will procure more of the comforts and luxuries of life, than they could ever gain in the city.

Calendar of Operations for August 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45° ; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, later for the North, earlier for the South.

EXPLANATIONS —*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated ; thus, work marked *fm* indicates that it is to be attended to from the first to the middle of the month.]

Farm.

Except at the far north, the cutting of hay and wheat is now over and the present is, by some, called a month of leisure ; but the thrifty farmer will find quite enough to occupy his time. His business is not as pressing as during "hay and harvest," and he may properly enjoy a little relaxation with his family, and let the *boys* "go fishing." But his farm crops must not be neglected, and now is a favorable opportunity to make many improvements upon the place, to collect and compost manures for Winter grain and Spring crops of next season. "A penny saved is two pence earned," should be borne in mind by those who spend large sums annually in the purchase of foreign manures, while the farm has a "mine" of muck or black earth, not yet worked, or it can be had for a trifle from a neighboring swamp.

Barn yards should be examined to see that no wash finds its way into the highway or upon a neighbor's farm. Provide sheds for the manure, and allow no weeds to go to seed about the yards.

Bushes, briers and weeds along hedges and in pastures should now be cut or grubbed up. Bushes "whipped" this month will not sprout readily.

Butter and Cheese making will form a very important part of "household labors," in all of which neatness is an essential requisite.

Cabbages—Late ones may still be planted out, ff, on grounds already free, or soon to be cleared of early crops.

Cattle—See that their grazing lands are sufficient. Give milch cows a little of the soiling crop each day to keep up a good supply of milk, especially if it is for market. Cross the cows and two-year-old heifers with a Durham, Devon or Ayrshire male, and so improve your stock.

Cellars—Keep sweet and clean and well ventilated.

Corn—Keep the fields free from weeds, but do not plow or cultivate so deep as to injure the roots at this season. Early plantings for forage may be gradually cut and fed.

Cotton—Prepare baskets, sacks, gin stands, presses, &c., in the early part of the month, that there be no detention when the picking season commences at the south, about the middle of the month.

Draining—Reclaim swamps, and double the value of wet lands by thorough drainage. Read the chapters in former numbers, and employ the leisure of this month in following out the directions there given.

Fences—Keep in good repair. Do not invite your cattle to become unruly by leaving a bar down here, a rail or board off there, and a broken down wall in another place. As feed becomes short in the pastures, they are apt to examine closely the fences which separate them from better pickings.

Forests—The present is a favorable month to cut off forests for the purpose of bringing them under tillage. After removing the larger wood, spread and burn the brush, m, l, for a crop of rye or wheat.

Grain and Granaries—Thresh early and watch the market and speculators at the same time, not omitting to "take the papers." Cleanse granaries and put a little tar in the crevices, the offensive odor of which is frequently a preventive of the attack of weevils and other insects in the bins. See that everything is mice and rat proof.

Hay—Cut salt and sedge, selecting neap tides in order to remove it without being flooded. Stack upon high grounds, or give it barn room.

Hoeing should not be neglected as long as weeds continue to grow.

Hogs—Keep their pens and yards well supplied with manure materials, and compel them to contribute in part towards their support, as manufacturers. Store hogs may continue in pasture or orchard, but those for early fattening should have a smaller range and more feed.

Manures—Pay particular attention to their manufacture, collecting from the woods, muck swamps, ponds and road-sides, everything valuable and compost with fish and sea-weed. Keep hog and cattle yards covered with muck and collect the droppings each morning, throwing them in a heap under cover. Lands will now need manuring for the crop of Winter grain soon to be put in.

Millet—Commence cutting for milch cows, ff. Secure the whole crop before the seed hardens, unless the grain is wanted.

Mowing Fields—Whenever you have time clear from stumps, bushes and stones, that the mowing machine and horse-rake find no obstruction. It is a good time to cut under-brush and weeds.

Muck—Dig in dry weather and cart a goodly supply to your yards and stable, not forgetting the privy, where, in addition to the manure it makes, it forms a very good disinfector.

Oats—Complete harvesting, ff. Do not allow them to get too ripe, thus injuring the straw for feeding.

Pastures—See that the feed is sufficient for grazing animals. A frequent change of grounds is beneficial.

Plow deep for Winter grain, m, ll, manuring well. It is better to plow sward land, ff, even, and harrow it several times during the month previous to sowing.

Potatoes—Early plantings are now ready for market and the ground may receive a crop of cabbages, turnips, or be sown to wheat or rye in the early part of next month.

Poultry—Look to, especially if confined in houses and yards. Keep the roosts and nests clean, and if troubled with vermin, dust the fowls with flour of sulphur.

Rice—Complete cutting at the south, m, l, shutting off the water for a week or ten days previous to harvesting.

Root Crops—Keep the ground free from weeds and well stirred between the rows.

Rye—Complete harvesting both Winter and Spring varieties. Sow Winter crop, ll, or early next month, using one and-a-half bushels to the acre.

Seed Wheat, Rye, &c.—If all foul stuff was pulled from the seed patch, it will only be necessary to thresh with flails, and sift out the small shriveled grains. Before sowing, it is well to soak in strong brine which will float any poor grain and separate oats or chess, besides preventing smut. Plaster or lime sifted on while wet with the brine is an additional benefit—the lime being a special remedy for smut.

Sheep—Protect from dogs by placing bells upon a few of the flock. Rub a little tar upon the nose to keep away the fly. Give salt freely. Tar is sometimes spread over a trough and salt scattered upon it. In eating the salt they smear their noses with tar.

Soiling Crops—Give cows and other stock a portion of the millet, green corn or sugar cane sown for fodder, now that the feed is getting short.

Timber—This is one of the very best months for cutting timber to last.

Timothy—Sow with rye and wheat, ll. If sown by itself we prefer the 10th to the 15th of the month. In either case use about 12 quarts of seed per acre. A better seeding and an improved quality of hay will be the result.

Tobacco—Commence harvesting when the leaves have acquired a mottled, gummy appearance and break when doubled over.

Turnips may still be sown, ff, m, among corn and potatoes, or after early crops. Flat or cow-horn varieties should be used instead of rutabagas for such late sowings. Cultivate, hoe and thin former plantings.

Weeds—Make into compost, or feed to swine instead of raising for *seed*, particularly about the manure heap. Thistles may be destroyed by mowing when in bloom—cutting them a few inches from the ground.

Wheat—Cut Spring varieties at the north, f, m. Prepare grounds at the same time for sowing, ll, or early next month. Nearly two bushels of seed per acre is about the best quantity to use for broadcast sowing on ordinary soil, taking one season with another. It is oftener found too thin than too thick.

Orchard and Nursery.

The Orchard is now yielding its finest fruits, such as luscious peaches, bloom covered plums, melting pears and the early juicy apples, the sight of which, as one beholds his heavily loaded trees, causes a watery sensation about the palate ; in the satisfaction and apparent profit, the fruit grower feels repaid for all his toil. While enjoying them let him provide for the dearth of Winter and Spring by putting up a good supply in cans or jars, which can be opened at any time, and give the farmer fresh peaches in January. See the particulars on page 217 last month, and elsewhere in the present number.

In both Orchard and Nursery the Summer pruning commenced last month, may be continued during August. The chief work of the Nurseryman for the present, however, is

Budding—Which should be continued on the different varieties as the state of the stock and ripeness of the buds indicate the proper season. It is useless to attempt budding when the bark of the seedling will not separate readily. Those inserted last month should be examined in about three weeks after the operation and bandages loosened if necessary. Rebud if the first has failed to unite Pay strict attention to the source from which buds are obtained. A few spurious shoots may cause much mischief, or loss of trees and time at least.

Caterpillars—Examine for late broods of these, and check their ravages at once.

Fallen Fruit—Collect by hand, or allow swine a range of the orchard. Cook all that falls prematurely, to destroy the worms remaining in it. Read article on the Curculio on another page.

Fences—Keep in good repair, as cattle are fond of nipping off the new growth if an entrance can be obtained to the grounds

Hoeing of Nursery grounds should not be neglected this month, nor should the soil about newly planted, or even other fruit trees nourish a crop of weeds or grass.

Inarching—This is the proper season for performing the operation upon many trees and plants.

Insects—Search for borers among the apple and peach trees. Read the plainly written article on another page, and follow the directions there given.

Manures—Provide for new grounds to be planted in the Fall and Spring. Muck and leaf mold mixed with stable manure form a good compost for trees.

Peaches will need gathering and marketing or putting up for Winter during the early part of the month. Pick before they are soft, else they will bruise in handling.

Pears, particularly early varieties are now ripening and should be gathered and laid upon shelves or sent to market while firm. The flavor is not injured but rather improved by picking before fully ripe and maturing them in houses.

Plow or run the cultivator through nursery rows often.

Pruning—Complete, f, m. We strongly advise Summer and Fall pruning in preference to deferring it till Winter or Spring.

Seedlings of all kinds should be kept free from weeds. Shade the evergreens and other varieties liable to burn off, by a partial screen, or place them under the branches of trees.

Seeds of Nursery Stock—Collect as they ripen and label with care.

Stones or Pits—Collect and put in the ground or in boxes of moderately dry sand or earth. If long kept in a dry state they will rarely vegetate.

Thin late fruit, ff, if not already attended to.

Vines—Continue to train new growth, and layer for an increase of stock.

Weeds are perchance *eating* and *drinking* what should be food for the trees. Let the hoes make slaughter among them. Clean tillage is as desirable in an orchard and nursery as elsewhere.

Kitchen and Fruit Garden.

With the exception of a little late planting where the early crops are coming off. attention to the *growing* crops will require most of the gardener's care. In addition, if raising vegetables and fruits for market, he will be able to send away, blackberries, peaches, plums, cabbages, cauliflowers, potatoes, beets, carrots, onions, green corn, cucumbers, peas, beans, turnips, kohl rabi, &c., so that no day need pass without having something for sale. The soil from which these crops are taken should not be allowed to spend even the remainder of the season in idleness while there is an increasing demand for almost every cultivated vegetable production. A glance at the table below will call attention to most of the garden products, commencing with the

Asparagus Bed, which should not be given up to weeds now that its season for usefulness is over. Keep it as clean as heretofore for the future benefit of the bed.

Beans—Early Kidneys may still be planted, ff, except at the far North.

Beets—Thin those sown last month. Early ones are ready for use. Pull from the thickest parts of the bed.

Blackberries are in the hight of bearing and require daily picking.

Cabbages—Cauliflowers and Brocoli—Plant, ff, for late use, if they were not all put in last month. Keep ground well stirred about former plantings. Seed may be sown, f, m, for collards or greens for Fall use

Celery—Put out the remaining crop, ff, wetting both the trenches and the plants after setting. The early plantings may be earthed up slightly, ll.

Corn—The early plantings should furnish a supply for the table, m, ll. Hoe often that which was planted last month.

Corn Salad—Sow, ll, for Winter and Spring crop.

Currants and Gooseberries—Prune, m, l, cutting out old decaying wood Head back, and shape to a tree or good bush form.

Espalier or Wall trees—Regulate branches, and prune if necessary.

Grape Vines—Read chapter on page 212 of the July number, and keep vines well tied up. Remove unnecessary side shoots and pinch back bearing branches.

Herbs—Complete gathering, cutting while in full flower. Dry and pack in tight boxes or bottles after sifting.

Hops—Pick during dry weather as they ripen, spreading until perfectly dry when they may be put in bags and hung away for use.

Insects—Continue to destroy those injurious to vegetation as per directions elsewhere given.

Lettuce—Sow and plant out, f, m, l, for Autumn use.

Mushrooms—Collect spawn, ff, and make beds. m, l.

Onions—Sow, ll, for sets to plant out next Spring. Pull and dry those sown early.

Peas—Sow, ff, for late. Clear grounds of the haulm or straw of early crops and resow with peas or turnips.

Potatoes—Dig for early use and for market, using the ground for a second crop of some sort.

Preserving or Canning Fruit and Vegetables—Put up a good supply for next Winter, now while they are abundant and can easily be spared.

Radishes—Sow, f, m, for late use. Sow Black and White Spanish or Winter radishes, f, m.

Raspberries—Cut out bearing canes which have ripened their crop. Collect and house the stakes. Give the new canes good tillage, as upon these depends the next crop.

Seeds—Collect as many as possible and preserve them in dry places, labelling with care.

Spinach—Sow, f, m, l, for Autumn use. and, ll, for a Spring crop. Scatter a little lettuce seed among it.

Strawberries—Make beds and plant at any time during the month. mulching and watering freely.

Tomatoes—Stake or bush, ff.

Turnips—Sow Rutabagas, ff, except at the North where flat varieties will succeed best at this season. Read chapters in last number, page 197.

Water—Give slops, wash water, &c., to currant bushes, strawberry beds, and newly planted vegetables.

Weeds—Raise *vegetables* instead of a crop of *weeds* to impoverish the soil, and leave seed for future toil or labor to exterminate.

Winter Cress—Sow, m, l, for Winter and Spring crop.

Flower Garden and Lawn.

Many of the directions given last month will apply for the present. Annuals now present a fine show of bloom, and late perennials succeed the early flowering varieties. The principal labors in this department should now be directed to keeping the grounds clean and attractive, and the soil loose about the plants. Many of the potted plants brought from the houses in June, will require a shift into larger pots.

Bulbous Plants—Those intended to be removed this season should be lifted, ff, if not done last month. Some of the earlier blooming varieties, such as Snow Drop, Crocus, Iris, &c., may be planted, ll, although next month will be in season. Now is a proper time to sow seeds, for new varieties.

Carnations and Picotees—Continue to layer, ff, m. Separate and plant out former layerings which have rooted, watering freely, and shade from the hot sun.

Chrysanthemums—Layer, f, m, those intended to propagate. Some of the early layers or cuttings are now ready for potting.

Clarkia and Coreopsis—Sow in pots or on warm borders, ll, for Fall and Winter bloom in the houses.

Dahlias are now the "Pride of the Garden," if a goodly number of various colors were interspersed at planting time. Stake to prevent injury by winds or storms, and prune off superfluous branches. Frequent waterings, and a mulch about the roots improve the appearance of the bloom.

Flower Stalks—Cut away perennials and biennials as fast as they complete their bloom, and remove annuals entirely, giving the space to later varieties. Fuchsias do best at this season, in a somewhat shaded situation.

Gravel Walks—Hoe or weed often, raking smoothly and rolling.

Hedges—Clip, m, l, unless it was done during the latter part of last month.

Hoe often all cultivated grounds, walks, &c., removing the weeds with the rake

Hollyhocks—Propagate by suckers, or cuttings of the same. Keep tied to strong stakes.

Hydrangeas—Put in cuttings or layer, ff.

Insects—Do not allow them to increase even if they are not as troublesome as earlier in the season. Continue the Whale Oil Soap mixture for slugs on rose bushes. A dusting of lime or wood ashes will accomplish the same purpose, though less effectually

Lawn and Grass Edgings—Mow evenly every two weeks and rake off. Sow Seed, m, l, on bare spots and new grounds

Mignonette sown, ff, will form fine plants for Autumn and Winter blooming in doors

Pansies—Plant seed, ff, for Spring bloom. Continue to layer and remove those which are well rooted.

Pelargoniums—Propagate by cuttings, ff, m. Head back straggling plants.

Perennials—Fibrous rooted, such as Sweet William, Scarlet Lychnis, Ragged Robin, &c., may be parted and transplanted, m, l.

Pœonies—Tree varieties may now be grafted.

Potted Plants—Loosen the earth on the surface of pots, and remove any decayed leaves, watering freely during the dry weather.

Prune Shrubs and Trees upon the Lawn, or borders, if necessary, always using the knife sparingly upon shade trees, although where it is to be done, this is a suitable month for the operation.

Roses—Continue to bud and layer, ff. Use the oil soap recommended last month, as long as the slug is to be seen.

Ten Week Stocks—Sow, m, l, for early Spring blooming.

Transplant any late annuals still needing it, watering thoroughly both before and after setting. Shade for a few days if dry hot weather succeeds.

Verbenas and Petunias—Layer, ff, m, for Winter and Spring blooming in houses.

Water—Give to potted plants especially, and those newly planted out. If very dry an application both morning and evening will be beneficial to those which absorb rapidly. It is better to mulch the ground before watering.

Weeds should only be found in the Flower Garden in the shape of *native wild flowers*, many of which are worthy of a place here. Our choicest flowers are mostly found in a wild state where they originated.

Green and Hot Houses.

A large number of plants are still in the Flower Borders, or in pots in the open air and are treated under "Flower Garden." Those remaining will need abundance of air each day when the weather is favorable. The houses will require putting in order and other arrangements completed for taking in the plants next month. A large quantity of prepared mold should also be in readiness for changing and potting off plants.

Azalias—Give plenty of air and water, syringing frequently. Shade from hot sun, and guard against thrips

Budding—Complete, f, m.

Bulbs—Pot a few, m, l, for Winter forcing.

Callas—Repot, f, m, watering moderately.

Camellias—Finish repotting, bud and inarch, f, m. Syringe and water freely. Grafting may also be done, m, L

Chrysanthemums—Shift into blooming pots, giving liquid manures.

Cuttings of a large number of plants should now be made and put in to get up a good stock for Winter.

Earth in Pots—Loosen or stir, renewing where necessary. Top dress, or give liquid manure to plants which need a more rapid growth.

Fumes of Tobacco—Give houses containing green fly, aphis, thrips, &c.

Gloxinias—Those done blooming may now "dry off."

Grapes are already cut in the earliest houses and the ventilators should all be opened to allow the vines to ripen off. In later rooms they are coloring or still increasing in size according to the forcing they have had. Guard against the appearance of mildew.

Houses—Commence early to put them in order, before plants are brought in. Repair shelves and beds, glaze windows, cleanse the whole house thoroughly, have ropes, weights and pullies in working condition, look to the heating apparatus, and lastly paint those houses requiring it, being careful to empty them from all tender succulent plants at the time, else the poisonous gas from *new paint* will cause defoliation.

Insects—Allow none to increase as the brooding season draws to a close. Fumigate, syringe with pure water and the Whale Oil Soap mixture.

Labels—Prepare for all potted plants, writing both *generic* and *specific* names upon a painted surface.

Layering and In-arching—Continue, f, m, as directed upon another page. Some of those plants layered or inarched in the early part of the season are now ready to be separated, and potted.

Oranges, Lemons, Citrons, Shaddocks, &c.—Complete budding, ff, m. Top dress those pots or tubs which require it.

Pelargoniums—Repot and make cuttings of, ff.

Potting—This is the appropriate season for shifting generally, and potting off seedlings. Complete early, that they may become established before Winter.

Seeds—Watch the ripening of and collect, ff, m. Sow calceolarias, cinerarias, mignonette, sweet alyssum, chinese primroses, pansies, pelargoniums. clarkia, &c., m, l, to get up a stock for Winter bloom.

Stake weak shoots, and turn often.

Tender Plants, and those for early Winter bloom.—Take in, ll.

Verbenas, Petunias, Geraniums, &c.—Layer and make cuttings, ff, m, for Winter flowering. Pot off those made last month

Water—Give abundantly inside, and to pots in the border. Syringe the foliage and walls of the house both morning and evening, sprinkling the floors at the same time.

Apiary for August.

BY M. QUINBY.

There will be more wax-moths, besides many other varieties of moths, prowling around the bees this month, than at any other season. Now these poor weak creatures, like some others who bear the image of a more noble being, have a fatal weakness—an appetite, for a few moments gratification of which everything is sacrificed, even life. *They are fond of strong drink.* Mix well sugar or molasses and a little vinegar and water, making the "contrast" agreeable—the sweet and the sour. Put this in shallow dishes, saucers, or tin baking dishes, and set them among the bees at evening. Next morning the moths may be found by scores in the liquid, having got beastly drunk, and pitched in—some of them will be full, even to bursting. Strain them out, and set the liquor away for another night—they like it better after fermenting a little. The moths make a good meal for the chickens, which after a few treats of the kind are quite sure to be on hand.

Late or small swarms that have not yet filled the hive with combs, will suffer more from moths than others. For these take some pieces of any old black comb, and lay it on the floor under the bees. Take it out twice a week and destroy all worms that have gathered about it. If nothing of this kind is at hand, the next best thing is to keep all dust and chips swept out clean, so that no worms can hatch at the bottom and go up to the combs.

Look into the corners of the hive, and remove all cocoons lodged there *Be cautious in turning back a hive part full of new combs:* they will bend side ways, unless the hive is turned so that the edges rest on the side.

Any stocks running down from diseased broods, that were neglected last month, should be attended to yet, and transferred to sections where much buckwheat is raised. Whenever bees can have access to a full supply of these flowers, all *strong*, full stocks ought to store at least twenty pounds of honey in the hoxes this month. Give them abundant room; if it is not all filled, no harm will be done. Surplus boxes should not be higher than five or six inches.

The small pieces of new white comb should not be forgotten. Dip one edge in melted bees wax and stick it fast in the top before cooling; it is quite important as an encouragement for the bees to begin. When a large supply of such combs can be had, enough to fill the boxes may be put in on the start, setting them up in a natural position; hives so prepared will be filled with honey in much less time than when all the combs have to be constructed.

Swarms that issue this month, seldom amount to much, and the parent stock is much reduced; such swarms should have their queens taken from them and then be returned to the old stock. They will seldom reissue at this season with a young queen. Keep boxes of surplus honey in a *dry* place and cool if possible. Keep a lookout for the moth worm in them. If it appears, put the boxes in a close barrel or box, and smoke with brimstone.

Aberdeen Turnips.

A subscriber in Orange Co., N. Y., writes: Seeds under the name of White Aberdeen Turnips, have been peddled about the country as something extra, and asks if there is such a thing, and what are its qualities. There is both a white and yellow Aberdeen turnip, differing very little from each other, except in color. They were formerly cultivated to considerable extent, especially in England, but appear to have been supplanted by the Swedes. Seed of the yellow Aberdeen is on sale at the seed stores in this city, at 75 cents per pound, retail. We inquired for the white at two or three places, and was answered that it was not called for, and they had ceased to keep it. The Ashcroft, Swede, and Stubble turnip, and especially the White French, are vastly superior to the Aberdeen.

Turnips may yet be Sown.—It is not too late to sow Field Turnips in the first week in August and even later. We have known good crops made from seed put in as late as the first week in September. A few varieties are still offered by us. See another page.

Hay and Grain Caps.

In our last number, page 207, we described hay caps pretty fully, and gave directions for making, with original illustrations. We present herewith a second illustration, showing the caps in use, both for hay and for grain. We are not sure that they may not be considered quite as useful for grain as for hay. Many persons have called, and written, to inquire where they could be purchased ready made, but we could not reply to them, and our advice has been—make them yourselves. We have recently heard, however, that considerable quantities have been manufactured by Messrs. Chases & Fay, of Boston, who write in answer to a note from us, that they have not advertised them much this year, because the immediate home demand has consumed about all they could manufacture. They are making them of several sizes; No. 1—1½ yards square (sheeting), at 25 cents each; No. 2—50 inches square (drilling), 33 cents; No. 3—2 yards square (sheeting of two qualities), 38 cents and 50 cents, and of drillling 62 cents. These have metal eyelets in the corners, with pieces of string attached (a good idea). They also furnish, at an extra charge, iron skewers—some persons preferring them to wooden pins of home manufacture. They say "the cloth is put through a process which renders it unsusceptible of mildew, and better adapted to shed rain." This is, we think, hardly necessary or useful, for the cloth should be open to admit the passage of moisture, from the hay curing underneath. They write, that they have no more on hand this year, except No. 1, and No. 2 of the 50c. kind. Probably the market will be supplied with these useful implements next year, so that those not wishing to be at the trouble of making them can obtain them ready made, or have them manufactured to order.

Green Corn Fodder.

If the season, thus far, has been, or should continue to be so favorable to pasturage, as not to require the feeding of the corn sowed for feeding green to milch cows, it will be well to husband all of it for Winter forage. It will retain its saccharine and nutritious qualities until it gets into the ear, and should not be cut for Winter feeding until that time. The chief trouble is to cure it, as it requires several sunny days to dry, and then, bound in small bundles, to mow away in the barn. Indeed, it is difficult, under almost any circumstances, to cure it sufficiently to store away *by itself*, without heat or moulding. We would, therefore, recommend that it be packed away in layers of dry straw, or hay, which will receive its imparting dampness and flavor, and make such straw or hay partake of the odor of the corn itself. For calving cows, or lambing ewes in late Winter, or early Spring, this corn fodder, if tender and well cured, is a favorite food, promoting both flesh and milk.

If *stoutly* grown, it should be made fine in the cutting box, and lightly sprinkled with mill feed, or corn meal finely ground, thus affording a more easily digested food than if fed whole in the stalk or sheaf. Calves, and colts, and lambs, the first Winter after weaning, will live well upon it, and their improved appearance in the Spring will test its value as a forage. By all means, let the corn fodder, *of all kinds*, be saved—and that too, before it gets too ripe.

Moss-Covered Pasture Lands.

To the Editor of the American Agriculturist:

Having read your article on pasture lands, and their treatment, page 173, allow me to ask you a few questions, in regard to what is best to be done with a field, containing 32 acres. I was informed when I purchased the farm, that it had been plowed and seeded down, in timothy and red clover, six years ago. Now, up to this date, the grass is not above three inches high, and the field is all covered over with a russet-colored moss. The land is flat, and the soil a yellow-colored loam, and is allowed by all who have known it for years, to be good. Now what can be the cause of this falling off, or decay of the grass, after such a favorable Spring for that crop? I do not see in your remarks anything that directly bears upon it or other similar fields, which is my excuse for troubling you at present, for I, as well as others, am in want of information on the subject; and if you consider this a desperate case, what would you recommend to be done with it? Should it be plowed, manured and seeded over again, for grass, or allowed to remain another season as it is, or be turned into fallow and a crop taken off next year? I may here state, that the surface is quite free from stones, and that the land does not require draining. If you say crop it, what will be the best crop to take off it. W. H.

June 1st, 1858.

Remarks—The "moss" in the above-named field is a bad sign, but not knowing, from personal observation, what is necessary to entirely satisfy us as to the difficulty, we will suggest: If he has manure enough (either street or common barn-yard) to give his field a thorough dressing, we recommend him to spread it on, and this Fall, say early in September, plow and put it into a crop of rye. Next Spring—in March, or early in April, sow on twelve quarts of timothy, and four quarts of red clover to the acre. If a quart of white clover, and two or three quarts of red-top be added, it will be all the better for pasture purposes. A good crop of rye may be thus obtained; the succeeding year a crop of hay, and pasture afterwards. Or, it may be be pastured at once, the next Spring after the rye is taken off. We would not pasture the young grass on the rye stubble the first year of sowing.

Home Made Poudrette.

There is a great annual loss of valuable manure at the rear of every house, which a little care would save. People have a prejudice against meddling with the contents of privy-vaults, which it is hard to overcome. If, however, the "temple" were properly built, the trouble could be easily got along with. The practice of digging a deep pit or cellar beneath it, which it is almost impossible to clean out, is a bad one; and the danger to the young children of a household, from such pits is not altogether imaginary.

A privy should be built so high above ground as to allow of a large, moveable box underneath it, of the same superficial dimensions as the building. This box should be made of pine plank, matched, and painted within and without, with coal-tar. It should rest on runners made of scantling, to which a horse can he attached, for the purpose of drawing it out when needful.

Of course, some means should be used to deodorize the offensive gases. Happily, this is not difficult. Dried muck, burnt sods, saw-dust, charcoal, chip-dirt, ashes, and indeed nearly all refuse dirt about one's premises will answer, provided it is dry. This last item, dryness, is important, to render the material a good absorbent. Lime is sometimes used, but not wisely, because it sets free and wastes the volatile gases in the air. It is an excellent plan to have at hand some of the absorbents we have mentioned, convenient for use. If they are not "handy" when wanted, they will seldom be used. Have some in old boxes or barrels by the side of the privy, under cover, where it can be drawn upon, daily, or every few days, throughout the year. If a small quantity is used often, all smells will be prevented and the combination of the several parts as compost will be more complete. When the box is filled, let it be hauled out to the barn-yard and emptied, and then returned to its place. On returning it, let the bottom be covered with a good layer of some absorbent. We understand that some of the companies engaged in manufacturing poudrette largely for sale, use a solution of copperas to deodorize night soil before they remove it to their manufacturing grounds. Of course, this could be used by any one who had not a sufficient quantity of absorbents.

Now that we are upon this subject, we will give some account of the manufacture of poudrette and Ta Feu, as it is conducted on a large scale, in the neighborhood of some of our cities. Certain persons are employed to collect the contents of privies, sinks and sewers, and to convey them by carts and by sloops to the premises devoted to the manufacture of this article. It is then thrown upon a screen having holes an inch square, which cleans out all coarse rubbish. Then it is spread on large platforms, where it is mixed with absorbents such as have been before mentioned, and then dried. "If it is to be manufactured into poudrette, it is taken into a house where it is allowed to undergo a partial decomposition, and again screened through a cross-barred, half-inch screen, and then barreled. If Ta Feu is to be

manufactured, it is *perfectly* dried, and when in that state, becomes cakey and hard, and is brought into the house, and without fermentation, is screened first through a half-inch screen, and then again through a quarter-inch screen." It is then ready for market.

This manure is recommended for all sorts of crops; though some persons find it less useful on wheat than any other. Mr. Downing esteemed it highly "for all the neater work of sowing and planting in gardens. For strawberries, for early vegetables, flower-beds, roses, &c., it is preferable to nearly every thing usually to be had; because, unlike guano, it enriches without burning, may be safely used with any plant, and brings no weeds, like common manure. We consider a barrel of it fully equal in fertilizing material to four cart-loads of stable manure."

These commendatory remarks apply as well to the *home-made* poudrette as to that bought in market, at so much a barrel.

Tanners' Waste and Wool for Manure.

To the Editor of the American Agriculturist:

There is one manure of which I have seen little notice, viz., the hair obtained at tanneries. Lime and salt are freely mixed with it *there*, and it necessarily becomes an active stimulant to the growth of vegetation. Living near to the city, I have gathered many loads of this hair and scattered it upon my land. I am now throwing it upon a piece of grass which I intend to plow in August for wheat and Spring crops. But many of my neighbors have asked me, "What *is* that?" and "is it good for anything?" I answer, "come and *see*." It has occurred to me, therefore, that many who live in the neighborhood of tanneries, are ignorant of the value of this manure, who, if their attention were called to the matter, would gather it up and mix it with their soil.

Wm. Crocker.

Buffalo, N. Y., June 10th., 1858.

Remarks.—We have frequently recommended as valuable fertilizers, not only hair, but also what is called "tanners' waste," including the hair, fleshings, clippings and other refuse. All of these animal substances are excellent manures. Hair and wool are similar in composition. Not long since, an article was advertised in this journal, professing to be made of waste wool soaked in urine. Such a preparation must be very valuable. We did not call special attention to it then, because the samples we examined appeared to contain too much sand carelessly mixed in. Cleaned of this, it would be a very cheap manure at the price asked—$30 a tun.

Potatoes Mixing in the Hill.

To the Editor of the American Agriculturist:

In the June *Agriculturist* is an article under the above heading, in reply to which I wish to give an item in my experience. About 10 years ago I planted in my garden, some round blue potatoes, in conjunction with pinkeyes, so called, though there was scarcely any of the Pink to be seen about them.

On digging them, I found some of the pinkeyes had stripes of blue on them, one being nearly half covered with it. I carefully preserved this potato, and planted it the next Spring. On harvesting again in the Fall, I found some potatoes completely covered with blue. Not only was the color changed, but the shape was somewhat modified, being almost precisely like that of the long red, except the eyes were not so deep.

The flesh of this potato is pure white, mealy and delicious as any potato I ever ate, before they were affected by the disease, to which they are as little liable as any I ever raised.

In the light of the facts as above stated, what becomes of your philosophy in the article alluded to? That the mixing was produced through the "blossoms," I readily admit; but that the "seed balls" had any thing to do with it, I must ask permission to douht, and even to deny. I see no more reason to doubt the idea of potatoes mixing in this way, that is through the blossom and down the stalk, then that corn should mix by a similar process. However this may be, your philosophy entirely fails to account for this case, although new varieties may and have often been produced as you described. I. S. Morrill.

Lawrence, Mass.

Remark.—We can not explain the particular instance referred to. The potatoes themselves, when first planted, may have been mongrels recently produced from mixed seed; or the second crop may have grown in part from a tuber or two of a former crop left in the ground. We are confident, however, that half-a-dozen kinds of potatoes planted in the same hill, would have no effect upon the product of each other. It is contrary to reason and general experience.

A Refreshing Rain.

Niagara River, July 12.

After a long and severe drouth, the vegetation parched and dull, the ground all cracked and ashy, what sensation so grateful to the farmer, the gardener, the business man, the mechanic, or laborer either, as a sight of the rolling up of the clouds, and the pouring out of a gentle, prolonged, delicious rain! So it has been with us, and now is at this present writing. Three weeks ago, the clouds, with their descending rains, which had been upon us for a month before, reluctantly scattered away, and left the sun with his genial warmth to shine upon and glorify the face of the earth in its luxuriant vegetation. It brought up the late planted seeds; it strengthened the attenuated grass, and Spring grains, and made solid and nutritious the previously watery and imperfect herbage, scarcely yet nutritious for the cattle; and with but a single slight shower a fortnight ago, the fierce heat continued until every creature gasped for breath, and vegetation itself gave unmistakable signs of suffering. Indeed, proceeding on the doctrine of extremes in this versatile climate of ours, we feared, that after such a flood would come a drouth, even of intensity, and between them both, our Summer's labors would be cut off, or suffer beyond remedy.

But, on the night of the 10th of July, the clouds gathered, and on the Sunday* morning succeeding, on waking, we found a delicious, gentle rain descending upon the thirsty earth, continuing in considerable showers throughout the day, and on Monday—now the 12th—still falling, to a thorough drenching of the soil, and a watering of the growing crops, equal to all their wants for some weeks to come. The young corn, potatoes, and buckwheat drink it in most gratefully, starting anew—the first two in their almost stoppage of growth, and bringing the last out of the ground where its dry seeds lay unswollen and useless. All the garden vegetation has revived, and is shooting forth with unwonted vigor, and will give abundant yield. Our hay harvest is stopped for the moment, timely enough, for it was getting crisp and prematurely ripe in the meadows, and the undergrowth will be all the thicker and stouter for the renewed moisture. Thanks, then, to a kind Providence for such a delightful, replenishing rain.

We can now congratulate our brother farmers, and the country at large, on a good prospect in their Summer crops. Although the prolonged rains of the later Spring and early Summer had prevented the timely planting of the corn and potatoes, yet they got planted at last, and the genial weather since has brought them rapidly forward, and the present rain will push them to such extent, as nearly, if not quite overtake, by mid-August, their accustomed seasonable maturity. We have no fears, indeed, of the ultimate result in most of our crops, and rejoice thereat, equally with those who, in other event, would be the severest sufferers.

After all, we have compensations, more or less, in our seasons of distrust and calamity, more than we, at the moment, know of. When were our pastures ever more abundant, our stock in finer Summer condition, our barns so well filled with *last* year's forage, now Summering over, and such a superabundance of sustenance on the ground for our stock through another Winter? Never, to our own knowledge. And for all that let us be devoutly thankful!

Last Saturday, we lay gasping in the heated and parched atmosphere, wishing—*wishing*—wishing—scarcely daring to *hope* that it would rain, and fearing the worst to the growing crops. To-day, on Monday, we look out in gladness at the drenched vegetation, and on the soaked land, with revived hopes and anticipations, and feel in our inmost heart that every intelligent creature will respond with us—how beautiful is the rain!

* This shower did not reach the vicinity of New York city until Tuesday noon, July 13, when it came down suddenly, and in great abundance, to the discomforture of the Publisher, and some hundreds of little folks, who were enjoying a splendid Sabbath School pic-nic in a grove, away from home. Didn't the little "ducks" enjoy the rain, though, notwithstanding the spoiling of much gay plumage? What a scampering for our carriages drawn by an iron horse, and how we all rejoiced to get home, and then look out and "see it pour down."

Crops in Kentucky.—Mrs. C. H. P., of Winchester, Clarke Co., Ky., adds to a business letter under date of July 13: We have *rain* this morning after a *drouth*; wheat all sound, though injured by rust; corn good; very little fruit of any kind; oats dead ripe. I had roasting ears July 6th from the King Philip corn you distributed. I pinched off the runners from my grape vines, leaving only two, and these have grown 10 to 12 feet already.

What is the Earth?—Answers.

"What is earth, sexton? A place to dig graves.—What is earth, rich man? A place to work slaves.—What is earth, graybeard? A place to grow old.—What is earth, miser? A place to dig gold.—What is earth, schoolboy? A place for my play.—What is earth, maiden? A place to be gay.—What is earth, seamstress? A place where I weep.—What is earth, sluggard A good place to sleep.—What is earth, soldier? A place for a battle.—What is earth, herdsman? A place to raise cattle.—What is earth, widow? A place of true sorrow.—What is earth, tradesman? I'll tell you to-morrow.—What is earth, sick man? 'Tis nothing to me.—What is earth, sailor? My home is the sea.—What is earth, statesman? A place to win fame.—What is earth, author? I'll write there my name.—What is earth, monarch? For my realm 'tis given.—What is earth, Christain? The gateway to heaven."

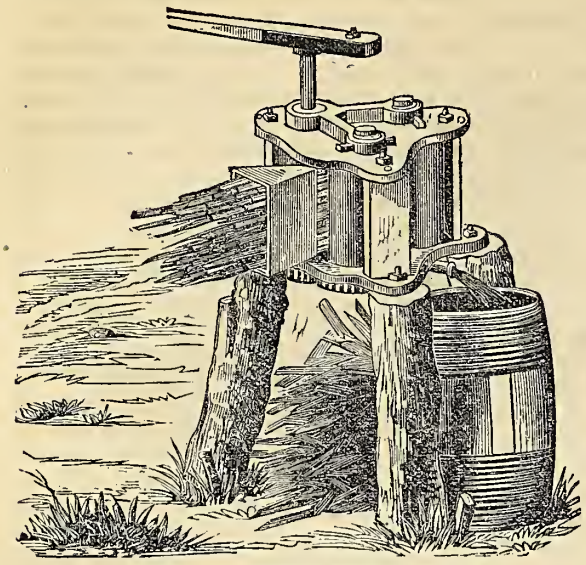


Fig 1—VERTICAL SUGAR MILL.

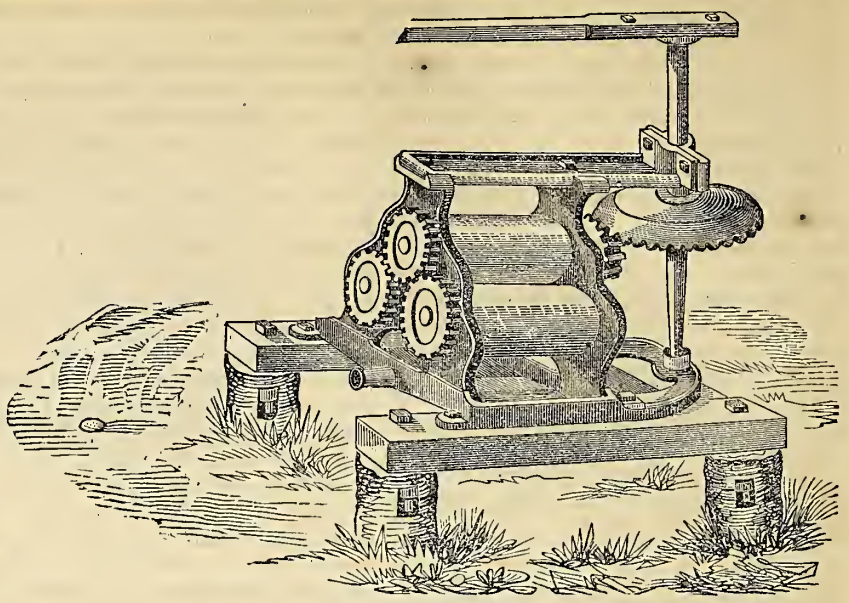


Fig. 2—HORIZONTAL SUGAR MILL.

Sugar Mills and Boiler Ranges.

Inquiries begin to come thickly upon us for information respecting the best apparatus for expressing the juice of the Chinese Sugar Cane. We expected, ere this, to have discussed this matter with Mr. E. Kelly, of New Brunswick, N. J., who got up some cheap, simple mills last year, for use in small operations, and who, some time since, proposed to manufacture them this year on a large as well as a small scale. We have not been able to see him lately, however. We present above, illustrations of two kinds of mills, one with vertical and the other with horizontal rollers, manufactured by Messrs. Hedges, Free, & Co., of Cincinnati.

Fig. 1 shows a three-roller vertical mill. Its construction is sufficiently plain without description. The rollers are iron, of course, and they are of various sizes. According to the mauufacturers' card, "a one-horse mill of this form, weighing 600 lbs., is capable of expressing 30 to 50 gallons of juice per hour, and costs $56. One weighing 1,100 lbs. costing $100, is capable of expressing 60 to 80 gallons of juice per hour. One weighing 1,400 lbs., costing $135, is capable of expressing 80 to 100 gallons per hour." We give these as manufacturers' figures.

Fig 2 is a horizontal mill, which, though more expensive, is to be preferred for extended operations. The same firm name as the weight of these, 1,000 lbs. to 2,500 lbs.; capacity, 10 to 100 acres; cost, $125 to $600. Particulars can be obtained of the manufacturers. By next month, there will probably be a variety of mills advertised by different manufacturers.

FURNACE RANGE.

In fig. 3 we present a plan of a furnace for a range of boilers. The flat iron boilers, which set into the brickwork, are left out in order to show the mason work. Two kettles, or boilers, are set side by side, and at the end of these is a third kettle. The main fire is, of course, built in the front arch. This arrangement strikes us as a very convenient and perfect one. For this we are indebted to Messrs. Hedges & Free, of Cincinnati, who drew it up for the forthcoming Report of the Ohio State Board of Agriculture. The design and drawing are very creditable, and the arrangement is suggestive. We will here add a general remark upon the construction of boilers. They should always be so arranged that the fire will in

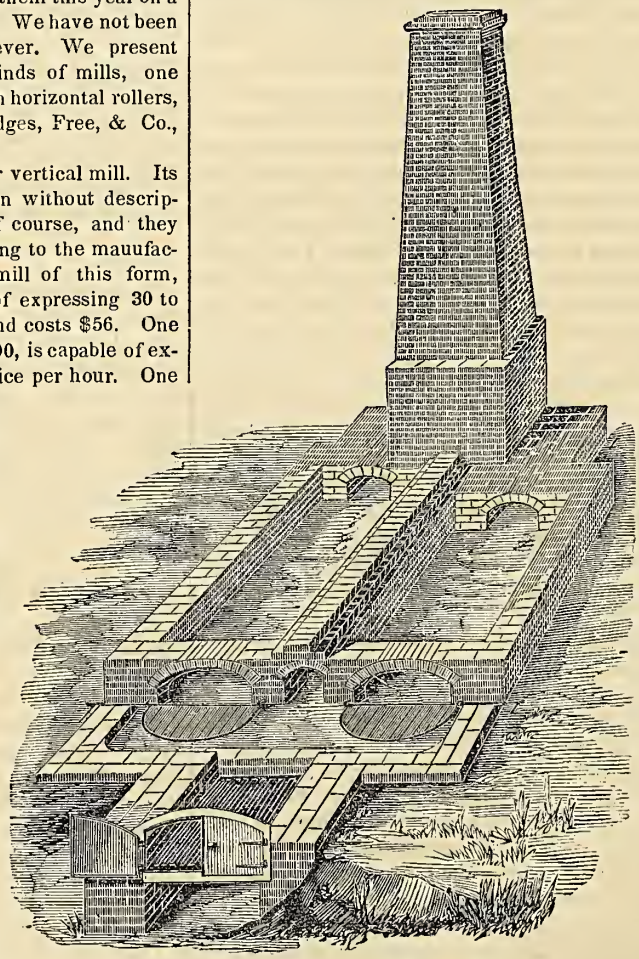


Fig. 3—RANGE OF SUGAR BOILERS.

no case reach as high upon the outside as the surface of the syrup on the inside. If the fire touches the kettle or boiler at or above the liquid within, it will surely be scorched and more or less injured in taste and color. The best arrangement is to have the sides entirely protected by brick-work. The thinner the kettles, and the brisker the fire, the better; that is, until the syrup is thick, when the heat is to be diminished.

Agricultural Humbug at Washington.

[*No. IV Continued from page* 199.]

[The article in our last, together with what follows, was written June 21. We have since seen a lengthy article in the Philadelphia North American, dated also June 21, and treating the subject very much as we have, only with more severity, as it doubtless deserves. We may, perhaps, give parts of that article hereafter. We have recently learned, from reliable sources, several new facts concerning the way things are managed in the Agricultural Department, at Washington, which it will be useful to make public in due time. We may here add, also, that several correspondents, in different parts of the country, have sent us sundry statements concerning the private history of the Agricultural Clerk, whose antecedents the Commissioner of Patents has allowed himself to be made the instrument of setting forth to the public in such glowing colors, but we will say, to such correspondents, once for all, we have nothing to do with Mr. Brown's private or domestic affairs. We have only to do with him in his public transactions as connected with the Government Department, for the management of which he is really, though not nominally, responsible. As before remarked, we do not know Mr. Brown personally, have never seen him, nor had a word of correspondence with him on any topic, and therefore, in anything we may write, we are the farthest possible from aiming at him as an individual. We dislike controversy of any kind, especially one which may appear, even, to be personal; but our duty to our readers, to the interests of our common agriculture, does not permit us to ignore the doings of a Governmental Department in which we all have a common interest, and especially can we not pass over this recent attempt to silence the efforts making to purify and elevate to its proper position a Department which should be an ornament to our Nation, by thus making use of official position, of the public mails, and indirectly of the public press, to parade before the country an over-drawn coloring of

the past career of a government officer. Had this effort been one of private individuals, we should have been out of place in thus noticing it at length; but the whole affair being done by government officers—a Captain in the U. S. Army, a Congressional Committee, and a Head of a governmental Bureau—over their official signatures, and the franking privilege being made use of to carry on the scheme, the matter is a public one, open to public reply and criticism, and as such, we have taken it up. With these remarks we now give the closing part of the article put in type last month.]

The sixth and closing part of the Commissioner's extraordinary document, said to be "based upon authentic and reliable data" (by whom furnished?) is a befitting climax. We would like to copy it entire, but cannot afford the four or five columns of space that it would require. As the professed object of the narrative is to show the eminent fitness of an individual to fill an important public station, we may be allowed to briefly canvass the statements. The general impression left upon the mind after reading this personal history, is that, one who has pursued "everything by turns, and nothing long;" who has had a hand in some twenty different enterprizes in less than that number of years, can not possess that steadiness of purpose, that patience in investigation of details, that comprehensive judgment and thorough knowledge of any one subject—in short, that mental discipline, necessary to "eminently qualify" him to fill what is by far the most important station connected with the agricultural interests of our country.

To specify. According to the document before us, D. J. Browne left the paternal farm at 18, for a dairy farm, in Quincy, Mass. The next Spring he is in Newburyport "cultivating garden vegetables and seeds on a large scale;" then come seven years of miscellaneous studying, teaching and other pursuits; then editing a monthly publication for a brief period, at the same time "studying the Romanic languages" (how many of them?) and also "comparative anatomy under the distinguished Drs. Spurzheim and Warren." The next Winter he is on a cruise in a U. S. ship to the West Indies, Cuba and Florida Keys; the next September "on the peak of Teneriffe;" and so we might follow him from one place to another, now engaged in a railroad enterprize in Eastern Massachusetts; then on the Niagara river prospecting for a "Boston Timber Company;" soon after, in Dr. Jackson's laboratory in Boston; then back to Niagara; now an engineer on the Erie canal; then at Syracuse, N. Y., reporting to the Prussian Government on the U. S. railroads; now in N. Y. city preparing interest tables for bankers; now writing on currency, "tariffs and other subjects connected with political economy, for the Merchants' Magazine;" then at work upon the Atlantic dock; next in Cuba, making a railroad, and perfecting (?) a plan for a steam sugar mill; next, preparing his treatise on the Trees of America (see *en passant* the character of this work as shown up by the celebrated Dr. Gray and A. J. Downing); next, an engineer on a N. Hampshire railroad; then in a N.Y. agricultural warehouse for six years, attending to business, editing an agricultural paper, "preparing catalogues in several languages" (what ones and how many?), and carrying through the press several volumes (what ones?); next, in the Census office at Washington, and finally, "June 9, 1853, he took charge of the agricultural division of the Patent Office." Of the management of affairs in that office, this same document gives us a specimen in the first extract quoted last month, page 199; and, aside from that, farmers have had at least an inkling of matters, and some of them a little experience.

The document enlightens us on other matters. We give an extract or two to show the *hasty, superficial* method that appears to be pursued in all recent investigations connected with an agricultural department, where we ought to have thorough, careful investigation, if any where. Thus:

"....During an absence of only *nine* weeks, he traveled through portions of England and France, visiting several of the principal seed establishments of those countries, and obtained portraits of some of the best breeds of domestic animals, with a view of illustrating the Agricultural Reports, and a large quantity of valuable seeds, cuttings and tubers...."

Again: "....On his second mission he passed through England, France, Belgium, Holland, Prussia, Hanover, Hamburg, and a portion of the kingdom of Denmark, being absent seventy-seven days, having traveled during this fatiguing journey a thousand miles a week, visiting the principal gardens and agricultural establishments *en route*, and accomplishing the chief objects he had in view. Among those of interest which may be particularly noticed were his inspection of the "Exposition Universelle," at Paris, the "Bloemistries," or flower gardens, and Haarlem Lake, in Holland, and the celebrated nurseries of Messrs. Booth & Sons, at Flottbecks, in Holstein. He also submitted in person to Baron Von Humboldt, at Potsdam, a uniform plan for obtaining meteorological information as connected with agriculture in the various countries of the world, which, with slight modification, met his approval...."

The above account does not tell us how many of the "seventy-seven days" were spent in London; nor does it include the statement of Mr. Leonard Wray, concerning the negotiations respecting Imphee seed, and getting out a Patent for a sugar-making process—all of which may be produced, we presume, if called for.

We can not go into a detailed examination of the forty-odd enterprizes referred to in the document signed by Mr. Holt. We will allude to a single one, to show the extent and thoroughness of experiments made by the clerk of the Agricultural Department, and how safe(?) and general(?) are the conclusions to be drawn from the results. As one qualification of his fitness for his present post, we are informed that while engaged on the Niagara River for the Boston Timber Company, in the Spring, Summer and Autumn of 1837, he was

"....Experimenting with bone-earth taken from an ancient tumulus on Tonawanda Island, and testing its efficacy in the production of turnips:..."

A gentleman cognizant of the facts, remarked on reading the above, that these experiments amounted to putting a few shovelfuls of bones, ashes and earth from one of the Indian mounds upon a small turnip plot in a garden, on a *new rich soil* where a good yield of turnips was of course obtained.

Insects at the Roots of Pea Vines.

To the Editor of the American Agriculturist:

My peas have been injured for two years past in a way never before witnessed by me. In the latter part of June the vines begin to turn yellow and the growth is arrested. On inspection the roots are found dead, or dying. As this was first noticed two years ago, in a short row of the "Early Champion," it was attributed to some peculiarity, either in that variety of pea, or in the soil of that locality. But it has since appeared in all parts of the garden, and in every variety. The vines are affected at every stage of growth—before the blossom, and after the pod is formed

On careful inspection, I found that the injury commenced in the root, a little below the stem. A longitudinal portion of the skin, turned brown and lacerated, indicated that some worm had been at work. The injury apparently commenced immediately beneath the skin, extending eventually through the portions between it and the heart. An examination of a number of plants failed at first to bring into view the cause of the mischief, but on carefully opening an injured root of a plant giving the first indications of damage, and bringing a microscope to my aid, a minute worm of greenish white color was discovered, wriggling actively to put himself out of sight. Insignificant as the fellow is, I doubt not he is the cause of the mischief. The damage which he is doing this year is considerable. Now, *Mr. Agriculturist*, can you tell me and the rest of mankind how to deal with this pest? GARDEN.

REMARK.—We are not able to prescribe in this case. Investigation is needed, and we hope "Garden," and others will give the subject careful attention. There is a possibility that the vine may be diseased from some cause, depending upon soil or season, and that the insect referred to has only taken possession of the defective plant, though it is probable that the insect is the primary cause of the mischief. We have known pea vines similarly affected but have not looked for the insect described above.

Judicious Agricultural Premiums.

There are very good reasons for recommending the Managers of all agricultural and horticultural Societies, to pay as many of their premiums as possible in the form of subscriptions to some good Journal, devoted to the objects which the societies are aiming to promote. If this be done, thousands of persons will thus be led to *read*, and become better cultivators, and better citizens. They will be led to take greater interest in the advancement of soil culture, and will be more ready to assist in sustaining those enterprises intended to promote such an end; so that the Societies will, by this means, increase their own funds and usefulness.

Giving *books* as premiums, in part secures the same end, and these are preferable to *money* premiums; but a good journal, coming a dozen times a-year, and treating of a variety of topics, will, in most cases, be more likely to give satisfaction, by treating of some topic just adapted to the wants of the particular recipient, which is frequently not the case with a book on a specific subject. The frequent and continued visits of the periodical keep up an interest better than the single reception of a book which is read or glanced over, and then laid away, and perhaps forgotten. We think that twelve copies of the *Agriculturist*, for example, received at twelve different periods, would produce almost as good an effect as if an award of twelve books were made, one to be delivered monthly.

We were led into the above remarks, by having before us the announcements of several agricultural societies for the present year, in which periodicals form the majority of the premiums. The Chester Co. (Pa.) Agricultural Society, for example, offers *three hundred* different premiums, to be paid by a yearly subscription to some periodical named. We are thankful for the compliment paid to this journal, by offering so large a proportion of these premiums in copies of the *American Agriculturist*. The same thanks are due to numerous other societies, such as the Nemaha Co. Society, Nebraska; the Portage Co. Society, O.; Susquehanna Co. Society, Pa., &c.

To avoid even the appearance of "ax-grinding," we seldom refer to the above topic. We may here say, for ourselves, that we have no pecuniary interest in the matter, from the fact that the *Agriculturist* is now so widely circulated

among all classes of intelligent agricultural farmers and horticulturists—such as are most likely to be recipients of premiums at agricultural and horticultural exhibitions—that the giving of this journal, as a premium, usually results in no profit, to say the least, for we invariably furnish this paper below the regular (profit paying) subscription price, to societies offering it. The result is, that every year large numbers of persons are transferred from the regular lists to those from agricultural soeieties. Again: the actual cost of the *Agriculturist*, and amount of reading matter, is much greater in proportion to its subscription price, than that of any other similar journal, and we cannot, without actual loss, offer it to societies at so great an *apparent* discount as ean others; and on this account we cannot enter into competition with other journals before some committees, who, having a dollar premium to bestow, for example, are often led to give that journal having a nominal subscription price of one dollar, which will be furnished to the society at the lowest price. Hence, when written to on the subject, we reply: "Here is the *Agriculturist*, which you can have at so much per year, which is the best we can do." On this point, however, we have no occasion to complain, as we believe the *Agriculturist*, though held at slightly higher rates, has been already more largely offered than any other similar journal, and we shall ever be ready to do what we can to forward the views of those who desire to place it on their premium lists.

Domesticities at Tim Bunker's.

Our readers have become so much interested in the affairs of Hookertown in general, and at Esquire Bunker's in particular, that we feel obliged to keep them "posted up" in current events thereabouts, even if not in all cases strictly agricultural. The Squire has been so busy with other engagements that he has failed to send us the usual letter for the month, but we chanee to be prepared to fill the gap—not so well as he could do of course. We had fully intended to celebrate Independence day at Squire Bunker's,and since we have seen the bill of fare he had prepared, we regret more than ever that a pressure of business prevented our visit to Hookertown. Our German Edition, added to our other cares, has completely absorbed us, so that we have not had a moment to think of the clover fields and the hospitalities of old Connecticut. Esquire Bunker will please accept our apologies for this seeming neglect, and for anything defective he may find in the report of the occasion. The fact is, the young man we sent up there, had his head turned, (or rather his heart) by the Hookertown damsels, and came back nearer addled, than any fellow we have seen in a twelve-month. The whole report had such a tint of rose color, that we have reduced the tone full one-half, besides throwing out lots of poetry, that were more appropriate to the Knickerbocker, than to our matter of fact journal. Well here is

"OUR OWN REPORTER'S" REPORT—SOMEWHAT GARBLED.

Hookertown, Ct., July 5th, 1858.

MARRIED.

SLOCUM—BUNKER.—At Hookertown, Ct., on Saturday July 3rd, in the Congregational Meeting-house, by the Rev. Jacob Spooner, Rev. Josiah Slocum, of Shadtown, to Sally, eldest daughter of Timothy Bunker, Esq. of this place. A large loaf attests the fact to the printers.

The above slip from the Hookertown Gazette of this morning will indicate pretty clearly the character of the clover fields, your reporter was called upon to inspect. I must say, Mr. Editor, that I never was quite so much taken aback as upon last Saturday. I had supposed, from your instructions, that I was simply to inspect Esquire Bunker's improvements, and to report to the public how much allowance was to be made for the enthusiasm of your Hookertown correspondent. For every body understands, that these sober Connecticut people, when they are once waked up, and take to riding hobbies, are as apt to ride fast, as others. I had prepared myself to take notes upon extensive meadows, all blooming and ready for the scythe; upon under-draining, subsoil plowing, &c. I thought my Sunday dress was hardly needed in a short trip to the country, and so I came off in my every day toggery. Young John Bunker met me at the cars, according to agreement, and away we went up hill and down, for about six miles, after as handsome a pair of Black Hawk mares, as you can scare up in the pastures of Vermont. Horse breeding has received a new impulse in the State within a few years, and the annual exhibitions at the State Fair are hard to beat in any part of the Union. Gentlemen of ample means have taken hold of the business, and they spare no pains or money to secure the very best stock. John has a passion for horse flesh, as the readers of the Bunker papers are well aware. Though a lad of fifteen, he is about as mature and well posted on farm matter as the old gentleman himself. This team, which belonged to himself and Sally, were well broken to the saddle, and with a good road could do a mile inside of four minutes. We were just thirty five minutes coming over from the depot, and John said "he should have come much quicker but father told him not to drive fast."

When I reached here, I found the place all astir, and Esquire Bunker's lit up with such a glow of excitement as has not taken place since the horse-pond was cured. I supposed they were getting ready for the glorious fourth, which has to be celebrated this year a day behind time. But I soon learned that Miss Sally was a bride, and that Rev. Mr. Slocum, of Shadtown, was the fortunate individual, who was this day to lead her to the altar. The house and garden were full of the country lasses, the school-mates and more intimate friends of the bride, coming up to sympathize with her in her leave-taking of home, and in her departure for the parsonage of Shadtown. Wasn't your humble servant in a fix, to be caught in such a presence with his field dress of coarse linen on? Such a clover field as this was a good deal more than I had bargained for. I have seen something of beauty and womanly grace, as one has opportunity to see on the promenades and in the parlors of the metropolis, but I never met with a company so graceful and accomplished as were gathered to do honor to this occasion.

This country wedding has made clear to me, what I never understood before, the claim of this State to be called "*The land of Steady Habits.*" It was easy to see on very short acquaintance, the home influences, under which these daughters had come up—the thorough practical training they had received in the school room, as well as in the kitchen, and in the parlor. Probably the State is better furnished than any other with the means of education. In almost every important town, there is a good academy or high school, not only accessible to the daughters of farmers, but largely patronised by them. Here they go with their brothers, as soon as they leave the district school, to be drilled in many of the same studies with them—to emulate them in the natural sciences, in mathematics, and in the languages. The emulation is a healthful one, and the boys are generally put upon their mettle to keep out of the way of the girls. The embellishments of female education have this very substantial groundwork of *mental discipline*. It is claimed here, as sound doctrine, that a girl who studies geometry will make a better pudding, and sing a better song, than she possibly could if she knew nothing of Euclid; that Cicero and Sallust, German and Algebra, are only appropriate *discipline* for the wash-tub and for the cradle. Such a training gives breadth of mind to woman, and a strong, practical tendency to her maternal influence Children brought up under such home influences, with the usual religious training, cannot be otherwise than well balanced and steady.

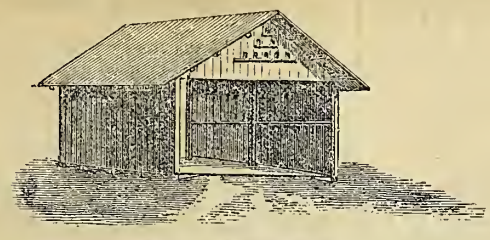
If you have imagined a company of simpering misses gathered at Sally Bunker's wedding, you are greatly mistaken. There was such a charm about their dress, that one hardly thought of it, and, for the life of me, I cannot tell now what any of them wore, save the fresh picked flowers, which so became them, that they seemed always to have grown there. The conversation was intelligent and pleasing, like that of most well-bred people. They entered fully into the spirit of the occasion, and were determined to "see Sally off" in good style. Not only were the parlors at Esq. Bunker's appropriately ornamented, but the pulpit in the meeting-house had been festooned with white roses, as if the sanctuary, as well as the minister, was to receive a bride. That is the way they do things out here. The minister's wife is married to the parish as well as her husband, and is as legitimately a subject of criticism and jealousy She must do duty, fill her place, conduct prayer meetings, and be an ensample to the flock, as much as the shepherd himself. No one can quarrel with this demand, for it is a legitimate fruit of the system of female education. Woman fills a large sphere out here. She is a man, and something more. The vocation of "the Women's Rights orators" would be gone in Hookertown, and they would be set down as vain babblers.

Now, I shall not tell you of the wedding ceremony, which eame off in the crowded church at eleven, A.M.; of the entertainment at Esquire Bunker's, got up, I suspect, as much for your benefit as for his daughter's; of the notabilities of Hookertown there assembled; of the agreeable things there said and done, touching agriculture, and culture of other kinds; of the dance got up by a few of the young folks very slyly, on a green patch of turf in the garden—an affair that was not laid down in the programme; and of divers other matters that would be appropriate to a work of fiction.

Suffice it to say, that the whole thing went off in the happiest manner, and the jollification of today, the firing of cannon and the snapping of fire-crackers, the shouting of the boys and the gala dresses of the girls, the holiday aspect of old and young, might be taken as a little outbreak of Hookertown enthusiasm at the marriage of Sally Bunker. At the next country wedding, may I be there to see. YOUR REPORTER.

DULL TOOLS.—Said one student to another, whom he caught swinging a scythe most lustily in a field of stout grass, "Frank, what makes you work for a living? A fellow with your talent and ability should not be caught engaged in hard labor. I mean to get *my* living by my wits." "Well, Bill, you can work with *duller* tools than I can," was the reply.

Merit begets emulation among the noble, but envy among the base.



CART AND WAGON SHED.

Farm Buildings....VI.

Cart and Wagon, or Rough Tool-Shed—Ash and Smoke House.

CART AND WAGON SHED, ETC.

This is a very necessary appendage to the farm, and should always have a place among the outer buildings. We give a cheap and convenient plan of one, such as we use on our own place, and will describe its construction. It stands on ten blocks, five on each side, set endwise, two feet in the ground, and a foot above the surface. The blocks are three feet long, altogether, and set sixteen feet apart, making the building sixty-four feet in length, and twenty feet in width. The blocks are flat on the top, and on each of them is erected a post, seven or eight feet high—as high as you want the upright part. These posts are connected at the top by cross *girts* of 3 x 10-inch joists, 20 feet long, which are spiked firmly on to the side of the posts. A series of other joists, of like size, are spiked on to hold the posts together longitudinally. Boards 16 feet long are then nailed lengthwise of the building, from the bottom to the top. The ends of these boards, of course, meet at the centers of the posts, which are 16 feet apart, as stated above. Thus you have a box nailed up on the side, and open at the ends. Then above the cross-girts put a set of upright posts, about 7 feet long besides the lower ends, which are halved into the cross girts, with a shoulder of an inch and a-half; that is, the joist cut half off on the flat side, the length of the width of the girt on which it is to rest, so as to form a good bearing. Let these run up as high as the peak of the proposed roof, not less than six, nor more than eight feet. Then, in the top of the posts, cut a *gain*—say six inches deep, and three inches wide. This done, set them up perpendicularly in the exact center of the building, and spike one of them firmly on to each of the girts. This line of posts, it will be seen, are to support pieces of scantling running the entire length, and laid into the gains, and thus form a ridge-pole. Then, place a *rafter* of scantling, or a pole from the woods, from the ridge-pole at its intersection with each of the roof posts, down to the top of the plates, which may be termed *principal* rafters. Indeed, these are the *only* rafters. Then, between the ridge-pole and plates on each side, run a line of *ribbing* half-way between the ridge-pole and plate, spiking it well on ; thus the roof is framed, and ready to receive the covering.

This covering we make of common pine boards, 16 feet long, and let them run over the sides 3 feet, so as to give a good shed of water beyond the sides. We gave ours upwards of one-third, or a 7-feet pitch, laying the boards lengthwise, and making a tight roof. The building then is finished by boarding the gable ends from the peak to girt, so far as a mere wagon shed is concerned. If, however, a vertical covering of the sides is preferred, like the one shown in the drawing, a line of girts can be inserted between the line of posts, on each side, half way up from the blocks on another line at the bottom, which will be a sufficient stay for holding the boards in the middle, as they are nailed on at the bottom and the top. Our plan shows three lines of rafter girts on each side, under the roof, instead of one line ; but the superfluous ones are only pieces thrown in for ornament—of little account any way. You have now only to drive your wagons, carts, or sleds underneath, unhitch, and leave them there out of storm and weather. If you prefer, double doors can be made and hung on the posts at each end, and the whole building is inclosed.

STORAGE LOFT.

The wagon-house being completed, scantling can be laid over the cross girts, to receive a floor, and various odd "traps," such as loose lumber and many other things, can be laid up there for storage, and by aid of a cheap step-ladder, through a trap-door, they can be reached at any time.

PIGEON ACCOMMODATION.

We have constructed a pigeon-house in the gable end of our shed, as shown in the cut, by simply laying a couple of scantling, 16 feet long, from the outer girt to the next inside one, and covering them with a floor, 6 feet wide, and 8 feet long, and then nailing boards on each side, from the floor to the roof, so as to keep out rats, and other vermin. At the inner end is a door, 6 feet long, and 2½ feet wide, hung on butts, and fastened with a padlock. This is reached by a moveable step-ladder. The room within is fitted up on the two sides with several tiers of boxes, 6 x 8 inches; each tier a foot above the other, commencing on the floor, as described more fully in our independent plan of a pigeon-house, given on page 201, last month.

COST.

The labor on ours cost sixteen dollars. The lumber, twelve dollars a thousand, on the ground. We put in plenty of 5-inch cut spikes, and tenpenny nails. It should be *well* spiked, and a few 6-inch spikes may be well appropriated in putting together the heaviest pieces. The whole cost of ours was a trifle less than $120. Shingles may be used for the roof, if preferred, but as it is a rough affair, any way, we used boards. The length may be such as your necessities require, but we would not have it less than twenty feet wide—allowing two wagons, carts, or sleds, to go in abreast.

AS A TOOL-SHED.

Wheelbarrows, plows, harrows, and all other farm tools may be stored there, likewise. These may be arranged along the sides, the lighter implements being hung upon hooks or spikes fastened to slats running lengthwise, or even driven into the outside wall. In the absence of a Workshop, like that described on page 169, June No., a work-bench might be placed upon one side of the wagon-shed floor, with a grindstone, &c., at the end. If these are allotted to this building, allowance must be made for them, in estimating the required width.

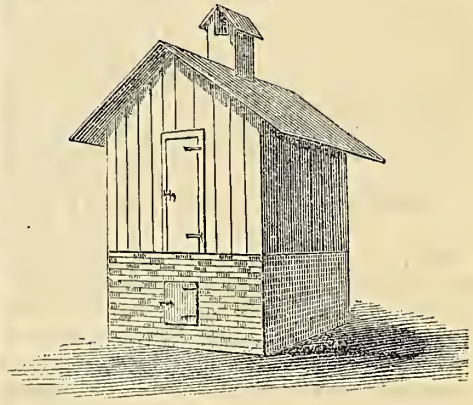
GRANARY.

A capital granary, or corn house, may be put in the chamber of this wagon-house, by extending the posts a few feet higher, so as to make a full upper story, and reach it with a swing step-ladder. Thus, two valuable objects will be attained under one roof, at a comparatively cheap cost.

ASH AND SMOKE HOUSE.

This is a very simple affair, and may be of any size required. The plan we give, is a stone or brick enclosure, 8 feet square, and four, five, or six feet high, according to the storage needed for ashes. A sheet-iron door, fourteen inches square, is inserted in the front, as shown in the engraving. A stone, or brick floor is laid over the bottom, and this constitutes the *Ash*-house.

A line of sills, six inches square, is laid on the top of the walls ; a corresponding set of plates is raised 6 feet above them; then boarded up vertically, the boards either matched or battened A broad roof, either of boards or shingles, with a pitch of one-third—such being our general rule—is thrown over, with a small escape-pipe of boards inserted at the peak, to let out the smoke ; a door at one end, and the *Smoke*-house is complete. Girts are to be laid across the plates inside, filled with hooks, on which to hang the meats, and the fire may be made in the ashes below, so that all is safe from burning. The ashes may be thrown in by way of the upper door, reached by a moveable step-ladder, and they can also be taken out through that or the small iron door below. The sills should be thoroughly anchored into the walls by irons, well secured, so as to keep it from blowing off during heavy winds.



ASH AND SMOKE-HOUSE.

It is not necessary to go into further detail in building this structure ; for, the plan once understood, it may be larger or smaller, cheap or expensive, more or less highly finished, as the proprietor may choose.

We need not go into the cost. Anybody who knows the price of the materials and labor, and has cyphered to the rule-of-three, can calculate it in an hour ; as value of materials, and labor differ in various parts of the country, an estimate here would be of little purpose.

We recommend our plan. We say that ashes should not be stored inside of the dwelling, nor in a wooden building at all. Nor should a smoke-house be within a dwelling, as it endangers the house by fire, and the smoke is apt to get into the rooms. We know of no better contrivance than to combine them into one, and set it a little way from the house, as the cheapest possible way to preserve the ashes, and cure the meats. The meats can remain all Summer, by occasionally making a little smoke, to prevent damage by the flies—the cheapest and least troublesome way of keeping them.

Keep a thing seven years and you will find a use for it. Sometime the storage costs more than the use.

He who swears, shows that he distrusts his own word, and thinks no one will do so if he do not confirm it with an oath

[Written in June, for July number—but crowded out.]

A Rainy Day.

"If it would but stop raining! Rain—*rain*—RAIN," says the nervous impatient farmer, the suburban gardener, and the country amateur. "Why, our crops and vegetables, and flowers, are all spindling up to nothing, and no sun to strengthen, and give them substance!" Well, good friends, that may all be so; but why complain? The rain falleth both on the just and unjust. Our seeds in the end took well, the growth of our plants is vigorous, and the harvest shall not fail, for which hopeful truth we have the highest authority. Your work may be getting behind—ours has been. The crops may spindle up out of due proportion, but all will come right ere long, and before the harvest has fairly set in, sunshine and heat will have done their office, and the Summer's growth will be garnered in its usual fullness and perfection. Of all these, therefore, take no heed for the morrow.

A rainy day, or a succession of them, we know hangs heavy on the hands of a man who loves his fields better than his house, barn, or workshop. But rainy weather need not be idle weather, even with him. Read, write, enjoy your friends, or do some in-door work. Recollect, meanwhile, that the clouds and rain, even when you think you have too much of them, are doing you more service than a score of hands under a fervid sun, or a pinching drouth. *Good* farmers rarely suffer from over abundant rains, unless on a river bottom with flooding waters. Ditches carry off the surplus, while the ammonia, which comes with the rain, fertilizes the earth, strengthens the plants, and prepares them for the genial warmth of the sun soon to follow.

For our part we love to sit in our porch and see the falling shower on the lifting grass, or the growing corn, be it wheat, or maize. How softly the vegetation drinks it in, and after it is over, it revives into renewed freshness and beauty! At such times we think upon the withering, continuous drouths which in other years, for weeks in succession have parched our pastures, and meadows, and grain fields; how our cattle and sheep have sweltered with heat under the almost crisp leaves of the trees which gave them no relief from the broiling sun. Day after day has the brassy sun risen and set without a cloud, and man and beast lay down exhausted, while the poor wilted crops, neither half grown, nor giving promise of ever filling for harvest, were almost as ready for the faggot as for the scythe, or sickle. Let us remember our days of privation, when a driving shower, or a continuous rain would bless millions of people and add millions to our stores, and be thankful that a superintending Providence, wiser than all mortals put together, is dealing blessings upon us that we little wot of in this hour of complaining.

Our readers may call this moralizing. Be it so. But we have little reason to find fault with the weather. We have extremes, we know. However, the present season has been on the whole, a good one. Our Spring was early, yet cool, with perhaps a surplus of rain, and not as unfavorable for seeding as many preceding ones. Our crops promise fairly. We shall, with present prospects, have full barns and granaries. Food will be abundant—labor plenty, and cheap enough. We have had our reverses, too, in past years. Extremes of the season have followed each other in the past three or four years, more than is their usual wont. They have raised prices almost to a famine scale, and depressed them to a non-producing point. We now hope for an equilibrium—a parallel of production and consumption which will give courage to the farmer, and confidence to his purchaser. A rainy day, or a succession of them may be profitably spent, at odd spells, cyphering out the various problems in political economy.

Observing Farmers.

It is hardly to be expected that all farmers will be able to write for the press, or to speak in public assemblies. With some, their early education has, perhaps, been so deficient as to forbid it; and with others, their incessant and toilsome labors make it almost impossible for them to give time and thought to such things. Every man who labors hard daily in any calling, knows that when night overtakes him his body is wearied, and his mind sympathizes with it and craves rest. And the difficulty of writing grows with the disuse of it. Hence it comes to pass that some of our best farmers seldom put pen to paper for the sake of writing agricultural essays. And it must be confessed, on the other hand, that some farmers who drive the quill for the papers, hold the plow with a very slack hand.

It is said that a certain eminent statesman of Pennsylvania, who wrote many valuable papers on agriculture, was often called upon by his admiring readers, expecting to see on his own lands a practical exemplification of his writings. What was their surprise to see gates with broken hinges, plows, harrows and hoes lying about in disorder, and barns and fences out of repair. They made bold to express their astonishment to the learned farmer, when his Honor replied:

"Why, gentlemen, do you expect me to write and work too!" And so, it can hardly be expected that practical farmers should do much in the way of writing for publication. Few men can do more than one thing thoroughly.

Yet, we think that farmers make too little use of stormy weather and of the leisure of Winter for reading and writing. What if they can not produce essays as learned as Liebig's, and polished as Macaulay's, they yet can contribute something valuable to the stock of human knowledge. Every intelligent farmer is an *observer*. He sees something, almost every day, that is worthy of putting on record for his own use, if not for the benefit of others. He learns something both by success and ill fortune, which ought not to be lost. Should not this habit of observation be cultivated? Would it not add much of interest to the routine of farm-life? And if all cannot prepare their notes of observation in finished style for the press, let them communicate their knowledge orally in Farmers' Clubs, and let them send extracts from their journals to the editors of agricultural papers, who would make good use of their observations.

And let us add in behalf of the editorial fraternity, that we always desire to have plain, straightforward details of practice. If well written, with the main facts stated in condensed, clear style, it is labor saved to us, but this is not essential. No matter how ungrammatically written, this is all straightened out before the type setters get hold of a letter, and errors in communications are known *only* to the editors.

A physician once advised Sydney Smith to "take a walk upon an empty stomach." "Whose stomach?" asked the wit.

"SEE-SAW."—"Well," said a carpenter, "of all the saws ever I saw, I never saw a saw saw as I saw that saw saw."

Mules and Hinnies.

If we should ask the youngest farmer on our list of subscribers, "What is a mule?" he would reply at once that, he is "a hybrid or cross, between the horse and the ass." And he would begin to look at our ears, as if the asking so simple a question indicated that we were akin to the last named animal. Yet it is not certain that everybody could answer our question; and fewer still could tell us that there are two distinct animals, both the progeny of the horse and ass, one of which is, and the other is not, a mule. The offspring of a male ass and female horse is the genuine *mule*. The offspring of a male horse (stallion) and a female ass is a *hinny*. The English word *hinny* is derived from the Latin verb *hinnio*, to neigh, which was used by the Romans to designate a point of difference between the two animals—the hinny *neighs* while the mule *brays*. Nor is this the only difference. The general appearance of the mule is like that of the ass, while the hinny more resembles the horse; and the temper of the two is likewise different.

The mule has long ears, like its sire, though a little shortened, out of respect to its dam. The mule has also a rope-like tail, with a tuft at the end; and a long head, (though not a very profound thinker); a thin thigh, erect frame, slender legs and hoofs, and the unmelodious voice of the sire.

The hinny has a smaller and better shaped head, flowing mane and tail, shorter hair, and larger frame, legs and feet than the mule. The hinny has also the voice of the horse.

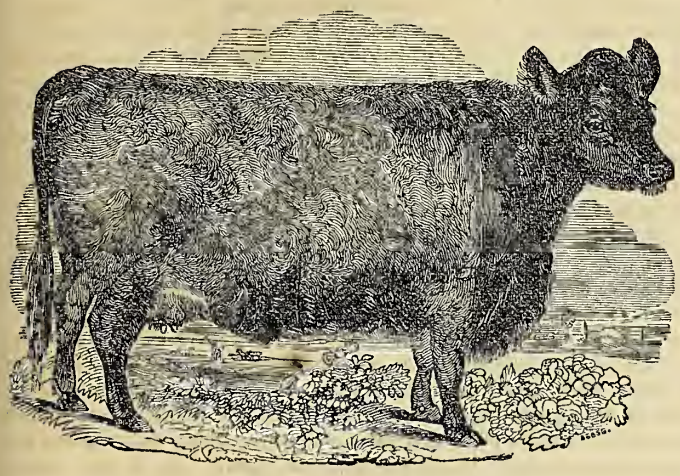
Considering the wonderful endurance of the mule, its comparative freedom from disease, and faculty of keeping in good condition on the cheapest food, we wonder that this animal is not more commonly used at the North for all kinds of farm and team-work. At the South, the mule is the common drudge. The hinny is hardier than the horse, more patient, and will bear harder usage, yet is inferior in these respects to the ass and mule.

The Foot of a Horse.

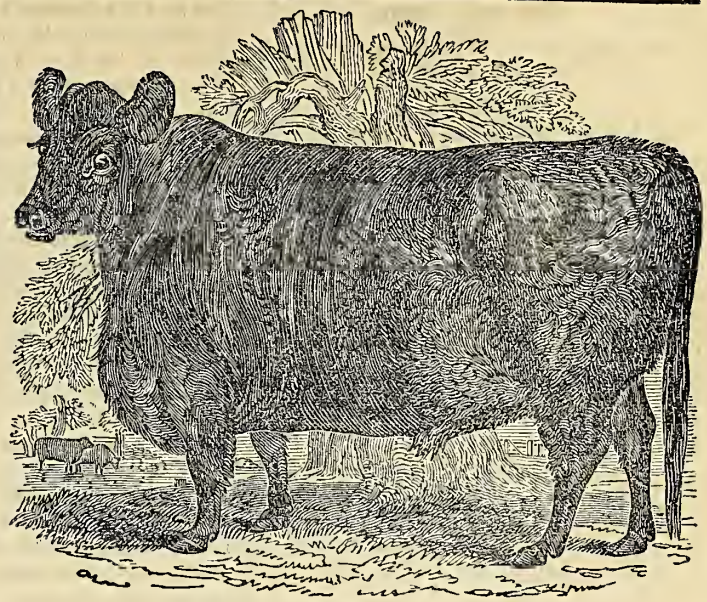
The human hand has often been taken to illustrate Divine wisdom—and very well. But have you ever examined your horse's foot? It is hardly less curious, in its way. Its parts are somewhat complicated, yet their design is simple and obvious. The hoof is not, as it appears to the careless eye, a mere solid lump of insensible bone, fastened to the leg by a joint. It is made up of a series of thin layers, or leaves of horn, about five hundred in number, nicely fitted to each other and forming a lining to the foot itself. Then there are as many more layers belonging to what is called the "coffin-bone," and fitted into this. These are elastic. Take a quire of paper, and insert the leaves, one by one, into those of another quire, and you will get some idea of the arrangement of these several layers. Now, the weight of the horse rests on as many elastic springs as there are layers in his four feet—about four thousand—and all this is contrived, not only for the easy conveyance of the horse's own body, but of human bodies, and whatever burdens may be laid upon him.

Good wheat sown never changes to cheat or tares; but "wild oats" sown in youth always does so.

Let rebukes always be soft words, with hard arguments.



GALLOWAY COW.



GALLOWAY OX IN GOOD CONDITION.

American Cattle....VI.

[*Continued from page* 205.]

THE GALLOWAY.

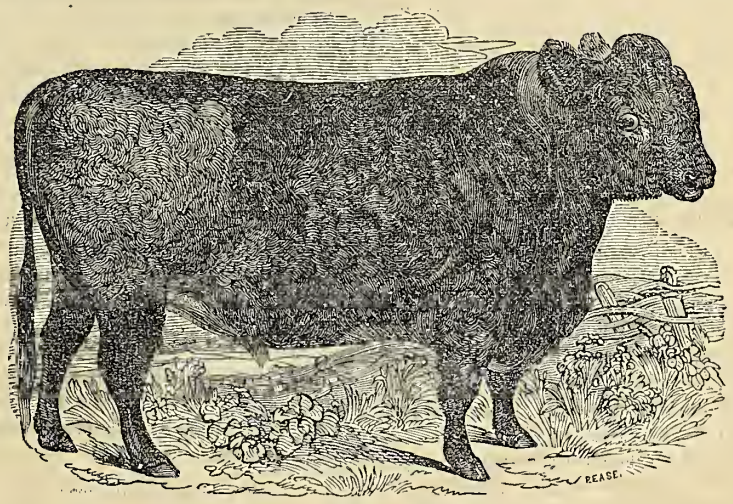
This breed of cattle is so entirely distinct from any other with which we have been familiar, and has been so recently introduced into America, that it is perhaps too early to speak of them; yet, as a considerable number of them have, within two or three years past, been imported into Canada, in the immediate neighborhood of our own State, and are likely to be bred to a considerable extent, they may properly be enumerated among those foreign breeds with which we may shortly become identified in the stocking of our farms.

They are claimed to be an aboriginal breed in Scotland, and for centuries have been an important portion of the wealth of the hardy peasantry who inhabited the mountains, glens, and moors of that interesting country. Wild and uncultivated as were their native ranges, and the people who bred and owned them, they existed in their own natural condition, living through the vicissitudes of prosperity and adversity, as the state of the seasons or the circumstances of their owners might determine. But with the advancing husbandry of Scotland, the condition and appearance of its cattle have improved, and the Galloways, once wild, semi-savage, and comparatively worthless, have become a valuable, docile, and highly esteemed race of neat stock. For centuries past they were bred among the hills, and at the age of three or four years, driven into England, in great numbers, where they were bought up by the farmers, and grazed and fed off for market.

About the year 1786, according to Youatt, Lord Daer, son to the Earl of Selkirk, energetically undertook to improve the breed of Galloway cattle by a course of nice breeding, and good care. Dying soon after, his example was followed by his younger brother—afterwards succeeding to the Earldom—who, in the course of a few generations raised his cattle to a high standard of quality and excellence. This spirited example was readily imitated by many influential landholders who possessed them, and from a mean and common brute, the Galloway assumed a position of importance as a grazing beast which had never been before acknowledged. And so this breed still remains in Scotland. Several small herds are now in Upper Canada, where they are much liked by their partial owners, and breeders. They are rapidly multiplying, and even in the absence of importations into our own ports, they may soon make their way over the Canadian line and find congenial homes among the choice stock of farmers in the States.

DESCRIPTION.

We shall not go much into this. They are mostly black in color—occasionally red, brindled, or dun. In size they are medium. Formerly they were small, but have been grown larger by care and cultivation. They are *polled*, or hornless; compact in figure, full and round in the carcase; short on the leg, with fine bone—elastic in touch, and covered with a thick coat of soft, long, wavy hair. We have seen perhaps fifty of them—mostly imported animals, and their produce—all of the best quality; and to our eye they appear a valuable race of cattle, for grazing purposes—and that is all which is claimed for them. The cuts which we insert will convey a good idea of their appearance.



GALLOWAY BULL.

AS A MILKING COW.

The Scotchman who breeds her will tell you that she *is* a milker. So she is, so far as rearing her calf goes; but as that virtue is not given to her as a dairy cow, in Scotland, we need not claim it here. The heifer calf is usually spayed, at home, and turned out with the steers to graze, and fatten. The portrait of the cow shows little indication of proneness to flow off her secretions in milk.

AS A BEEF PRODUCING OX

The Galloway holds a high rank in Britain. He is reared on the scanty pastures of Scotland, and fed off in the rich meadows, and turnip folds of England. His beef brings the highest price in market, next to the Highland Scot, and holds rank with the Devon. He ripens early—at four years old. We give his portrait—look at him.

THE GALLOWAY'S PLACE IN AMERICA.

The high hills, and mountain ranges of our northern, middle, and southern States—we believe—will ultimately be divided between the Galloway and the Devon, or cattle inheriting largely their blood. In the grand subdivisions of agricultural labor which have ultimately got to be adopted here, as in populous countries abroad, we must adapt uses to means. When that time arrives, we shall find the policy of supplying every variety of our soils with the best possible stock to yield profitable returns on each; and the sooner we set about it, the more it will be to our advantage. In our hopeful anticipations, we believe the Galloway cattle will yet become a valuable, and permanently established race among us.

The Hay Crop.

ITS QUALITY THIS YEAR—SALTING HAY—MIXING STRAW WITH HAY.

Our hay cutting this year is late, and from its extraordinary rank growth in the month of June, considerable portions of it may be overgrown, and washy—that is, lacking substance, and nutritious quality. Grass thus rankly grown should stand longer, to fully mature its sap, and fit it for substantial fodder, than when equally grown under fitting alternations of sunshine and rain. Especial care is required to examine that it be thoroughly cured—not *dried*—before going into mow or stack, as, without such precaution, much that is apparently cured on the outer surface, is still damp and green within.

Many hay cutters have a fancy for salting it as it is thrown into the mow or stack, and the expediency or benefit of thus using salt is still an undecided question with many excellent farmers. We have tried salting, but we confess, with no decided opinion of its advantages. Two, or three, or even four quarts on a ton appears a small dose to preserve hay too damp to keep otherwise. As to any good to cattle to daily partake of salt with hay, even if so thoroughly distributed through as to affect it alike, we have some doubts, believing by long experience that a tablespoonful or so of salt, once in a week or fortnight, is all that a full grown ox or cow requires, and that it is, perhaps, better so fed, than if with their daily food.

Those who are putting up hay for their own use, and have old clean straw on hand, if their hay he imperfectly cured, can profitably intermix layers of straw with the hay, when thrown into the mow or stack, thus preventing mold. The straw absorbs the superfluous moisture, and it also gets a flavor from the grass, thus making the straw a palatable fodder. We have practiced this with *decided advantage*, and commend it strongly.

We have also found rank water-grown hay, like that of this season, less kindly to cure in the winrow, or cock, as recommended in our last number, than that of ordinary seasons. Spreading, therefore, that which is hand-mown should be looked after. In such a season as this, particularly, the benefit of the mowing machine, in this regard, is apparent.

Shade Trees in Pastures.

BY A LOVER OF THE FARM.

I confess to a very warm love for trees. I love them in the forest, stretching their tall trunks towards heaven; I love them on the lawn, affording a welcome shade from "Summer's noontide ray," when, wearied with toil, I return from the field; and I also love noble trees, scattered here and there over the farm, grown in the majestic symmetry of nature, in whose refreshing shade our grandsires sat and looked over the scenes of hard-won, but bloodless victories gained over the stubborn soil. Generations of cattle have reposed contentedly in this shade, and what sweeter picture of rural repose can there he than when looking over broad fields, we see the flocks taking refuge from a Summer's sun, under the wide-spreading boughs of some ancient elm, oak, or maple. And yet we are told that this is all wrong; that all those grand old trees which (thanks be to their sense of the beautiful) our fathers left standing when they felled the mighty forest, must all be leveled to the earth, leaving but an unsightly stump as a monument of departed glory; and horse or ox, with no retreat from the burning rays of a Summer's sun, forced to wander in agony over the field, eating, perhaps, because he does not know what else to do. I don't wish harm to any one, but I would like to see the Hon. Mr. D., who was the first to mount this hobby, laid out in the sun some July day, when heaven and earth seemed filled with fire, and if he did not soon wish for some of those trees he sent his foreman to cut down, I would yield the point. But seriously, are we to have no eye for the beautiful? Is the almighty dollar always to bound our vision? If we plant our lawns with trees, and endeavor to show our taste in their arrangement, why not carry out the same plan over all the farm? We often admire the stately proportions of an oak, an elm, or a maple, at a distance, more than close at hand, because we can then take in their whole beauty of proportion at a glance. No, farmers; do not, as you see your flocks and herds begin to seek the cooling shade, in the leafy month of June, sally forth, ax in hand, and fell to the earth your beautiful trees. I am one of those who believe, that the stomach of an ox requires rest as well as that of a man, and that man might as well cram himself from morning till night, as to require it of his dumb beast. Indeed, when we consider the system of the ox, that he eats quickly, and that a period of repose is absolutely necessary, that he may chew it over again, the idea of compelling him to stuff himself continually is simply ridiculous. Thus would I say to the grazier, spare the trees.

White Daisies.

The prevalence of white daisies on a farm is generally considered a sign of bad management. But let us not be too fast in our denunciation of this weed, or of the farmers who do not exterminate it. Sheep relish it highly, and though horses and cattle turn away from it while green, they take to it kindly when made into hay. Then, there are certain dry, sandy soils, where Timothy and clover grow with difficulty, and suffer in time of drouth, but on which the daisy flourishes well. Now, if the owner of such land has not the means or the time to enrich it all at once, why should he not make the best of the case, and let the daisy have the largest liberty? As to allowing the plants to go to seed, and scatter over the neighboring lands, we give no such advice.

If one desires it, and really sets about it, the daisy is not difficult to eradicate. Turn in a flock of sheep, in Spring, upon a field infested with it, and after they have cropped it quite short, break up the land and devote it to a heavy crop of oats, and the daisies will almost disappear. Or, give the ground a good manuring and devote it to meadow, and the luxuriant grass will choke it out. Or, raising any hoed crop upon the land will answer the same purpose.

Quack or Couch Grass.—(*Triticum repens.*)

This vegetable production has about as many lives as a cat. So tenacious is it of existence, that some farmers have given up beat by it. Instead of trying to extirpate it, they make the best of it and turn it into hay. That it makes good and nutritious food for stock, if well cured, no one can deny. But it is a pest to the land, and every thrifty farmer ought to regard it so, and fight it to the end. On low, soft lands, which can not be well tilled, it may, perhaps, be suffered to remain, if it has got firm possession, but on no other. For it spreads like contagion, and years of hard labor may be necessary to subdue it. On light, rich soils, it luxuriates and bids defiance to everything but the most toilsome and persevering efforts to eradicate it. Gardeners sometimes resort to the expedient of covering with boards any portion of their ground that may have become infested. This operation continued for a year goes far toward suffocating and killing the plants. The loss of one year's crop on the soil so covered, is a small item compared with the gain of clearing the land. If the covering is continued for two years, the eradication becomes complete. Salt, applied in large quantities, will subdue quack; but on deep soils, where the roots penetrate far, the amount of salt required would make the remedy very expensive, and perhaps injure the soil for other crops.

Probably, the best way of all is, to plow deep, harrow finely, and then with a rake and a pair of hands gather up the roots which are brought to the surface. Go over the ground a second time with a three-toothed cultivator, and then use the rake and hands as before. Every root should, of course, be carried off from the ground and burned.

About Weeds.

Do you ask where the weeds are? Sorry to say, in your plowed fields, your meadows and pastures, and garden. See! right in plain sight, in yonder pasture, thistles flourish bravely, both the native American and the foreigner, mulleins, docks, white daisies, Johnswort and what not. Havn't time to grub them up? Perhaps you havn't time to exterminate them all, root and branch, in one year; but you can make a beginning on them Every farmer ought to feel a little ashamed, or at least uneasy, if he is not gaining some headway against this invading army. He ought to he able to say, at the end of every season, that he owns more *free* territory than he did at the beginning. And if he can not root out all the weeds in one year, or two years, he ought to exterminate some of them, and to let none go to seed.

Did you ever stop and think what gross feeders these invaders are? They carry off annually a great amount of nourishment which ought to have been saved for the benefit of your wheat, corn, potatoes, and the like. Thirty or forty dollars worth is annually lost on some farms that we know of. Lost, and worse than lost! How these farmers would murmur against Providence, if a flood, or hail-storm, or drouth, caused them a loss of half that amount! But they take the damage from their own carelessness very quietly.

Now, let us speak a word in season. Grub up at once, the roots of every weed you can find time for; and if you can not kill all, *be sure to prevent their ripening seed.* Set that down as a rule never to be violated. Now, in this very month of August, when every growing thing is hastening to maturity, make an onslaught upon the barbarians. Heap high your trophies on the battle-field; and ere long, fire them, and offer them up as a sacrifice to CERES. It'll please the old heathen mightily.

To Kill Ferns and Brakes.

Most varieties can be subdued by mowing them in June and in September, regularly for two or three years. Let no one be disheartened, because they do not succumb at once. Every year's mowing will weaken them, and they will give up the unequal contest at last. The sort called bog-brake must have its crown hacked off with a hog-hoe. Rake off the tops, and burn, or compost.

Food for Chickens—Varieties, &c.

To the Editor of the American Agriculturist:

I noticed in a former number an article headed "Spring Chickens." My experience has taught me exactly the opposite of what your correspondent says, in regard to feeding young chickens on "soaked bread," and afterwards on "Indian meal well cooked." I prefer to feed them on coarse-ground corn, or "mill screenings," and giving them plenty of fresh water. Experience has taught me, that the "gapes," a disease by which many chickens die in this part of the country, is a small worm which is in the "craw" of the chicken when it is hatched. By feeding the chicken on "soaked bread," it nurtures the worm, till it grows large and tries to get out of the chicken, thereby choking it.

I prefer the "Black Spanish" crossed with the common fowl. I never keep a chicken that has not golden colored legs and bill.

J. Heron Foster, Jr.

Allegany Co., Pa.

Gapes in Chickens.

To the Editor of the American Agriculturist:

I have heard of many, but know of only *one* way to cure gapes in chickens. They are caused by lice. Chickens of lousy hens invariably have the gapes. The lice deposit nits on the down, upon the heads of young chickens, which as they hatch, crawl into the nose, and so to the wind-pipe, and become worms. My remedy is to grease the young chickens, when first hatched, about the head and wings. I also grease the hen to destroy the lice upon her. If the operation is repeated in two weeks, I will guarantee that not one chick in a hundred will die of gapes.

W. M'Comas.

Harford Co., Md.

Remarks—The remedy may be a good one, but we differ from our correspondent as to the *cause* of the disease.

Diarrhea in Calves and Pigs.

To the Readers of the American Agriculturist:

White oak-bark tea is the very best remedy for this disease, which often affects young calves and pigs raised on gruel. Remove the ross or outer bark, with a drawing knife, and boil the inner bark until it has the appearance of strong coffee. Give two or three tablespoonfulls each morning until there is a change. Omit it for a day or two, and only give more when it does not appear sufficiently checked. It is also an excellent wash for sore shoulders on horses and oxen. Rub the affected parts freely with it, and if your own hands are tender or sore they will be benefited by the application.

G. T. Shanck.

Cecil Co., Md.

The Slaughter which Daily Sustains Us.—When we ride, we sit upon the skin of the pig; when we walk we tread upon the skin of the bullock; we wear the skin of the kid upon our hands, and the fleece of the sheep upon our backs. More than half the world are human beings in sheep's clothing. We eat the flesh of some creatures, of some we drink the milk, upon others we are dependant for the cultivation of the soil; and if it is a pain to us to suffer hunger and cold, we should be scrupulous to avoid inflicting wanton misery upon the animals by means of which we are warmed and fed.

Patience is a plaster for all sores.

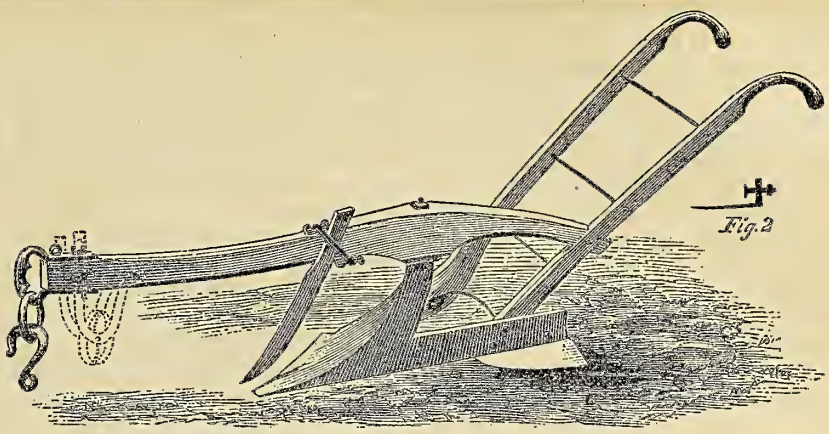


Fig. 1.

Stenton's Land-side Cutter for Plows.

We present, in fig. 1, an illustration of a very simple attachment for the land-side of plows, for which great advantages are claimed. This consists of a horizontal steel *coulter*, having an upright shoulder, which is attached to the land-side of any common plow by short bolts and screws. Fig. 2 is a section of the coulter with the bolt to fasten it to the plow. The engravings show the mode of attachment sufficiently plain to render further description needless. As the plow moves forward the coulter cuts underneath the next furrow for a distance of 3, 4, or 5 inches, according to its width. Those of different sizes may be attached to the same plow.

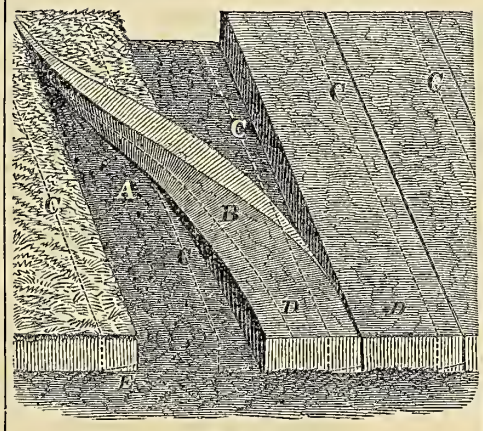


Fig. 3.

Fig. 3 shows a section of ground plowed. *A*, is the place of the plow; *B*, a furrow slice being turned; *D*, *D*, the width cut by the ordinary plow; *C*, *C*, the portion of the overturned furrow under which the land-side attachment passed. At *E* is shown the path of the coulter.

Among the special advantages claimed from this arrangement are: that it brings the cutting edge of the base of the plow upon both sides of the beam, and thus equalizes and even diminishes the draft; that the plow rests on a broader base, and therefore runs much steadier, requiring less holding; and that the loosening of the outer edge of the furrow, by the cutter having passed under it, enables the same plow to turn neatly over a much wider furrow slice.

We have not yet seen a plow at work with one of these attachments, but we can readily conceive that the above advantages may result from its use. The only point of objection we can imagine, is, that in particular instances the furrow might slide sidewise instead of turning over, if its outer edge should be loosened too far underneath. The inventor states that this is not the result in practice. The apparatus is simple, cheap, and capable of attachment to any ordinary plow by drilling a couple of holes in its land-side. Particulars as to price, &c., can be learned from the advertising columns.

Observing Bee-Hives—Correction.

In our June number we gave directions for making hives for observation. A single error in the type requires correction. On page 171, in the first line of the middle column, the types make us say $\frac{1}{8}$, when we wrote $\frac{3}{8}$. Those who are constructing hives should note this, as of considerable importance.

If an after swarm is treated in the way we there described, and the queen has her wings clipped to prevent her elopement, the eggs she lays will produce only drones; and from these of course no new queen can be procured in case of her subsequent removal. We thought, however, that the experiment in this form would not lack interest.

Notes on Honey-Bees.

To the Editor of the American Agriculturist.

The habits and peculiarities of the honey-bee are very interesting to me, and I will state a few facts that have fallen under my observation:

In the fall of 1835 my father took a "*gum*," or section of a hollow tree, containing a strong stock of bees, and placed it with the bees in a square box that would hold eight or ten bushels. They soon formed a large mass of comb on the outside of the gum, but of course inside the box. They *never swarmed* but made a great deal of honey which was removed yearly. In the Spring of 1857, twenty-two years after they were placed in the box, my brother and myself took the gum out and placed it on a stand close to the ground, as Mr. Quinby directs. They cast a large swarm the same season. But they have not done well this year, and about a month ago, we drove the old stock out of the quarters they had occupied for twenty-five years. Now these bees are fully one third smaller in size than bees in young stocks adjoining. The old brood-combs were black as tar, and the cells diminished in capacity at least one-third. Does not this prove that bees degenerate in size if old brood-combs are used!

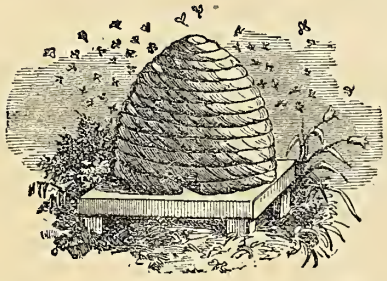
Quinby and other writers think that it is very unusual for swarms to go off without clustering, and they doubtless narrate their experience truly. But bees often decamp here without ceremony. Only a few days since a stock belonging to my brother cast a swarm, and before the last of the swarm was out of the hive, the vanguard was a hundred yards off; and despite of throwing water

among them they very deliberately proceeded about a mile to a large poplar tree into which they entered. We cut the tree down and secured the swarm which is now doing well. A large number of swarms are lost in this vicinity every year by going off without clustering. Is there no remedy?

Another query and I have done. A neighbor of mine has five stocks, varying in age from one to three years. They are all strong healthy stocks; three of them have already cast swarms and the other two will swarm in a few days. In all, except one, vigorous piping was heard before the *first* swarm issued, and in one of the *swarms* which has been out four days, I last evening heard the queen piping when I was twenty fect from the hive. The first swarms were not kept back by bad weather. Now this is altogcther different from what I was led to expect from reading works on bee-culture. Will Mr. Quinby, or any of your correspondents explain? I am comparatively a tyro in such matters and seek information.

S. C. MENDENHALL.

Frazeysburg, Muskingum Co., O., July 1st, 1858.



Wonders of the Bee Hive....XIV.

The body of the honey-bee is wonderfully fitted for the work it is expected to perform, and the most minute examination with a powerful lens, reveals new wonders in connection with its structure. We present in Fig. 21 a magnified view of the *proboscis*, with which all the honey is collected from the flowers that yield it. If our readers can find a bee on a flower, or still better, if they can coax one to help itself to a piece of candy or a drop of liquid honey, they will see a long flexible trunk, somewhat like an elephant's, (though not so large,) let down from the mouth where it was concealed before, and rubbed over the sweet object like a camel's hair pencil. This is the proboscis, whose parts are represented in fig. 21. To the eye, it seems to be a single instrument, and yet by a careful examination of a dead bee it will be found capable of separation into several parts, five of which are easily distinguished and are grouped together like one's fingers. These are all of a rich brown color, or horn-like, and of course will not be confounded with the two black *antennæ*, which stand out on each side of the head.

In the figure, we are supposed to be looking at the head of the bee as it is turned over on its back, and the joints of the proboscis are rather unnaturally extended for exhibition. The five parts spoken of are represented by *a*, *a*, *e*, *e*, *m*. Of these, *a*, *a*, indicate the first pair of joints, about as large as hairs, partly membraneous, and partly of a substance between horn and bone, covered to some extent with fine hairs. The veins running through them are air tubes. These joints fold down upon the proboscis, *m*, and by their motions draw the honey up through its channel toward the head.

In *e*, *e*, we have the next pair of joints, much like the first, which, however, have at their upper extremities, three articulations, *f*, *g*. These do not fold upon *m*, like *a*, *a*, but project a little outwardly, and are supposed to open the way for the proboscis, as it is penetrating the nectary of the flowers. Swammerdam compares them to the fore-feet of a mole, pushing the earth aside both ways, as it burrows in the ground.

The middle part, or the true proboscis, appears at *m*. It is surrounded by hairs, and at the very extremity, *o*, has a small opening also guarded by hairs. There is either a tube or a channel running through this part of the trunk, which is alternately enlarged and contracted by some muscular apparatus while the honey is ascending. Between *m* and *e* is another pair of joints, *h*, *h*, shorter than the others, and not so easily recognized by the eye. At *l*, we have the gullet cut off, on either side of which are the articulations that connect the whole with the head, while *q*, *q*, represent very black, but shining joints that form a sheath protecting and concealing the proboscis when it is not in use. We do not consider the illustration a very satisfactory one, but with the explanation given we hope our readers will be better able to examine for themselves the living object.

The proboscis of the honey-bee is not long enough to penetrate some flowers which are rich in sweets. It is unable, for example, to get any supplies from the red clover, whose blossoms, as every boy knows, are so sweet to the taste. The humble-bee has the advantage of it in this respect. It is said, however, that the honey-bee sometimes bites a hole in the flower of the common Fuchsia, and of the Dielytra Spectabilis, in order to get at the tempting stores which there invite it.

The honey, after being drawn up by the proboscis, passes at once to the honey-bag, which is situated in the abdomen of the bee. On returning to the hive, the bee can throw it out again into the cells, or can feed any bees that ask for it, as it enters. The honey-bag, when distented with honey, is translucent; if the bee has been fed in the house and then fires against a window where there is a strong light, the fullness and transparency of its body are quite noticeable

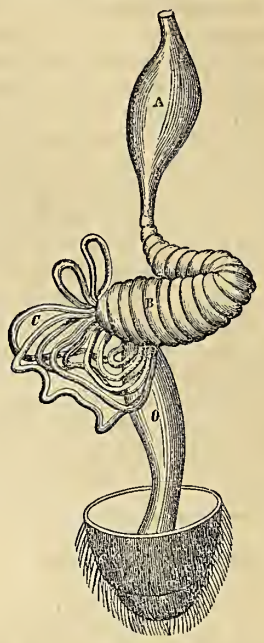


Fig. 22.

Fig. 22 represents the stomach and digestive organs of this insect. *A* is the honey-bag, as large as a pea, which is filled through a slender tube extending from the mouth. From this the food passes into the stomach *B*, and thence into the folds of the intestines *C*, and through the larger intestine *O*, to its termination in the lower segment of the body.

There is room yet for much research and patient study of the laws of life and reproduction in this remarkable insect, but it needs to be done by the careful anatomist and philosopher. The results will be profitable to the apiarian. We have now given views of the ovaries, the sting, the proboscis, and the digestive organs, all of which contribute to our purpose of illustrating "The Wonders of the Bee-Hive."

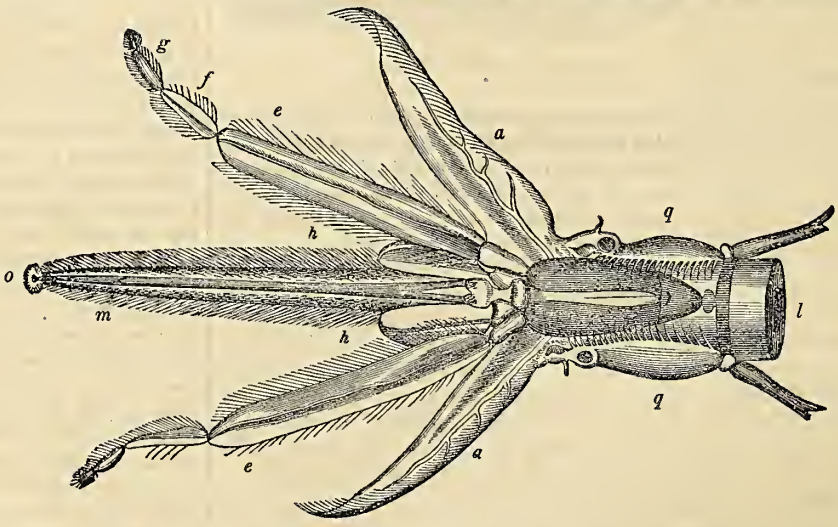


Fig. 21—PROBOSCIS OF A WORKER-BEE, GREATLY MAGNIFIED.

A BLUE-BIRD IN A BOTTLE.—The West Roxbury Gazette, (Mass.) gives the following item: "One of our neighbors happening to have a large bottle, bethought himself of placing it in the branches of a tree near his housc, for the birds to build in if they would. After a short time the members of his family perceived a pair of blue birds continually, day after day, flying about and coming up to the mouth of the bottle, as if endeavoring to get in. After this had lasted about a week, the gentleman took a hammer up to the tree to knock off the neck of the bottle, so that the bird might enter, when upon doing so a blue-bird flew out. The poor prisoner had undoubtedly succeeded in making his way in, but from the slippery ascent to the mouth had been unable to escape, and had probably been supported by food brought there by his outside brethren."

How Plants and Animals Grow.

Let us begin by saying a few words about the germ of life in both plants and animals. There is a germ of the chicken in the egg, which is quickened into life by the agency of heat and air. This new life is sustained by nourishment found immediately around it, within the shell. By the time it has exhausted this food, the chick is ready to burst the shell, and to seek its nourishment elsewhere. So the germ of the plant is within the coats of the seed, and it is quickened into life by the action of heat and air. It has a store of food provided for it in the seed itself, until it is able to strike its roots into the soil, and gather nourishment from other sources. In the quickening, both of the animal and the vegetable germ, *light* must be excluded.

Animals and vegetables live upon animal and vegetable food, yet in both cases this food must go through a preparatory process before it will sustain life and nourish growth. In both cases, if solid it must be rendered soluble. In the case of the plant, this transformation takes place in the soil. Under the influence of heat, air and moisture, decomposition progresses so far, as to break up and render solvent the solid matter, and fit it to be taken up by the plant. This food is imbibed by the spongioles, the fine hair-like fibers of the extremities of the roots, and by them is carried through the body of the plant into the leaves, where it is elaborated into nutrition, fitted to build up the various parts of the growing plant—as bark, root, flower, fruit, &c. A like preparatory process goes on in the stomach and lungs of the animal. The gastric juices of the stomach act upon the crude food, breaking down its cells and rendering it solvent. The lacteals (little tubes opening into the intestines) then take it up and carry it to the blood; this conveys it to the lungs, and into every part of the body, during which process it is elaborated into the nourishing elements of flesh, bones, muscles, &c.

Plants and animals both breathe, and cannot live without breathing. The air which the animal inhales, gives up a part of the oxygen to the blood, which it meets in the lungs, and the blood sends off a part of its carbon at the same time in exchange. In this way the blood is fitted to become living animal matter. So the leaves are the lungs of the plant and the sap its blood. The sap brought in contact with the air in the leaves, gives off oxygen, and imbibes carbon, and so is fitted to become living vegetable matter. Destroy the lungs in either case, and the great vital processes of life are arrested, and death ensues.

Digestion, in the case of animals, requires a high degree of temperature in the stomach, between 90° and 100°. Decomposition of the food on which vegetables subsist, goes on most actively in a high temperature, and ceases below 40°. Hence it is, that vegetable growth is suspended by the cold of Winter.

Vegetables, as well as animals, may eat too much, and too rich food. Both, when in an enfeebled state, require but little, and that in a diluted form. If fed at any time, on too concentrated food, or with an excess of it, the spongioles of the plant and the lacteals of the body become clogged, and unable to take up and transmit the nourishment through the several structures to which they belong. There is, however, a beautiful law prevailing in both cases, by which they may throw off, through certain excretory organs, such foreign matters mixed with their food, as they do not require, or which may be uncongenial.

Facts like the foregoing would be interesting, merely as matters of information, even though they were of no practical utility; but they are of use. If the germ in the seed is quickened into life only in certain conditions, care must be taken that those conditions be provided. The seed must be placed where it will have the requisite air, heat and moisture—not too deep in the ground, nor too near the surface. Both the plant and the animal must be supplied with food in such a state that it can be easily digested. The plant needs even more care than the animal, for it is stationary, and cannot go abroad for food. As plants need to breathe, we see the folly of stripping grape-vines, or other plants, of their leaves in Summer, in order to ripen their fruit.

The Yellow Locust.

Considering the value of this tree for many purposes, we wonder that it is not more largely cultivated. It is a useful timber for railroad sleepers, fence-posts, wheel-hubs, and in ship-building. It is almost as enduring as the red cedar. For the Western prairies, where the farmer wishes to get shelter for his crops and buildings in the shortest possible time, this is, unquestionably, an excellent tree to plant. Indeed, as we are happy to know, it is already being planted largely in several of the Western States. Railway companies are lining their roads with it, both for the sake of shelter from the winds, and to furnish "ties" for their tracks.

It is a peculiarity of this tree, that though a rapid grower, and therefore an enormous feeder, it yet enriches the soil beneath it, probably by its large annual deposit of leaves. Grass grows very luxuriant beneath its shade. This tree may be rapidly propagated by seed harrowed into the soil, or by planting young trees, which will spread in all directions by suckers. Half barren pastures, and hill-sides useless for tillage, might be made much more profitable than they now are, by devoting them to groves of locust. Lands of this description have already been made to yield timber worth one hundred dollars an acre.

Are Cleared Lands More Subject to Drouth than Others?

To the Editor of the American Agriculturist:

The writer has often read, in articles which have appeared in the agricultural papers touching the bad effects of cutting away our native forests, that where so cut away, the land becomes more subject to drouth than before. We fancy such theory can only apply to the fact that clearing away the forests and opening the land to cultivation, gives a freer passage to the water, as it falls or collects in various bodies, as swales, swamps, springs, &c., and passes it off into the larger channels; for we do not see how the simple fact that trees, averaging not over eighty feet high, can attract larger bodies of water through the clouds thousands of feet above them, than the surface of the earth could do without trees. The face of the country, we believe, has much more to do with it. Hilly and mountainous countries in the temperate zones, are usually more showery than plains; and whether the hills be bare or forested, appears to make no difference. The natural laws of atmosphere, climate, evaporation, winds, and the locality of bodies of water, we imagine to be controlling causes in the falling of rains, or the occurrence of drouths.

We are led to these observations by the immense rains of the present season, which have fallen all over our Western States, almost with the violence and continuance of a deluge; and the vast prairies, stretching for thousands of miles in extent, seem to have had, if any thing, the worst of it. There are no mountains there—the Alleghanies being the most western range, east of the Mississippi—and none more for a thousand miles beyond it. Nor is the country even hilly; but one immense champain of level and rolling, timber and prairie, faring about alike in each and every year with rain or drouth.

We have a good many weather wise-acres in the land, and many meteorological tables have been kept; but we confess, with all our investigations, we have as yet been unable to work out any conclusive problem to guide or regulate our judgment in atmospheric phenomena, other than the barometer and thermometer; the one giving us only a day or two's indication of what weather may come, and the other telling the fact as it is at the moment.

There is no sort of regularity, year by year, to our American climate, except in the revolution of the seasons. OBSERVER

Care of the Lawn.

During the heats of Mid-Summer, there is danger lest the lawn be neglected. Other cares now press, and the long-continued heat of the sun has browned up the grass so that its beauty does not reward the pains bestowed, as it did in Spring.

Nevertheless, do not neglect the lawn. Mow it once in ten days or a fortnight, according to the growth of the grass, roll it after every mowing, and if you have a garden engine or other means of irrigation at command, fail not to give the grass the benefit of it every few days. It is better to give it a good, thorough soaking down to the lowest roots, once a week, than to just sprinkle the leaves every day. If any thistles, white daisies or other weeds creep into your turf, dig them up at once. If any spots look bare and sterile, scatter over them some old, finely pulverized compost, and rake it in. The first rain will carry its soluble properties down to the roots of the starving grasses.

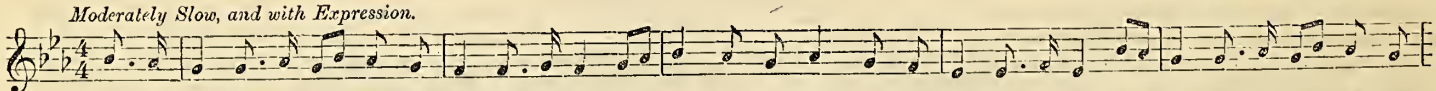
Don't neglect the flower-beds cut out in the turf. Unless you are on the alert, the roots of the grass will creep into the rich soil of these beds. Trim out the edges, every few weeks, with a sharp spade, preserving the outlines of the original figures with much care. Lighten up the soil of the beds with a forked hoe, and rake them off smoothly. Such trailing plants as verbenas should be pegged to the ground, and others, as lantanas, geraniums &c., should be kept tied to neat stakes. Let slovenliness be banished from your premises—from the lawn, especially—and let neatness and order everywhere appear.

Some would-be gardeners have an annual horticultural "fit," in the Spring, when they buzz around like so many bees, making a great flurry with roots and seeds. "What splendid gardens we shall have this Summer! Won't *this* be exquisite, and *that* be charming!" And so they rhapsodise for a few weeks, and make sober people around them uncomfortable. But the "fit" passes off by the first of June, or thereabouts, and their gardens grow up to weeds. Not so with the true horticulturist. He has such an inborn, hearty love of Nature, that his zeal knows little abatement throughout the season. In the midst of dog-days, he may become tired *in* his garden, but not *of* it. His trees, shrubs and plants, both useful and ornamental, never suffer from neglect, and his premises in their several parts are always in order. We number not a few such gardeners among our readers.

THE GREEN LANES OF ENGLAND.

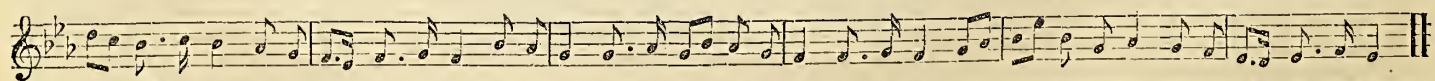
AIR—"Balance a Straw.

Moderately Slow, and with Expression.



1. Thro' the green lanes of Eng - land, the long sum-mer day, We wan - dered at will in our youth's mer-ry May; We gath - ered the blooms o'er the
2. But the green lanes of Eng - land, tho' dear to us then, Were dear - er by far when we grew to be men; When the heart's first e-mo - tions were
3. Ye..... green lanes of Eng - land, wher-ev - er we roam, Ye are linked in our hearts with the mem'-ries of home, With the sports of our child-hood, the

hedge - rows that hung, Or mocked the sweet song that the night-in - gale sung. In the au - tumn we knew Where the black - ber - ries grew, And the
fer - vent and pure, And the world had no grief that a smile could not cure. 'Twas be-neath the green leaves, In the calm sum-mer eves, That we
love of our prime, And the pen - sive de - lights of a se - ber - er time. Oth - er lands may be fair, With their balm - breathing air, And their



shy haz - el - nuts hid-den deep in the shade; Or with shouting and cheer, When the Christmas drew near, In search of the ripe rud-dy hol - ly we strayed.
breathed the young hopes in our bo - soms that burned; Or in love's gen - tle eyes Read the ten - der re - plies, That showed the fond pas-sion as fond - ly re-turned.
beau - ties and grand-eurs that charm or ap - pal; But to young and to old, Till our hearts shall grow cold, Shall the green lanes of England be dear - er than all.

The Green Lanes of England.

We recently saw in a copy of the London Illustrated News a print like that on the opposite page, and believing it would interest our readers we laid it aside until a convenient opportunity should offer to have it engraved and inserted in the *Agriculturist*. We have nothing on hand more appropriate to this torrid month than the refreshing shade presented in the engraving. The picture speaks for itself, and needs no description. The beautiful words and plaintive air accompanying, we thought too good to be omitted.....We have in store many pleasant sketches, which we shall engrave and present to our readers from time to time, when not over-stocked with original designs. We see no reason why the *Agriculturist*, while mainly devoted to practical labors, should not also give some of the more pleasant things which will interest and elevate the feelings of those who are engaged in rural occupations. We hope to combine in this journal the largest amount of useful information, together with much that shall tend to refine and elevate the taste of its readers.

Don't Neglect the Grape Vines.

If our readers have given heed to our monthly hints on this subject, they have already begun the Summer pruning of their grapes. They have rubbed off the superfluous shoots which often spring from a single joint, leaving only one to grow, and that the strongest. And as numerous rampant suckers have sprung up around the stump of the vine, they have pulled them off, unless it so happened that they wanted a new shoot or two to supply the place of some defective branches. At present, then, their vines are not a mass of wild, ungoverned foliage, but the canes are just numerous enough, and so laid in as to well cover the trellis, and yet afford light and air to the leaves and fruit.

As the berries attain to the size of large shot, remember to pinch off the shoots two or three joints beyond the fruit. This will check the flow of sap and the formation of unnecessary wood, and will throw the forces of the vine into the clusters. After a little while, the buds below will push again. Let them grow an inch or two, and then give them a second pinching, and even a third, if necessary. By the time this last application has been made, growth will cease, and the grapes will begin to ripen.

If it is your object to get the greatest possible number of grapes, let the clusters all grow, large and small. But if you wish to grow only the best possible fruit, then take off the smaller clusters, here and there, all over the vine, and the clusters remaining will get all the food they need to develop themselves handsomely. It may cost you a slight struggle to throw away so many bunches; but if you mean to surprise your friends next September and October, with some splendid fruit, or if it is your ambition to carry off the prizes at the approaching Fairs, then don't hesitate between quantity and quality. And further, after you have fixed upon a lot of superior clusters in different parts of the vines, go over them carefully with the sharp-pointed scissors made for the purpose, and nip out all the small or diseased berries, so that those remaining can swell to larger and more uniform size. If you are a bungler, you will prick some of the fairest and best berries, and do more harm than good. After the grapes have begun to color, do not handle them, as you will thereby rub off the *bloom* from the fruit, which is one of their chief attractions.

The Orchard....VII.

THE PLUM.

Where it can be grown in perfection, this is one of our best Summer and early Autumn fruits, the several varieties yielding us luxurious treats for four or five weeks in succession. Its beauty of form and color, as well as its high flavor in taste, makes it exceedingly ornamental as a table fruit, while its various uses in the culinary department, both fresh and dried, make it a valuable article in the household economy. *Good* plums exist in numerous varieties; and many, and perhaps the best of them are of American origin, well suited to the soils and climates from which they sprung. This fruit, however, as a class, is capricious in its selections of soil and position, and, as a rule, flourishes in few places as compared with the apple, and other general fruits.

The plum is a native of all our climates, from the St. Lawrence to the Savannah rivers—in different varieties—but the Middle States are its most acceptable locality. Wild varieties, however, grow spontaneously in every one of the United States; but as they are of limited use, and varying excellence, we cannot well number them among those usually propagated in nurseries and gardens, and to be recommended for cultivation. Therefore we do not notice the wild fruits further than in the passing remark, that they may be cultivated wherever they will thrive, and the better varieties refuse to yield their fruits.

SOIL AND POSITION.

The *very best* soil for the cultivated plum is a heavy clay loam, on a dry bottom. Lighter soils will give them good growth, but a shorter-lived tree, and less certain bearing. We have seen them in all varieties of soil, but we know no plum orchards which are reliable in continuous yields, high flavor of fruit and full health of tree, except on the clays. There seems to be an affinity of the wood and foliage of the plum to heavy soils, which is absent when connected with more open soils—the heavier soil giving a healthier existence, a more vigorous growth, and a greater longevity, as well as more constant bearing. Certain localities are remarkable for their affinities to the plum. For example: The valleys of the Hudson and its tributaries above Poughkeepsie, in New-York State, are remarkable for the fine growth and constant bearing of their plum trees. There, disease seldom attacks them, the finest varieties have originated thereabouts, and while in many other widely extended districts they utterly fail, or but seldom produce, they there continue to flourish in unabated vigor and fruitfulness. The curculio and black knot, their worst enemies, seldom affect them, while, in other places, their ravages either cut off the annual crops, or destroy the tree altogether.

The quality of the soil need not be excessively rich to grow them. Any well-conditioned garden ground is rich enough; but, like other fruit trees, they require open culture, and freedom from grass and weeds. Thus treated, with moderate pruning, if they thrive at all, they will fulfill all their duty to the cultivator. Indeed, we have seen them, where they had a favorable locality, do wonders in annual crops—even under neglect and abuse, such as many other varieties of fruit would refuse altogether, so hardy and constant is their general nature.

PLANTING AND CULTIVATION.

Sixteen to twenty feet apart is the proper distance for a plum orchard. The planting should be the same as with other fruit trees, and the after-cultivation similar. When inclined to bear in full luxuriance, the chief difficulty to be surmounted is overbearing. No other fruit tree bears so excessively, at times, as the plum; and when so inclined, the fruit should be early thinned to save the branches, which, being a brittle wood, incline to break, unless supported by stakes or crutches. In short, the plum tree wants watching and attention for a successful result in its fruit.

VARIETIES.

These are many, and as we before observed, the most successful, and the best in flavor are of domestic origin—with the exception of the *true* Green Gage, which is of French origin, and exceedingly difficult to produce *here* in perfection. That variety has been long among us, and given birth to many sub-varieties, none of which equal the parent in exquisite flavor, but they are still among the best we cultivate. The choicest, indeed, hold strong relation to the true Green Gage, although, both in color, size, and flavor, they sometimes partake more of the characteristics of other original varieties which have contributed, in a degree, to their parentage. Many of these sub-varieties, more or less require the soils and localities from which they originally sprung—some of them being refractory and almost worthless when removed to other distant localities, while others are placable and kind in their production. As with most other fruits, however, the choicest kinds are the least reliable, both in growth and crop, like the Jefferson, for example, which is a direct seedling from the Green Gage, and is rarely cultivated with success at all out of the vicinity of Albany, the place of its origin.

Among the select varieties, we consider the Smith's Orleans the best of the *blue* plums, being large in fruit, delicious in flavor, a hardy tree, and full and constant in bearing. Among the *yellow* varieties, are the Bleecker's, Prince's and Imperial Gage, and, best of all, the Washington Among the *reds* and *purples* are the Red and Purple Gages, and the Lombard. Added to these are many others of local or wide-spread celebrity, which are, more or less, known among the plum-growers, or found in the books, from which a choice can be made, as the taste or fancy of amateurs or orchardists may select.

As a market fruit, however, the most profitable, as well as reliable, the several sub-varieties of the common blue, or horse plum, take precedence. Among these is the Frost, a kind much cultivated along the Hudson River; small, and late, and fine for preserves and drying. All these, usually seedlings, or suckers from the roots of other trees, are easily propagated, hardy in growth, and abundant bearers. *Choice* plums, as a market fruit, are so perishable, and chiefly wanted for immediate use or drying, that, in any quantity, they will bring little more in price than the coarser ones, and, unless under very favorable circumstances, can scarcely be recommended for that purpose.

DRYING PLUMS FOR MARKET.

Where they flourish with certainty, the common plum can be made a profitable crop by gathering them just before fully ripe, and drying them in kilns or ovens made for that purpose. They thus become a domestic "prune," equal in quality to the foreign article so well known among the shopkeepers, and freely consumed in our larger towns and cities. A tightly built room of a few feet square, with a stove in it, and racks resting on cleats upon the walls, put up in the simplest manner, receives the fruit. They are dried in a day or two, and can be bagged and hung up for family use, or market, at pleasure. Many farmers drive a profitable item of business in that line

and turn their plum orchards to good account when distant from a ready market for the fresh fruit.

DISEASES.

The plum is subject to two formidable, almost fatal enemies—which, more than all other impediments put together, forbid its cultivation and cut off its crops—the *curculio* and the *black-knot*. The curculio is an insect. The *cause* of the black-knot *may* be an insect also, for it is not yet altogether understood; but the disease, whatever be the cause, is a bulging excrescence upon the branches of the tree, causing barrenness in bearing, and the final death of the tree itself.

It cannot be expected that, in an article like this, we can go into the various prescribed remedies against either of the above scourges, as scores of nostrums—scarce one of which has been found decidedly effectual—have been offered. They have, for many years past, been discussed in our fruit books, agricultural and horticultural papers, and journals, with, as yet, no positive solution. In our own experience, fifteen or twenty years ago we could grow plums by scores of bushels every year, with as much certainty as apples; but for the last dozen years we could scarcely grow as many quarts, with now and then an exception, even on a good plum soil. Yet there are large plum growers in occasional parts of the country, who say they *never saw* a curculio, or suffered from its ravages; and the black-knot does not trouble them! The circumstances of the plum grower must therefore determine his abandonment of, or perseverance in their culture.

To such, however, as intend to grow the plum for their own pleasure, irrespective of the impediments that may combat their efforts, we can only recommend them to the careful study of our current publications, and the proper books which treat upon the subject. They *may* succeed against the most formidable pests to which the fruit is prone to be attacked, and if not repelled at too much cost, will find abundant satisfaction as the reward of their labor.

Raising Fruit Trees from Seed.

M. M. Ferguson, Williamson Co., Texas, and several other inquirers, who write that they live remote from nurseries, will not find it difficult to raise their own trees. The main thing necessary is to have access to a few trees of desirable kinds to obtain grafts or buds from. Another difficulty in newly settled countries is to get suitable seeds for starting. Sometimes it is necessary to obtain them from seedsmen or others at a distance, but as a general thing it is desirable to take them direct from the fruit itself, if possible.

Collect the seeds of the various kinds of fruits when fully ripe, separate from the pulp or flesh, and put in boxes of earth at once; or they may be put in the ground immediately. With many of them, especially the stone fruits, to allow them to become thoroughly dry before planting, is nearly equivalent to destroying them, as they seldom vegetate. Where, from any cause, they become somewhat dry, and fail to vegetate the following Spring, it is better to leave them undisturbed another year, as they frequently sprout the second season. Seeds placed in boxes in the Summer and Fall should be exposed to sun and rain until late in the Fall, and even watered during dry weather. There is danger of too much wet and frequent freezing and thawing when left exposed during the Winter. A shed or dry cellar is a good situation for them till Spring. It is immaterial whether they freeze at all—they certainly should not freeze and thaw frequently. Plant them out thickly in beds in *early* Spring, covering the same as corn. We have often cracked the peach pits in the Spring, planting the kernel only, but they will usually burst themselves unless they have become too dry. The after culture consists in keeping down weeds and the ground loose, for one, and sometimes two years, when they are transplanted into rows some three to three-and-a-half feet apart and eight to ten inches in the row, for grafting or budding with approved varieties. Having heretofore described these processes we omit them now.

The Peach grows very rapidly and is frequently ready for budding during the first season, and may be transplanted into the orchard at the end of the second year. Apples, pears, plums and cherries, are usually budded when two years old, and set in the orchard two years afterwards The practice of most tree growers is to bud or graft their trees close to the ground, when one or two years old; but it is a question with others whether it is not better to allow them to form a trunk, and either graft four or five feet from the ground, or perhaps better, graft the branches, saving the body of the seedling as a more *natural* and healthy stock. Our series of articles on the Orchard has valuable suggestions upon this and other topics, connected with fruit growing.

Management of Young Trees in Summer.

One reason, undoubtedly, why many trees fail the first season after transplanting is, that their roots were not mudded on being sent out from the nursery. Every nurseryman should keep a barrel or puddle of mud, in constant readiness for coating over the roots of trees which are to be moved any distance, and are in danger of becoming dry in the transportation. This coating not only preserves the moisture of the roots while out of the ground, but also helps to form an immediate contact between the soil and the roots when they are set out. Where this mudding or "puddling" has been neglected, it is important, in planting, to press the fine soil among all the fibres, and to fill up every cavity. Indeed, this should always be done. It is not enough to shovel in the dirt over the roots and tread it down with the foot. Get down on your knees, and work the soil into every interstice with your fingers. Are you too rheumatic, or have you too stiff a backbone for such work? then bring a pail of water and dash it on the roots when the hole is about half-filled, to wash in the earth, and then put in the rest of the soil.

But it sometimes happens that trees, however well planted, suffer from drouth in Summer. Watering them is only a temporary relief, and it often does as much harm as good. Thrown upon the top of the ground, only a little penetrates to the roots, and the surface soon becomes baked into a hard crust, which no moderate rain nor any dew can soften. If watering is resorted to—and it is sometimes necessary—the surface soil should be removed with a hoe, and a pail or half a pail of water poured into the cavity at the end of the roots, and then the top soil returned to its place. The roots are thereby refreshed, and the earth above them is kept mellow. But instead of repeating such waterings, we would mulch the soil around each tree with tan-bark or sawdust, or leaves, with a few stones to keep them in place. The strawy portion of the manure-heap is a good mulch, imparting richness about the roots as the rain washes in the manure. Be sure that the mulching extends as far as the extremities of the roots. A good cultivator once said that, in his experience, the best *mulcher* was a long-pronged *hoe*, by which he kept the soil about his trees clean and mellow. Perhaps he was right; but most farmers cannot find time to cultivate their trees so carefully; and for such, a good mulching, such as we have mentioned, is the best thing they can do.

To Make Fruit Trees Bear.

Some pear-trees which make a rapid growth of wood, are yet very slow in yielding fruit. The Autumn Bergamot is one of this class, often growing steadily for ten or twelve years without producing a solitary pear. An orchardist may well become impatient with such trees, and cast about for some method to expedite their fruitfulness.

Let him try root pruning. Late in the Autumn, or early in Winter, uncover the ends of the roots, and with a sharp spade, cut off the tap-root, if there be one, and shorten the side roots, more or less, according to the luxuriance of the tree. The side roots should be removed with a pruning knife, and with an upward drawn cut. At the first operation, let the pruning be moderate.

Another method is to transplant non-bearing trees frequently—say every two or three years. Of course, this can be done only on trees of a moderate size. This is, in reality, a sort of root-pruning. It checks the flow of sap to the extremities, and converts side buds into fruit spurs. Trees so treated should be kept vigorous, by ample manuring. Mr. Rivers, of England, an eminent pomologist, practices this method extensively to bring new varieties into early bearing. He prefers it to grafting on the quince, because, after his trees have been tested, he can withhold root-pruning, and his trees then assume the qualities of standards. He does not recommend the long continuance of this practice on any one tree. Too long, and too severe root-pruning injures the quality of the fruit, and shortens the life of the tree.

A Centenarian Planting Trees.

One of the earliest things we remember to have read was the story of the Emperor Hadrian, and the old man planting trees. We have often read the story since, and some subscriber has dropped it into our drawer again. It is none the worse for age and we give it room here thinking that some persons may not have seen it, while others will be pleased with the second, fifth, or even the tenth perusal. The lesson taught is an excellent one.

The Emperor Hadrian, passing near Tiberias, in Galilee, observed an old man digging a large trench in order to plant some fig-trees: "Hadst thou properly employed the morning of thy life," said Hadrian, "thou needest not have worked so hard in the evening of thy days." "I have well employed my early days, nor will I neglect the evening of my life; and let God do with me what he thinks best," replied the man. "How old mayest thou be, good man?" asked the emperor. "A hundred years," was the reply. "What," exclaimed Hadrian, "a hundred years old art thou, and still planting trees? Canst thou, then, hope ever to enjoy the fruits of thy labor?" "Great king," rejoined the hoary-headed man, "yes, I do hope, if God permit, I may even eat the fruit of these very trees; if not, my children will. Have not my forefathers planted trees for me, and shall I not do the same for my children?"

Hadrian, pleased with the honest man's reply, said, "Well, old man, if ever thou livest to see the fruit of these trees, let me know it. Dost thou hear, good old man?" and with these words he left him. The old man did live long enough to see the fruits of his industry. The trees flourished and bore excellent fruit. As soon as they were sufficiently ripe he gathered the most choice figs, put them in a basket, and marched off toward the Emperor's residence. Hadrian happened to look out of the windows of his palace; seeing a man, bent with age, with a basket on his shoulders, standing near the gate, he ordered him to be admitted to his presence.

"What is thy pleasure, old man?" demanded Hadrian.

"May it please your majesty," replied the man, "to recollect seeing once a very old man planting some trees, when you desired him, if ever he should gather the fruit, to let you know. I am that old man, and this is the fruit of those very trees. May it please you graciously to accept them as a humble tribute of gratitude for your majesty's great condescension." Hadrian, gratified to see so extraordinary an instance of longevity, accompanied by the full manly faculties and honest exertion, desired the old man to be seated, and ordering the basket to be emptied of the fruit and to be filled with gold, gave it him as a present. Some courtiers, who witnessed this uncommon scene, exclaimed, "Is it possible that our great Emperor should show so much honor to a miserable Jew?" "Why should I not honor him whom God has honored?" replied Hadrian. "Look at his age, and imitate his example." The Emperor then very graciously dismissed the old man, who went home highly pleased and delighted.

Locust Tree Borers.

To the Editor of the American Agriculturist.

The locust trees seldom attain much size in this part of the country, as they are so preyed upon by the borer, which often works its way into the solid trunk, but especially delights to bore through the smaller branches which it clips off in large quantities, and sometimes nearly covers the ground beneath with the trimmings. By the advice of a friend of mine, I tried the experiment of boring a ¾-inch auger hole two feet from the ground in a couple of trees, filling it with sulphur, and plugging up tight with a piece of soft pine. The sap having already risen, I saw no difference in the appearance of my trees that season, but examining them each year, for three years in succession, I discovered no trace of a borer. On the fourth year, the strength of the sulphur being exhausted, as I suppose, I found a few traces of the pest. I then gave the trees another dose, and the present year will decide the results.

JAMAICA PLAIN FARMER.

Massachusetts, June, 1858.

REMARKS.—Theoretically, we should have little faith in the above remedy, and we suspect that "Jamaica Farmer's" second trial will not correspond with the first one in supposed results. We also surmise that if he will remove the plug of pine wood, he will find the sulphur about as he left it four years ago. This is only a surmise, however, founded upon the fact that sulphur is not soluble in water, and also upon the consideration that the sap vessels, being cut off by the auger, the sulphur would not be drawn into the circulation. This, we say, is what we would infer from theory. It is not impossible, however, that within the living plant, the *sap* may dissolve small portions of the sulphur, especially if in the powdered state and not in the form of roll brimstone as it has been sometimes tried; and that even a small quantity of sulphur working into the sides of the auger-hole might be distasteful to the borer. We have received and seen accounts of what appeared to be well conducted and well attested experiments, though we have supposed that the results were chance coincidences, the departure of the insects being due to some other cause. We will also suggest that, should any one deem it worth while to experiment further, it is unnecessary to bore the tree to the heart, as the main circulation of the sap is in the inner bark and outer or new wood; though it is possible that some of the sulphur may be carried into the pores of the heart-wood by capillary attraction.—ED.]

Apple Tree Borer.—*Saperda bivittata.*

To the Editor of the American Agriculturist.

In your February number we are treated to a drawing of the apple tree borer, accompanied with a few remarks by Mr. J. S. Keller, which are very acceptable as far as they go, but the history is so very brief that more is desirable as a guide in combatting this formidable enemy.

Mr. Keller makes out the whole period of the saperda's existence only one year. This is surely an error. Dr. Harris, a standard author, says: "the larva state of this insect continues from two to three years."

Dr. Fitch, in his able report to the State Assembly for 1855, has given us an excellent and full description of this insect and its habits, but he has most unpardonably omitted its chronology, which is clearly the main key to its destruction; for nothing can be more desirable than the entire plan of its campaign.

For brevity's sake I will omit the description of the saperda and its larva, for these may be found in periodicals innumerable, and take up its doings chronologically.

Soon after the 15th of June, in this latitude, the saperda comes out through the bark of the apple tree from four to fifteen inches above the ground. Now, don't let farmers imagine that this gimlet hole is its entrance, and so spend their time in probing it or in pouring boiling water into it, for the gentleman is not there. He is "out."

This handsome beetle, like other evil doers, now flies about in the darkness of night, for a month or more, and deposits her eggs, one in a place, not on the bark as some say, but in a crevice in the cuticle or outer bark, generally near the ground, or in the axils above. In a few days the genial rays of the sun hatch out of this little egg a solitary and minute maggot or larva, having no legs at any time.

This little rascal commences feeding and gnawing its way to the *liber* or inner bark, and after a week or two's labor and growing it reaches the sap wood where it continues a long time, feeding on its soft surface and the *cambium*. It now cuts round and round in the soft wood, pushing its castings through small holes in the cuticle like fine saw dust. It sometimes feeds in this manner until about the first of October, forming a smooth, flat, irregular cavity, varying in size from a half to a whole dollar.

He now begins to think about Winter quarters, and closes the doors through which he had ejected his castings, by plugging up all around them firmly with the same material. He then prepares for himself a bedroom by boring into the sap wood, until he has excavated a space large enough to receive him comfortably. Here he bends himself into a graceful curve, and "lays him down to sleep" till Spring.

September is the month in which to dislodge the enemy. Clear away the grass and rubbish, and brush off the dust from the body of the tree near the ground, and if the chap is there, you will find a dark colored spot on the bark, varying in size from that of a five cent piece to a dollar, or larger according to its stage of development. If you have any doubts of the presence of the larva, sound the part, by thumping on it with the handle of the knife, just as the woodpecker sounds it with its beak. If it sounds flat or hollow he is there. Cut all around the dead spot, remove the bark and there you find him, unless a woodpecker has been there before you.

In this situation, if not disturbed, the larva remains till the next May or June, when he awakes and commences with increased vigor his career of destruction. He now bores directly into the duramen or heart-wood of the tree, stuffing up the former cavity with his castings. He frequently passes quite through the tree and pushes out a heap of his chips upon the opposite side. He continues to bore tortuously in all directions till September, when he makes preparation for his change, by boring from the center of the tree upward and outward till about the close of the month, when he has reached the bark from 6 to 14 inches above the ground. If he reaches the bark sooner than he intended he tacks off and feeds inward awhile; then puts upward and outward to the bark again, enjoying himself a little longer, and doing a little more damage.

Having reached the bark, he bores through it to the cuticle, and commences tearing off the sides to make more room. He then turns head downwards, and packs his castings in the upper end of the hole firmly, to keep out the cold, and turning round to his former position, adjusts his bed, and once more takes a nap till Spring. In the latter part of May he revives and changes to a pupa state, and in a short time, comes out a *saperda* again. Soon after the 15th of June, he has acquired vigor, so as to be able to tear away the stuffing at the upper end of the burrow. He then bursts through the cuticle and comes forth a full-grown, vigorous and active miller, ready to generate a new race of enemies.

Now for their destruction. If they have not been dislodged in September, we shall have a more difficult task during the next Summer. He has now worked his way into the duramen, boring it in many directions before he goes upwards to the close of his journey. To search for him with a chisel, knife or gouge may girdle the tree, and a wire probe or wooden one is not sufficient. I prefer to make six or a dozen probes of whalebone from an old umbrella. I make them from 6 to 12 inches in length, about the size of a coarse knitting needle. Let the end be round and smooth. These are so flexible and elastic that they may be pushed in any direction till the insect is killed.

If I am satisfied there is only one larva in a tree, and the Summer is far advanced, I prefer to shut him in, as less injurious to the tree, than to cut him out. For this purpose I stuff the burrow up with mud, and bind a thick woolen rag firmly around for a foot or so above the ground. Thus shut in he must perish.

As a preventive I procure a lot of sixpenny muslin, tear it into strips about 4 inches wide and 3 yards long. I roll these up tight for convenience, and put them into a basket, with a few papers of sixpenny pins, and a trowel. With my trowel I clear everything away just to the earth, and wind around my bandage for a foot or so, pin it fast, and the work is done.

This process is quickly performed. The articles are cheap, and far more permanent than pa-

per. They will last several Summers, for they may all be removed in October and replaced in May. JAS. FOUNTAIN.

Westchester Co., N. Y.

Destructive Insects Upon Trees.

IMPROVED APPARATUS FOR PROTECTING TREES FROM CATERPILLARS, CANKER WORMS, MEASURE WORMS, AND OTHER INSECTS.

It is well known that many of the insects which commit such vast depredations upon fruit and shade trees, either ascend the trunk of the tree or are produced from the eggs of insects that have previously climbed up. Various contrivances have been proposed, and some of them put in practice, for preventing the ascent of the depredators. The best thing of the kind we have hitherto seen was a leaden trough put around the trunk and filled with oil. This has been in a measure effectual, but is liable to several objections, not the least of which is the expense and constant care required to keep them in order. We hail with pleasure, therefore, a recent improvement invented by Capt. Wm. W. Taylor, of South Dartmouth. From one of these appliances now in our office we have made the engravings on this page and we will give a brief

DESCRIPTION.

Fig. 1, exhibits two parts of the iron trough for holding the bitter water described further on. It will be seen that it is constructed of two halves of a circular trough.

Fig. 2, shows the two parts brought together, to form a complete circular trough. Between the ends of the pieces is inserted a slip of India Rubber, and the parts are held firmly by the screws (*s*. fig. 1) which pass through flanges on the outside of the joining points.

Fig. 1.

Fig. 2.

Fig. 3, is a tin or zinc roofing which is placed above the trough and projects some distance over it to shed off rain, keep out leaves, &c. This has a turned up edge with two or three openings (*b*) to discharge the water at those points. This is fastened to the tree by two or three small nails or by simply bending in the pieces (*a*) at the top—the former mode is preferable, we think. It will also

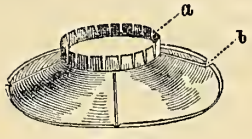


Fig. 3.

be noticed that the pieces (*a*) in the upper part of the roof can be bent inward or outward to fit a larger or smaller tree. One of the joinings is left unsoldered, so that it can be unlocked when putting on or taking it off.

Fig 4, shows the circular trough placed around a portion of the trunk of a tree. The trough is larger than the trunk, and the intervening space is closed by a packing (*p*) of hemp, oakum, cotton, old cloth, sea weed, fine hay, or other material. The water running down the trunk will pass through this packing. Two or three holes are made in the upper inside rim of the trough, through which small nails can be driven into the tree if necessary to render it firm. Wedges may be used instead of nails, which will save marring the tree.

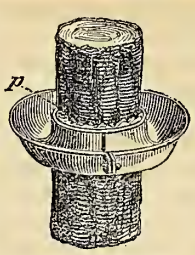


Fig. 4.

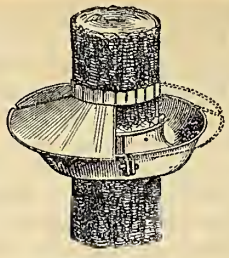


Fig. 5.

Fig. 5, shows the trough, packing and cover put on; the cover being cut away on the right side to exhibit the trough underneath.

Fig. 6.

Fig. 6, above, shows a tree ready fitted up.

When arranged upon the tree, the trough is filled with a "Bitter water," instead of oil as in the old mode, and this is one of the points claimed by Capt. Taylor, in his patent. Oil is not only expensive, but it is also more liable to be bridged over by the insects which fall into it in great numbers. The "Bitter Water" is the refuse liquor left after boiling down or evaporating sea water in the sun and crystalizing out the salt. It contains magnesia and other bitter fluids. While it is poisonous to animal life it is *deliquescent*—that is, it attracts moisture from the atmosphere, so that when drying away somewhat in a hot sun it will again attract water at night and the troughs will thus be kept at least partially supplied with liquid. Another item is, that it does not freeze in cold weather. It has the special merit of being very cheap as it can be obtained from the numerous salt manufacturers, for a trifle above the cost of barrels, putting up, and transportation.

The troughs are to be made of various sizes, from two or three up to thirty or more inches in diameter. The one we have is cast very thin. The inventor, wisely we think, proposes to sell them at a low price with the view of securing their general adoption. By the insertion of plenty of packing, next the tree, when first put on, allowance may be made for two or three years' growth of the tree, in the selection of the sizes. We understand the cost for troughs, covers, &c., complete will be about 10 cents for each inch in diameter of the tree, for those of moderate size, less for large trees, and a trifle more for those very small. Thus, say for a tree 5 inches in diameter, the cost would be about 50 cents; 7 inches in diameter, 70 cents. We watched the operation of putting up and taking care of the leaden troughs around the numerous noble elms in New-Haven, and if we remember rightly, the cost to the city was, we believe, at least $2 per tree—and we think much more. It will be seen, then, that by the use of the iron troughs, bitter water, &c., a great saving will be effected in the expense, to say nothing of the greater protection thus secured. With one of these upon a tree, we do not see how it is possible for insects of any kind to ascend or descend.

The above we have written from a brief conversation with the inventor on his return from Washington, and without opportunity to consult with him. As before stated, the engravings are made from an apparatus left with us for examination. We have given thus much prominence to the subject, because we deem it one of great importance, and one which should be brought to public attention the present year. The "canker worm" or rather the moths that lay the eggs to produce them, are now in a quiescent state in the ground. About the first of October, and at various times from that up to April, they will leave their hiding places and ascend the trees to lay the eggs for next year's crop of worms. It is well to be prepared in time to head them off.

Since writing the above, we have received a communication from our long-time correspondent, "R.," of New-Bedford, and give the following extract. "....The Aphides, commonly known as the plant or tree-louse, derive their sole nourishment by tapping the bark and sucking the sap. They abound, at times, in such numbers as not only to prevent the formation of fruit, but also to greatly injure the tree. They are perfect vampires, sucking the life-blood of the tree with a voracity which is unappeasable. They not only feed themselves, but constantly, by ejecting a sweet honey-like fluid, act as '*cuisiniers*' (food providers) to colonies of ants which are seen in great numbers ascending and descending the tree where the little insects (aphides) congregate. The tree-disease known as 'American blight,' is by some supposed to be caused by their inroads.

I had an opportunity, a few days since, of watching the practical operation of Capt. Taylor's new invention, and to my mind its superiority over any previous contrivance is conclusive. The cups were placed around apple-trees, say of 12 inches or more average diameter. Upon the surface of the bitter water thousands of aphides, canker worms, &c., were floating—a few struggling hopelessly, but most of them as Dickens says—'as dead as a door nail:' while the bottom was black with them, although the troughs had only been on forty-eight hours. The circle of bitter water is an impassable gulf, a perfect 'Styx,' with no Charon to ferry them across, whose waters are oblivion to all insects that attempt to swim over."

Feeding the Cut Worm, and then Catching Him.

To the Editor of the American Agriculturist:

Almost every one is troubled with the cut worm among cabbages. I manage in this way. Having a surplus of plants in a bed by themselves, I go over the transplanted patch frequently, and when I find one cut off, I replace it with another, leaving the cut down stalk by the newly planted one, and if I have not succeeded in killing the grub, or if another one comes, he is *sure* to take the plant lying upon the ground rather than the one recently set out. While feeding upon this you may kill him, or if neglected he may need no other food. If the worms are very troublesome I pull up some of the weakest plants and lay them

by the growing ones, and commence killing the worms the next morning. In this way I seldom fail to save the plants I wish to remain.

Delphi, Ind., June 20, 1858. J. PEFFLEY.

The Curculio.

To the Editor of the American Agriculturist:

What shall be done? Is there no help? These pestiferous little fellows are getting so bad, in most localities here, that in defiance of every known remedy (unless a man should be hired to watch each tree, and catch them singly, which wont "pay") they ruin all the plums—and not only so, but even apples, cherries, pears, and often peaches are attacked. Must we give up, and cut down all our trees? Is there no cheap "kill or cure" sort of application that could be applied, say to the soil around each tree during the Winter, or early in Spring, to kill them all as they appear, *certain*; and which might, *perhaps*, not kill the roots of the tree itself? Would sulphur, lye, or brine do? And how much to a tree?

Z.

Cumberland, Md.

REMARK—We must hand our correspondent over to our readers. We have from time to time given all the light we could on this subject—not much we confess. We are in the situation of Dickens' "Micawber," who was waiting "for something to turn up."

CONQUERING THE CURCULIO.—Apropos to the above, Mr. W. N. White, of Augusta, Ga., writes to the July Horticulturist that he has succeeded this season in conquering the great enemy of the plum. He says: "Forces employed against him—one man, one little girl, three two months' pigs, sixteen Brahma fowls, and two Muscovy ducks. Implements, a mallet and tin bucket. Modus operandi: the nectarine trees being the most dangerous point, were fortified by keeping the troughs for watering the fowls, &c., underneath them. The trees were briskly shaken every morning—jarring the large ones with a mallet. Under the bearing trees, the corn for the fowls, &c., was scattered directly after they were shaken. At night, all the fruit not consumed was picked up carefully by the little girl and boiled and fed to the cow. Result: though plenty of fruit was visible the first few days, the enemy seems to have retreated. Plums are beginning to ripen, so the crop may be regarded as secure. Some twenty-eight sorts of plums, and two nectarines are full of fruit, which will yield probably ten bushels at least; had the trees been large enough, they would have yielded three times as much with no more trouble; half an hour a day will more than do the work in an orchard that would yield fifty bushels of fruit; except the packing up, which is a trifle."

Crowded Plants.

Full one-half of the vegetables and flowering plants in our gardens are suffered to stand too closely together. Beets, onions, carrots and parsneps are often checked in their growth by neglect of thinning them out when quite small. The roots should never be allowed to touch each other. Cucumbers, squashes and melons are often injured by crowding. Three plants in a hill are much better than six. If allowed plenty of room, they grow faster, the fruit becomes larger, and matures earlier. It sometimes requires a good deal of resolution to pull up a vigorous vine, and to throw away incipient beets and onions; but every gardener who has observed the rampant growth of these plants will not fail to exercise such resolution.

The same thing may be said of annual flowering plants. Even those designed for "massing" should not crowd and choke each other; room should be allowed for the expansion of leaves and roots. The full beauty of the foliage and flowers of many annuals is never seen. Asters, stocks, balsams, dwarf larkspur, phlox Drummondii &c., are much improved by standing five or six inches asunder. The Drummond phlox flowers almost as constantly, and as long as the verbena, if treated in the manner here suggested.

How to Water Plants.

This is usually badly done. Water is poured upon the surface, enough, perhaps, to wet down an inch or too. The water washes the fine earth into the chinks and interstices, and there the plant stands with dry or only moist soil below, but with a baked mass on the surface which shuts out warmth, air and the moisture that would be derived from its free circulation. One of two methods should be adopted. Remove the surface earth and pour on water enough to reach the wet suhsoil, and when the water has soaked in, replace the dry surface soil, to be moistened from below. Or, make a hole as near the plant as you can without disturbing the roots, and fill this with water two or three times, and afterwards fill it with the dry earth first removed. At all events, when you water at all, water freely and with the foot or a hoe throw a little dry earth over the surface as the water settles away. These are important hints. A few plants thus well cared for will yield more than three times the number carelessly treated.

You can Transplant in Hot Weather.

In the very hottest days, during the fore part of July, we reset several hundreds of plants, at different hours of the day, without using the slightest covering to protect them from the direct rays of the sun, and yet not one failure occurred, and scarcely one plant in twenty showed signs of even temporary drooping. We venture to say that we can take up any kind of plant, not over a foot high, and move it to a new locality in the middle of the day, in the driest season, and this too, with scarcely checking its growth. We make these positive statements to call attention to the mode of operating.

1st. Thoroughly wet the earth around the plant to be taken up. Repeat the wetting several times during an hour, until the water penetrates to the bottom of the fibrous roots.

2d. With a trowel, shingle, or thin board in the right hand, loosen a mass of earth around the plant, grasp this earth with the left hand and press it into a ball which shall contain a large share of the roots still surrounded with the original earth. Set this into a basket with as many more, similarly taken up, as the basket will hold in its bottom. Carry them to the new location.

3. Dig for each plant a hole large enough to hold at least two quarts of water. Pour it full of water and hold the plant in it with one hand, and with the other draw in the loose earth as fast as the water sinks away, so as to keep the hole full of water until it is all soaked up. Let the plant stand at the same depth in the earth as it stood originally.

4. Important. Draw over the surface of the hole, thus filled, half an inch of *dry* earth. This will be moistened by the water soaked up from below, but will remain open, and not matted or baked as is always the case when water is poured upon the top.

The whole of the above is quickly performed, and your plants then stand in a thoroughly moistened mass of soil, and their feeding roots having been partially undisturbed carry on their functions as if nothing had happened. They will even do better than the unmoved plants standing in dry ground or watered upon the surface only. Cucumber vines, corn, cabbage plants, in short, any and every variety of plants may be transplanted whenever you desire, with perfect safety. We speak from experience as well as theory.

Winter Cherry Seed Sprouting Late.

We hear from several that the seed of the Winter Cherry, (*Physalis viscosa*) failed to come up. Our own experience will perhaps instruct others. The seed raised by ourselves, and that obtained from Mr. Goodsell, and from others, so far as known to be good and of the same kind, we mixed all together intimately. This we called No. 1, but did not so mark the seed-bags. The second lot of 4 lbs. obtained from Rhode-Island, was kept by itself, and the parcels sent out to subscribers were marked upon the back with a figure 2.

No. 1 we had planted in the Green-House in March. It came up slowly, and we were disappointed in getting a smaller lot than we expected and had provided ground for. May 3d, we put a quantity of the same seed in the open ground. Seeing no appearance of its sprouting up to June 3d, we sowed anew, in rows 4 inches from that sown May 3d. The last sown came up first, but that sown May 3d, appeared soon after July 8th, both plantings were 4 to 8 inches high, and from their thickness in the rows we judge that *every seed must have germinated.*

No. 2 (Rhode-Island Seed) was sown in the same manner, May 3d and June 3d, with precisely the same results. We can see no difference in the appearance or growth of the two kinds. Though, apparently, every seed sown May 3d came up, yet not a plant appeared in sight until about *six weeks* after sowing.

The ground occupied by the Winter Cherry last year was left vacant. There were no signs of a volunteer crop until the last of June, when myriads of plants came up and completely matted the ground. We have given away several hundred of plants, moved many hundreds to other ground, and destroyed thousands. The above results show that the seed is slow in vegetating. It will be noticed that not only that sown the first of May, and the first of June, but also that lying in and upon the ground through the Winter and Spring, all came up together the latter part of June. The *Physalis alkekengi* seed, sown in the Green-House, came up earlier and better than the other variety, but the plants are now the smallest.

Early Tomatoes.

One way to hasten the maturity of tomatoes is to build a temporary pen around each plant, say five feet high on the back and one foot on the front, or south side, the east and west sides sloping. Over this, lay a window sash early in the season, to be removed in the middle or latter part of Summer. As the plant grows, train up the branches on the back side of the pen, like a grape vine. Where one has a high and tight board

fence, with a southern exposure, this forcing-house can be more easily made.

But whether this expedient is tried or not, it is very beneficial to pinch out the leading shoots of such as are wanted early, soon after the fruit on the lower branches is half-grown. It will be found that too-thirds of the fruit is on the lower part of the vine, and the loss from pruning is therefore inconsiderable. By this pruning, the forces of the plant are directed chiefly to maturing the fruit. A portion of one's plants should be left untrimmed, so as to furnish a succession of fruit till frost.

*

Peabody's Strawberry—Not a Humbug.

We are free to say that we are happily disappointed in the results obtained with this plant. In the Spring of last year we procured 2½ dozen plants to experiment with. They were set out with too much care, just before the long cold rains in May. The soil, for nearly a foot square for each plant, was loosened deeply, and mixed with bone sawings. The rain settled this loose soil so much as to form a basin, and the plants—already enfeebled by a long transit from Georgia—were nearly drowned out. Only ten of the thirty survived at all, and these had not attained leaves larger than mouse ears up to the latter part of July. About July 1st the whole mass of earth around each plant was raised and earth thrown under. They grew very vigorously in August, sending out large numbers of runners, and before the season closed we had about 600 plants, a part of which had been transplanted from time to time, and a part given away.

The old bed contained about 70 or 80 plants in the Spring of this year. These bloomed well, but the first flowers did not seem to set well, yet they continue to bear, and there is still ripening fruit (July 12). We have picked from the old bed over a measured peck of fruit, besides some from the vines transplanted last Fall.

The fruit is necked, deep colored, very solid, averaging as large as the best of several improved varieties we have growing near, and it has a very rich pine-apple flavor. For our own eating we prefer the Peabody to any other strawberry we know of. We do not suppose it will, under all circumstances, produce quite so freely as Longworth's Prolific, and some others, but its superior quality, and the vigorous habit of the plants, incline us to place this variety far up, if not at the head of the list of desirable strawberries. In this opinion we are far from being alone, though at variance with the judgment of several cultivators who have written on the subject this season. Mr. Lockwood, of Stamford, Conn., brought us a basket of this fruit, which exceeded our own in size. He had a dozen plants last year which extended to some 70 or 80 during the Summer. From these he gathered a quart a day for some two weeks. He puts it ahead of every other variety. Dr. Ward, of Newark, N. J., who grows the best varieties largely, says that the Peabody quite exceeds all expectations he had previously formed. Several others in our acquaintance speak in similar terms.

Speaking of strawberries, we must not forget to return our thanks to Mr. Scott, of Plainfield, N. J., for that great basket of great strawberries (Hovey's) which came to hand last month. Out of curiosity we weighed and counted the entire contents of the basket, and found they averaged 56 berries to the pound avoirdupois. May our friend Scott and his good wife long live to cheer not only editors, but many others by *such* fruit.

IN DOOR WORK.

A Chapter on Meats

The Composition of Meat—Best mode of Cooking Fresh Meats—Meat Broths—Liebig's new Strengthening Broth for the Sick—Salting or Pickling Meat—Boiling Corned Beef and Mutton, &c.

WHAT IS MEAT?

We have in most kinds of meat a mixture of lean flesh with fat. The fat is a simple substance much like oil in its composition. This serves an important end as food, since it supplies the fat of the body, and at the same time the materials for keeping the body warm. Separating the fatty portion from meat we have the *lean flesh*, which is a more complex substance than fat, oil or tallow. The lean flesh of the body is called muscle; thus, when we speak of a strong, muscular man, we imply one who has a large amount of lean flesh, and one's strength depends upon these muscles which, by their contraction and expansion, move the limbs. A person may have a large, heavy body, but be very weak, owing to a lack of this lean or muscular flesh.

The muscles consist, first, of long bundles of *fibrin*. Among these muscles are cells, in which are deposited particles of fat or oil. With the muscles are mingled nerves which set them in action, and also blood vessels. There is also much water, amounting to nearly three-fourths of the entire weight.

The muscular or lean flesh taken together, is composed of: water; *albumen* which is like the white of an egg in its composition and properties; *gelatine*, the substance which dissolved in water forms a jelly when cold; *fibrin*, the substance which coagulates and forms the clot of blood leaving the clear albumen—it exists in the muscles as long small strings. The *albumen*, *fibrin*, and *gelatine* are somewhat similar in composition, and all contain nitrogen.

The average amount of each of these substances contained in several kinds of fresh, lean flesh, is shown in the following table.

100 lbs.	Water.	Albumen and Fibrin.	Gelatine.	Total Solid Matter.
Lean Mutton.....	.71 lbs.	22 lbs.	7 lbs.	29 lbs.
" Chicken....	.73	20	7	27
" Beef.....	.74	20	6	26
" Veal.....	.75	19	6	25
" Pork.....	.76	19	5	24
" Codfish (fr'h)	79	14	7	21

In the above table it is assumed that *all* the fat or oil has been separated. Usually, however, there is an average of about 8 lbs. of fat left in 100 lbs. of lean meat, after all the visible fat is removed.

If we take a quantity of fresh lean meat and cut it into small bits, then soak in water and press it, a peculiar liquid will be obtained which contains the elements that give *taste* or *flavor* to the meat. Eighteen pounds of this liquid contains about one pound of rich food. It is the loss of this savory element which renders salted meat, or that improperly boiled in the open air, so comparatively tasteless.

COOKING FRESH MEATS.

We are now prepared to understand how to cook meat in the best manner. If we put it into cold water and let it stand only a little time before boiling, the water will abstract much of the juices of the meat. If, on the contrary, we drop meat into water already boiling, the high heat will at once coagulate or harden the albumen upon the surface, just as boiling hardens an egg. The hard coat thus formed upon the surface prevents the juices from flowing out, or the water from entering to soak them out, and the meat retains its good flavor.

After a brief cooking of fresh meat there is no further necessity for keeping up the boiling heat of 212°. A temperature of 170° is amply sufficient to coagulate or cook the blood. Considerable *time* is required for the heat to penetrate entirely through the substance of the meat, which is a slow conductor of heat (caloric).

The same rules apply to baking meats. They should at first be put into a *hot* oven to form a coating of albumen to retain the juices, and then lower the heat before a hard burned crust is produced, but keep just hot enough to prevent any charring, and allow time for the heat to penetrate to the center. Few persons cook steak or mutton chop well, simply because they slowly heat it in a frying pan or on a broiler, and allow the rich, savory juices to ooze out and escape. The fire should be a brisk one, and the supporting irons hot before the meat is put on, and then let it be cooked as quickly as possible without scorching.

BROTHS, SOUPS, BEEF-TEA.

Just an opposite course to the above is to be pursued, when it is desired to extract the nutritious juices of meats. In this case, cut the meat into very thin pieces, or better, chop it as fine as possible, and place it in cold water, allowing it to stand for a short time before heating; heat gently, and after a time boil for a few minutes; then remove the meat by straining and pressing in a cloth. Liebig directs: "Take one pound of lean beef, *free from fat* and bones, and reduce it as fine as sausage or mince meat; mix it uniformly with boiling water; slowly heat it to boiling; after boiling briskly for a minute or two, strain it through a towel from the coagulated albumen and fibrin, which have now become hard and horny, and we obtain an equal weight of the most aromatic soup, of such strength as can not be obtained by boiling even for hours, from a piece of flesh."

An aged matron of our acquaintance, in repute for her good preparations in the cooking line, makes beef-tea by cutting fresh lean beef into fine pieces, and inserting them without water in a common junk bottle. This is corked up and put into cold water which is gradually heated and then boiled for some hours. The contents of the bottle are then pressed to extract the juice. This mode of cooking in a close bottle prevents any escape of flavor, while the slow conducting power of the glass prevents a rapid heating at first.

LIEBIG'S STRENGTHENING BROTH FOR THE SICK.

In addition to Liebig's common broth described above, we give his prescription for making a cold broth which shall contain the nutriment of meat, without coagulating the albumen by heating, which renders it less digestable for persons debilitated by fevers and other diseases.—Take of perfectly fresh lean beef or chicken, say half-a-pound, and cut in small pieces. Put this in 1⅓ lbs. of cold, distilled or pure soft water, to which there has previously been added half-a-teaspoonful (½ drachm) of common salt, and four drops of muriatic acid. Mix these materials well together and let them stand half-an-hour. Then strain through a hair sieve, or coarse linen cloth, without pressing or squeezing. The first portions coming through will appear cloudy, and these may be poured back upon the sieve several times if need be, until it passes through clear, but of a red color. Upon the meat left in the sieve pour half-a-pound more of water, a little at a time. About a pound of *cold* extract of meat is thus obtained; and if made perfectly cold, and kept so

it forms a pleasant broth very easily digested. It is difficult to prevent its souring if made, or kept many hours, in warm weather.

BOILING CORNED BEEF AND MUTTON.

An Iowa Housekeeper writes: "In last volume (page 265) you gave directions for boiling corned beef, which my 'good man' says are worth more than the cost of 50 subscriptions—we have sent only twenty-eight of them yet, but the rest will come. We have loaned that November number until it is all worn out in showing it, and I write to ask for another copy. Allow me also to ask you to repeat in substance the remarks you then made, for I think every new subscriber should have the benefit of them....."

The directions for cooking corned beef, and also corned mutton, are: Soak it in cold or slightly warm, not hot, water until no more salt remains than will season it for the table. Then put it into a kettle, and cover it so that all the steam will cool and condense upon the under side of the cover and fall back. Every particle of steam that escapes carries away some of the aroma or flavor of the meat, and leaves it less palatable and juicy. A tin pan set into the top of the cooking vessel and kept filled with water, is a very simple arrangement for condensing the steam and causing it to fall back. The water in the pan keeps the bottom cool enough to condense the steam. Any shallow vessel, or a common tin cover with the edges turned up to hold water, will answer the purpose. Cook the meat in only water enough to cover it well; if protected as above, the water will not boil away.

Cook the meat until it is entirely tender, so much so that the bones, if there be any, will drop out of themselves. This cooking may take four or five hours, but no matter, let the meat be reduced to a *tender* condition.

Take out the meat, removing the bones. Skim off any fat floating upon the liquor, and then boil it down slowly to a thin gravy. Mix the fat and lean meat together and put into a deep dish, say a three-pint or two-quart basin. Then pour in the liquid, and lay over the whole a plate or round tin; place upon the top twenty or thirty pounds weight of some kind, and set aside to cool. In this way you will get a solid mass *containing all the nutriment* of the meat, and "as tender as chicken," no matter how coarse and cheap the original beef or mutton. The gelatine in the gravy will harden the mass enough to allow it to be cut into thin slices, which will present a fine marbled appearance if there was a proportion of fat and lean.

Meat prepared in this way forms an excellent substitute for dried beef or cold boiled tongue. Try this plan two or three times, and you will prize it as highly as does our fair correspondent at the West. Let us add that the cheaper, coarser portions of meat, cooked as above, are really better than the choicest cuts boiled in the usual manner.

SALTING OR PICKLING MEAT.

Salting, corning or pickling meat more than two or three days, would never be desirable, could it be avoided, for salt preserves by a kind of drying process, that is, it extracts the juices of the flesh, leaving chiefly the dry fibers. This juicy portion goes into the brine and is necessarily thrown away. The effect of salting is much like that of soaking meat in water, and boiling to extract soup. If dry salt be thrown over meat, it will in a short time extract fluids enough to give a large quantity of brine, and this brine is very rich in nutritive elements, but is worthless for food. It is, however, an excellent fertilizer, and should therefore always go to the compost heap, or be diluted with water and thrown upon the garden. It is especially valuable for asparagus beds, though a large quantity thrown upon one spot may be injurious to the plants.

We advise to salt as little meat as possible. But in the country homestead, where meat is not procured daily from the butcher's cart, pickling is indispensable. Let it be kept in mind that the chemical character of meat is always changed by salting, and that it is rendered far less digestable; and especial care should be taken to have it well masticated, or ground, before it is swallowed. The process of cooking recommended above assists the mastication by diminishing toughness. If the housewife, after preparing it for the table will cut it into very *thin* slices, she will then obviate the usual danger, that young or *grown up* children will swallow it in lumps too large for easy digestion—a matter of no little importance, as was shown in our last number, page 214.

A Fly Trap.

We remember to have amused ourselves, when a boy, in "catching flies" with a home-made trap, consisting of a tumbler, part full of water, and covered with a sliee of bread, having a hole in the centre, and molasses on the under side. The flies crawled through, and when satisfied with the sweets, they attempted to fly instead of crawling out where they came in, (foolish flies!) they came in contact with the water, and of course

were drowned. We were forcibly reminded of this primitive fly-trap, recently, by noticing an invention of Mr. Clough, one of the forms of which is shown herewith. It consists of a double band of tin, placed between two tumblers—the lower one partly filled with water. On the inside is a trough for holding molasses, to which the flies approach through the side openings, as seen in the cut. When satisfied with the bait, or when startled, they fly against the sides of the clear glass, and ultimately come in contact with the water. Without the tumblers, the apparatus costs only 25 cents. Larger implements are made on the same principle, with a tin vessel below, and a wire gauze cover.

A Batch of Recipes.

Fly Powder.

Mrs. Olive Vorce, McHenry Co., Ill., writes that by the continued use of "cobalt" for five years, the flies have been so entirely destroyed that no eggs have been laid and these pests have disappeared entirely this year. The cobalt is put into small round baking tins, two-thirds filled with boiling water and a heaping table-spoonful of sugar added to each. This is an effectual destroyer of flies we are aware, but the cobalt is neither more nor less than arsenic, and if used great care must be exercised. We have heard of children being poisoned with it.

To get rid of Ants.

Wm. Ades, Greenbush, N. Y., writes: "Plant in the arbor a root of *Southern-wood*, or lay a sprig of it on the pantry shelf and I can assure you that the ants will heed the admonition that it is time to leave." (We are not sure what plant Mr. A. refers to. An Associate at our elbow says, he has a *Southern-wood* Tree on his grounds, and the ants are abundant among a lot of clam shells lying around the base of the tree.—Ed.)

Raspberry "Shrub."

Jeanne, Lancaster, Erie Co., N. Y., sends us the following directions: Fill a jar two-thirds full of red raspberries, and cover them with pure cider vinegar or other good vinegar, and set in a *cool place* 24 hours. The second, and again the third day, put in fresh berries, enough to have them just covered with the accumulated syrup, keeping all the while in a cool place. The fourth day bring the whole to a scalding heat in a tin or porcelain vessel; then strain through a flannel bag, and add 1 lb. of loaf sugar to each 1½ pints of strained syrup; boil 10 to 15 minutes; skim, and when partly cooled put into bottles. Let the corks be loosely put in for the first day or two. To use it, put an inch or so in depth in a tumbler, add sugar, and when dissolved fill up with water. It makes a delicious beverage, far superior to champagne. We have it on hand 2 years old, and it is better, if possible, than when first made.

Drying Pie-plant.

Cynthia Stanley, Jefferson Co., Mich., writes Peel and slice the same as for pies; then put on plates and dry in the sun—the oven turns them dark. The dried plant soaked, and stewed with sugar makes even a better pie than the green stalks....She recommends planting corn around the Pie-plant to keep it shaded.

Substitute for Ice Cream.

S. A. P., Carroll Co., Ind., writes: If you chance to have dry mealy apples, skin and core them; mash very fine, and add cream and sugar, and spice to taste. You thus get a dish little inferior in taste to ice-cream—if not so *cool*.

Curd Pie.

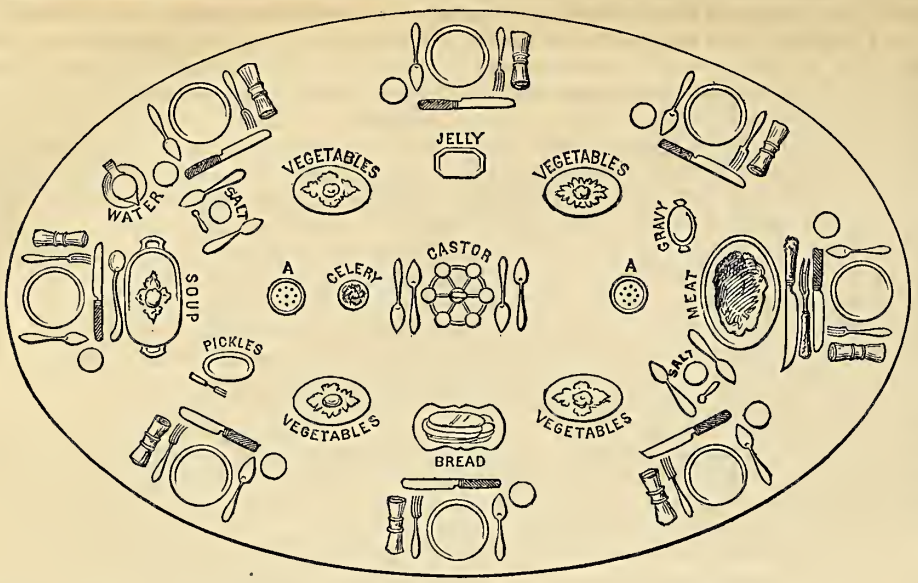
Mary Ann B., Pike Co., Ill., gives the following directions: Take 1 pint of curd made from milk just drawn; strain well from the whey and beat it fine; add 1 pint of new milk sweetened to the taste, and 3 or 5 eggs well beaten. Mix the whole well together, and bake with an undercrust, the same as custard-pie, in pie-pans, about an inch deep.

Roly Poly Pudding.

Contributed also by Mary Ann B. (This is the same, or similar to what is sometimes called Bolster Pudding—Ed.) Take 1 lb. of flour; a little over ½ lb. of beef or mutton suet chopped tolerably fine—or an equivalent of butter. Mix well together and make into dough with water. Work it smooth, and roll to ¼ inch in thickness. Then spread on about ¼ inch of any kind of preserves and roll it up, closing the ends well. Sew it tightly in a cloth, and boil it 2½ hours. To be eaten warm with cream.

☞ We have other contributed recipes on hand which will find room in due time, but our drawer will hold still more good ones.

Many have suffered by talking, but few by silence.



Hints on Setting out a Table—Deportment while at Table, &c.

BY ANNA HOPE.

[*Continued from page* 217.]

[As the following is a continuation of a previous article referring directly to the above table, we reinsert our former engraving, with certain alterations made in accordance with the suggestions below.—ED.]

The engraver has certainly not been unmindful of my injunction "not to forget the *salt* spoons." I felt quite satisfied with the *table*-spoons I sketched, and thought they did me great credit, considering I make no pretensions to skill in drawing, but it seems that in making the picture, for the July number, the engraver took them to be salt-spoons, and furnished two to each salt, while only one is needed. These salt-spoons, (now changed to table-spoons), near the soup, are arranged in the right way. As the table was furnished in the July engraving, there were not sufficient spoons with which to serve the dinner, for no spoon should be used at the same meal for two purposes. Some families prefer to use small salts for each person. Then no spoons are required, but the salt must be changed daily. Sometimes one salt is placed between every two persons, and then, of course, spoons are needed.

I suppose my good friends have waited long enough for it, and I will proceed to set before them

THE DESSERT.

Let the waiter pass around the table with a small tray in her left hand, in which she collects the silver—the forks and spoons. When these are removed she may go around a second time in the same way for the knives. The knives and silver are taken separately to prevent scratching the latter. Sometimes a tray with two compartments is used, and if so, the silver and knives can be taken at the same time. It is better, also, to take the knives and forks in this way rather than on the plates, as it prevents the danger of their sliding from the plates, and thus soiling the dresses upon which they might fall. Then the plates are removed, together with the meat and vegetables, the casters, mats, salts, and everything but the glasses. The pieces of bread left are taken up with a fork, by the waiter, and put upon a plate she carries in her hand. Then with a crumb-knife, brush, or napkin, she takes off the crumbs into a tray or plate.

When the table is thus prepared, a dessert plate, with knife and fork, or spoon, as may be needed, is to be placed before each person. If finger bowls are used, they are put on with the dessert plate. They should be about a third full of water. A slice of lemon is sometimes put in each bowl. Colored doylies, or napkins are suitable for a dessert of fruit, as white napkins stain so easily.

The dessert, if it consists of only one dish, should be placed before the lady—if of two, or more, the most substantial should be placed before the gentleman. For a stylish dinner, fruit is brought on after pies and pudding are removed. If this is not done, it is desirable to have separate plates for it. When the fruit is brought on, and the glasses filled, the waiter may be permitted to leave the room.

When dining ceremoniously, do not take upon yourself the duties of the waiters. Let *them* pass the food; it is not your business at such a time. If there are no waiters, be attentive—observe what is needed by those near you, and pass it without being asked. Yet, in order to help yourself, or others, never pass your hand across another's plate, nor reach for what another can hand you.

If you dine at a table where there are several courses, take them in their proper order, or if you do not wish them, wait the appropriate time for them. Soup is always served first, and when dining ceremoniously, take it whether you like it or not. If you cannot eat it, toy with it; so also with fish. Fish should be eaten with the fork only. It is not customary to serve vegetables with fish, except potatoes. They should be whole. Other courses may be declined. You may have heard of the student dining among strangers, who refused everything upon the table, and when the lady, in polite despair, asked "Is there anything to which I can help you?" replied, "I will take a piece of pie, if you please." It is better to eat some things you do not like, than to be guilty of such ill-breeding.

Do not eat in desperate haste, as if you had not time to attend to the wants of the body God gave you, nor eat your food in immense mouthfuls, nor swallow it without proper mastication. Prepare your food on the plate; put gravy, or condiments, or whatever you please on it there, but do not attempt to improve it after you have once raised it from the plate. Do not ask for *meat*, but mention the kind you wish.

Do not take salt upon your knife, and make a great clattering by striking on it with your fork, that you may scatter it all over your food at once, but salt each mouthful as you eat it, either by touching it to the salt, or by touching your fork to the salt, and thus seasoning your food.

Do not lean your arms on the table, nor sit too far back from the table, nor lounge in any way. *Carry your food to your mouth, instead of your mouth to the food.*

Never use your own knife to help yourself. It is no more proper to do it than to help yourself from your neighbor's plate, and it is exceedingly unpleasant to those who must be helped after you, unless they are equally regardless of the delicacies of life.

If accidents happen at table, do not notice them. It is bad enough to tip over a tumbler and deluge the cloth, without having every eye turned upon you in consequence of it, and every mouth utter a prolonged "oh." Rather make as little of it as possible, quietly laying a napkin over it. So, everywhere, such little misfortunes should be passed over lightly, and not be allowed to disturb our self-possession.

It is desirable to conduct the table daily in such a way as to require no great change for company. Our friends enjoy themselves better when the usual order of a family is not disturbed, and they can feel that they do not add to the labor and cares of the housekeeper. And this additional care and anxiety detracts from the enjoyment of those who receive friends, quite as much as from those who visit us. It is not well to unnecessarily make "a toil of a pleasure." If the usual order is preserved, everything goes on much better; there are no mortifying mistakes, no blunders committed by the waiter, no "appearances" to be suddenly dissolved, and no pretensions unpleasantly revealed. Of course, I refer not to a ceremonious dinner, but to the entertainment of our ordinary guests from day to day.

When I was a child, I recollect a good old man dined with the family where I was spending the Winter. He talked about "long sarce," and "short sarce," and the lady of the house could not understand him, nor imagine what he wanted, but her husband was wise enough to know that when he asked for "long sarce," he wanted a vegetable that sends its roots tapering down into the earth, as the parsnep; and by "short sarce," he meant turnips and potatoes. Vegetables are neither "sarce" nor sauce. Sauce is something to give a relish to food, as Worcester shire sauce, cranberry sauce, apple sauce. It is better to call what is placed on the table for us to eat, food, rather than victuals. "Victuals" is obsolete in good society. We *may* speak of victualing a ship, but we buy provisions, or eat food.

Be particular in regard to the cleanliness and tidiness of your person whenever you go the table. Have your hair in nice order, your nails clean, and your teeth clean, too; and your dress such, that if a guest should unexpectedly call you need not be ashamed of yourself.

Do not urge your friends to eat more than they desire, *nor apologize for your dinner.* If it is good enough for your family, it is good enough for your friends. If your cooking has been unsuccessful too many apologies do not improve it. Especially, do not offer apology for that which does not require it. It looks too much like fishing for compliments. It is not in good taste to crowd a table with a great variety of food.

I might have mentioned, that where fresh napkins are used at dinner, a piece of bread may be folded in each, and the napkins laid in the plates. Bread for dinner, as it is not to be eaten with butter should be cut in thick slices, and then cut in rather small pieces.

The extension table, like the one represented in the engraving, is the most desirable for the dining room. By the addition of leaves, this can be made as large as you wish for your room. Do not select a table with corners, but if you have it, and cannot do better, then be thankful for what you have. The dinner will taste just as well, even if the table on which it is placed does not quite suit you.

The white "French China" is the most economical for use, when it can be afforded. It is neat and delicate, and if any pieces are broken, there is no difficulty in replacing them. If it is "chipped," it shows but little, as it always remains white—unlike the common stone china. I prefer oval dishes for the meats and vegetables, to those that have sharp corners. They affect the eye more pleasantly, as the curved line is more graceful than the straight.

Do not, in going to the table or in leaving it, on any occasion send your guests in advance of you, as you would "show" a flock of turkeys, but yourself *precede* them. It is exceedingly awkward for a stranger to be thus thrust forward in another person's house.

(To be Continued.)

Preserving Fruits fresh in Glass without Corks.

To the Editor of the American Agriculturist:

In the July *Agriculturist*, you gave some timely and valuable suggestions respecting your own method of preserving fresh fruits. With regard to some of the details, my wife thinks she has "a more excellent way." Acting as her amanuensis, I will endeavor truly to "define her position." With us, the larger-mouthed glass bottles, *without corks*, are the cheapest cans. As our family is small, we get the quart bottles, chiefly. All you say about the preferableness of fruits in a fresh state, over those that are "preserved," is, with us, perfectly orthodox. Using, as we do, glass bottles, of course the fruit has to be cooked in a kettle, before it is put into the vessels in which we design to keep it. Respecting the pits of peaches and cherries, we have come to regard the flavor (hydrocyanic acid) that is imparted by their retention as abundantly compensating for the room they require. As with you, our method is to cook and sweeten as if for immediate table use.

When the fruit is cooked, being careful, if of the smaller sorts, not to cook too much—having previously put the bottles on the stove hearth where they could heat up gradually—close the doors and windows so that no cold current of air shall blow upon and break them, and fill them carefully while still remaining on the stove hearth. It is not necessary to put the bottles in water at all. With large mouthed bottles, and a fruit funnel, it is an easy matter to fill them. Now, *instead of a cork*, which is difficult to adjust nicely and quickly—have drilling or new cotton cloth all ready cut into round pieces, and amply large enough to come down over the rim of the bottle, and tie firmly with a cord. For cheapness, as a sealing wax, nothing is superior to the common *resin*—having a little tallow melted in, and thoroughly mixed with it. The dish containing this is already on the stove, so that it is melted and ready for use. As soon as a bottle is filled, put one of the pieces of cloth on the stove hearth and with an iron spoon dip on enough of the wax to coat over thoroughly—smoothing it down with the spoon, and immediately place the coated side down, directly over the mouth of the bottle. Press down firmly, tie, and with the spoon dip enough of the melted wax on the upper side of the cloth, to cover that also. Now, you have an air-tight bottle. Set in a cool place—we use the cellar—and the fruit will keep for years. When we used corks, we lost some, but have not in this way. Late in the season, we use jars, and stone churns, even, for keeping larger fruits, as pears, quinces, &c., and with perfect success—when put up in this way.

One thing we have learned about tomatoes. Scald, so that the skin can be taken off, throwing away all the juice that escapes in this process. Stew in as large pieces as you can readily get into the bottle, and when cooked for use the following Winter or next Summer, you will find that you have "fresh tomatoes." Most people cook them too long, and put up too much juice with them. Self-sealing cans we have tried, but prefer the large open-mouthed bottles, even at the same price. Another advantage is—it is no trouble to open them for use. L. G.

Milan, O., July 8, 1858.

Remark.—The above plan appears feasible and good—and we intend to try it—but shall continue to use the air-tight tin cans mostly, because we prefer to cook the fruit within them, in order to preserve its *flavor* as much as possible.—Ed.

How to Preserve Papers.

The value of agricultural papers depends very much upon the use we make of them. The mere reading of them gives us a good many practical hints, and helps our cultivation, even if they are thrown among the waste paper. But there is better use you can make of them. An agricultural journal that is the exponent of the practice of the best farmers of the country, is to be regarded very much as a lawyer regards his reports of the courts. It is a monthly or weekly book of *cases*, to which the farmer has frequent occasion to refer in his own practice. The memory cannot retain everything at a first reading, and yet it will retain enough to give a clue to the information that is lacking. If this information is preserved in an accessible form, it will be frequently referred to in all doubtful cases.

It is some trouble to preserve the papers, and yet it can be done without a penny's expense to anybody. Of course it is the best way to patronize the bookbinder, if you are near the city, and have the means. But the great majority of our readers are at a distance from the village, and they know more about the raw material of sheep-skins than of using them after they are tanned.

Each *Agriculturist*, as it comes stitched, may be tacked on to its predecessor, and laid upon the shelf where it can be reached in any odd moment. Or they may be filed in order upon a thin slip of wood. A slip of maple or hickory, five-eighths of an inch square, and made smooth, will do. Make it four or five inches longer than the paper you wish to file, so as to leave a convenient handle at the bottom of the page. Bore holes with a gimlet or awl, so as to insert two or three straight bits of wire, at distances convenient to hold the papers fast. The wires should be about three inches long, and sharpened at one end. When the paper is read it can be filed upon these for a whole year. At the close of the year when the Index comes, the volume can be sent to the binder's, or be bound with stout twine and wrapping paper at home. A series of these home-bound volumes of a good agricultural journal will be a treasure in any farmer's family. Preserve the papers.

"Cholagogue" for Ague-and-Fever.

Who has not heard of the widely advertised "Indian Cholagogue," of which some millions of bottles have been sold at the West as a specific for fever-and-ague. (The word *cholagogue* literally signifies a remedy for derangements in, or rather a surplus of the bile). Well, here is a prescription for making a cholagogue which has been much used by friends and acquaintances at the West, for fever-and-ague, and numerous bilious complaints—with the happiest results, they all say. We suspect that if not the same as the so-called "Indian Cholagogue," it is quite as good and vastly cheaper. To make it:

Take 24 grains of Sulphate of Quinine; 1 tablespoonful of Barberry Bark: 1 tablespoonful of Turkey Rhubarb, powdered; 1 ounce of Wintergreen; 1 pint of Molasses, and 1 pint of good Brandy. Put these all into a bottle, and shake well. Take a tablespoonful three times a day, say one hour before each meal....This is a tonic (or strengthening) medicine, and may be very good. Indeed, we will about warrant it to cure, provided the person will eat *broiled* beef-steak or roast beef in fair quantities, and sparingly of vegetables, remembering to have all the food made very fine before swallowing, as recommended for children on page 214 of last number. Take notice that we do not warrant the medicine without the dieting, while the dieting will go a great way towards a cure without the medicine. If you want any kind of Cholagogue, however, try that recommended above, and save the dollars now paid out for the patent article.

The Very Best Washing Recipe.

Put the clothes in water, to which a little soap has been added, and soak them over night, or longer. This is one great "secret" of the success of nine out of ten of the washing "fluids," mixtures," and "machines" which have been sold over the country for ten years past. They nearly all prescribe previous soaking of the clothes. If people pursuing the old-fashioned mode of washing, will simply take the precaution to throw *all* the clothing to be washed into water ten or fifteen hours before beginning operations, they will find half the labor of rubbing and pounding saved, in most cases. Water is of itself a great solvent even of the oily materials that collect upon clothing worn in contact with the body—*but time is required to effect the solution.* Every one is aware of the effect of keeping the hands or feet moist for a few hours. The entire external coating of secretion is dissolved. The same effect is produced by soaking for a few hours garments soiled by the excretory matter of the skin.

A Pie Preparation and a 'Last' Response.—A horticulturist at Lafayette, Ind., advertised that he would supply all trees and plants, especially "pie-plants of all kinds." A gentleman thereupon sent him an order for "one package of custard-pie seed, and a few dozen of mince-pie plants." The gardener promptly filled the order by sending him four goose-eggs and a small dog."

"Cuffy, why don't you kick that dog?" "What am the use of kicking every cur what snarls at you? Don't you know dat am de way he wants you to bring him into notice?"

All curs do not walk on four legs.

Punctuality begets confidence and is the path to honor and respect.

Vine Districts in Missouri.

Taking into account the climate, soil, and location of Missouri, we have long considered it as presenting many attractions to the emigrant, whether from the Eastern States or Europe. A correspondent of the New York Times gives some information respecting one branch of soil culture, which bears the marks of truthfulness and sincerity, and we make the following extracts: To the traveler entering Missouri from St, Louis, and traversing that part of the State south of the Missouri River, it presents itself as one of the most beautiful States in all the West. Following either the railroad to Jefferson City, or that already finished to the Pilot Knob Mountain, one enters a picturesque rolling country, with wooded valleys and clear dashing streams—the rivers skirted with immense forest trees, and the view constantly broken with deep dells or vine-topped hills, or broad rich intervals encircled by the luxuriant forest. In a Northerner's eyes, no doubt, it is the more refreshing after an experience of the grand monotony of the scenery of Illinois and Indiana. To hear that a country is a "country of vineyards," gives of itself a most pleasing picture. ....The culture of the grape is to become one of the most important industrial branches for Missouri—for the whole country, it is of great moment from other collateral considerations.

With reference to the capacity of the State for this branch of culture, Prof. Swallow, the State Geologist, is reported to have said, that "Missouri contains more good vine-land than all France." The business is now almost entirely in the hands of Germans, a most intelligent and thrifty class of people, who are deriving from it large profits. Some of the vine-land—passed over by the American pioneer for its unfruitfulness—they have bought even at 12½ cents an acre; generally they purchase it of the planters or proprietors for $1 an acre. Even the improved hill-tops, with wood cleared and soil broken, and a good eastern exposure, and sometimes with a planting on it, could be bought for $15 an acre. The German peasant comes in with a small capital of, say $300 to $400, builds his log-house and his wine-cellar, buys his cattle and his implements, and plants his vineyards—at the same time laying out some of his fields for common crops. For the first three years he lives on his farm, the sale of his wood and the like. By the fourth year his vines make a return, and even if the year be a bad one, are certain to pay the wages of his labor. After this, his average yield is at least 300 gallons an acre—worth from $300 to $375. It often reaches 1,000 gallons, at $1,000 to $1,250 in value. One man can work two or three acres easily, and often much more. If he hires labor, wages are from 6s. to $1 a day, or from $12 to $15 a month. Provisions are very cheap, so that the returns from this branch of culture must be among the most profitable of any to be obtained from agricultural industry through the whole country. After innumerable experiments with vines from all vine-growing countries, the Missouri cultivators have settled down on certain native grapes, and from these they have produced some new varieties.

The favorite native grapes are the Catawba, Isabella, and Virginia seedling. Of new and old varieties, there are now some fifty in Missouri. The wines made are much lighter than the Ohio wines—one (red) from the Virginia seedling resembling Burgundy, and another (white) being much like a common Rhine wine. In some portions of the south of Missouri, the culture has fairly changed the face of the country, covering the slaty and barren hill-tops with the beautiful green of vineyards, and giving the air of old cultivation to a new district. One village alone (Hermann), with some 12,000 German inhabitants, produced last year 80,000 gallons of wine. There are certain great advantages to Missouri in a German agricultural population, which the people are more and more appreciating.

The German, though not so good a pioneer as the American, is in some respects a *better* farmer. He is more thorough and thrifty, and he especially has the distinguished German peculiarity of a love of beauty, and, perhaps in consequence, a greater affection for home. You will notice in Missouri the German farm-house nearly always with a certain air of taste about it, which you do not see about the American. Great trees are left standing near it; flowering shrubs are planted in the yards, and vines on the piazza, and flower-beds under the windows. It is observed, too, that the German does not so quickly sell, and holds by the old homestead longer—thus forming a more settled class at once among the ever-moving American pioneers—and so presenting a state of society more attractive to the Northern emigrant....

Fruit-Growers' Society of Western New York.

The Summer meeting of this society was held at Rochester, commencing on the 30th of June and continuing for two days.

The exhibition of strawberries was very large, with a good show of cherries, and a few foreign grapes.

After a free and full discussion of the merits of the strawberries most prominently before the public, such as Peabody's Seedling, Burr's New Pine, Hooker, Wilson's Albany, Hovey's Seedling, Triomphe de Gand, &c. A list was handed in by each person present of the varieties he would recommend for market, and for amateur cultivation. The result was as follows, omitting those which received less than four votes:

FOR MARKET.		FOR AMATEURS.	
Early Scarlet	8	Hooker	12
Wilson's Albany	7	Burr's New Pine	7
Crimson Cone	7	Early Scarlet	7
Genesee	5	Wilson's Albany	4
Hovey	4	Hovey	4
Hooker	4		

Peabody's received two votes for amateurs, and one for market culture, while the berry which at one time bore off the palm over Hovey, viz., M'Avoy's Superior, received but two amateur votes. Longworth's Prolific had two votes for market and one for amateur cultivation....Most of those present agree that early Spring planting was best, and that there was little danger of manuring the ground too much, although a few had succeeded on poor soil.

The diseases of the Peach and Cherry were next discussed, but no satisfactory conclusions arrived at, other than that the curl of the leaf was more observable upon the outside rows, especially upon the northeast side, suggesting the necessity of protection.

Summer pinching of the Pear was recommended as needful to secure a proper form, check the leader, or rampant side branches, and to induce fruit buds.

The curculio remedies were canvassed; and the most feasible method of saving a crop of Plums, or nectarines, appeared to be jarring the trees every day while the fruit was setting, for about a week, catching the insects in sheets spread upon the ground. When they begin to grow scarce, every other day will answer, and finally, once or twice a week. In this way, several gentlemen present had secured a full crop of fruit.

Several members then engaged in a discussion, relative to the Summer pruning of the Grape-vine. The general conclusion seemed to be, that Summer pruning was not sufficiently attended to. Mr. Salter being called upon, detailed his mode of pruning, at length. His plan is quite similar to the *Spur system*, briefly alluded to in our last number, page 212 (fig. 3), and described more minutely in the *Agriculturist* of last November, vol. XVI, page 260.

The Society finally adjourned, to meet again in Rochester next Autumn—time not named.

☞ Note the invitation of Seymour & Co., in the advertising columns. If you call on them you will See-more than is promised, and taste also. We called on them last year, and shall do so again this year. D. V

[Official Announcement.]

American Pomological Society.

The Seventh Session of this National Institution will commence at Mozart Hall, 663 Broadway, in the City of New York, on Tuesday, the 14th day of September next at 10 o'clock, A. M., and will be continued for several successive days.

Among the objects of this meeting are the following: To bring together the most distinguished Pomologists of our land, and, by a free interchange of our experience, to collect and diffuse such researches and discoveries as have been recently made in the science of Pomology—to hear Reports of the various State Committees and other district associations—to revise and enlarge the Society's catalogue of Fruits—to assist in determining the synonyms by which the same fruit is known in America or Europe—to ascertain the relative value of varieties in different parts of our country—what are suitable for particular localities—what new sorts give promise of being worthy of dissemination—what are adapted to general cultivation; and, especially, to concert measures for the further advancement of the art and science of Pomology.

The remarkable and gratifying progress which has recently been made in this branch of rural industry, is in no small degree attributable to the establishment and salutary influences of our Horticultural and Pomological Societies, the proceedings of which have been widely promulgated by the Press. A great work has been already performed, but a greater still remains to be accomplished. It is, therefore, desirable that every State and Territory of the Union, and the Provinces of British America should be ably and fully represented in this Convention, and the Pomological, Horticultural, and Agricultural Societies, within these limits, are hereby requested to send such number of delegates as they may deem expedient. Nurserymen, Fruit-growers, and all others specially interested in Pomology, are also invited to be present, and to participate in the deliberations of the meeting.

Held, as this Assembly will be, in the great commercial emporium of our country, easily accessible from all parts of this continent, and at the same time when the Convention of the Editors of the Agricultural Press will be in session, it is anticipated that the attendance will be larger than on any former occasion, and the beneficial results proportionably increased.

In order to increase as much as possible the utility of the occasion, and to facilitate business, members and delegates are requested to forward specimens of fruits grown in their respective districts, and esteemed worthy of notice; also papers descriptive of their mode of cultivation—of diseases and insects injurious to vegetation—of remedies for the same, and to communicate whatever may aid in promoting the objects of the meeting. Each contributor is requested to make out a complete list of his specimens, and present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable after its organization.

For the purpose of eliciting the most reliable information, the several Fruit Committees of States, and other local associations, are requested to forward to Hon. Samuel Walker, General Chairman of the Fruit Committee, Roxbury, Mass., or to P. Barry, Esq., Secretary of the Society, Rochester, N. Y., a definite answer to each of the following questions, at an early date, and prior to September 1st:

What *six*, *twelve*, and *twenty* varieties of the apple are best adapted to a family orchard of *one hundred* trees, and how many of each should it contain? What varieties, and how many of each, are best for an orchard of *one thousand* trees, designed to bear fruit for the market?

What *six* and *twelve* varieties of the Pear are best for family use on the Pear stock? What varieties on the Quince stock? What varieties, and how many of each of these, are best adapted to a Pear orchard of *one hundred* or of *one thousand* trees?

What are the *six* and *twelve* best varieties of the Peach for a family orchard? What are the best varieties, and how many of each, are best adapted to a Peach orchard of *one hundred* or of *one thousand* trees?

Answers to these questions should be made from reliable experience, and with reference to the proximity or remoteness of the market.

Societies will please transmit to the Secretary, at an early day, a list of the Delegates they have appointed.

Gentlemen desirous of becoming members can remit the admission fee to Thomas P James, Esq., Treasurer, Philadelphia, who will furnish them with the Transactions of the Society. Life Membership, twenty dollars; Biennial, two dollars.

Packages of Fruits may be addressed to Wm. S. Carpenter, Esq., 468 Pearl street, N. Y.

MARSHALL P. WILDER, President.
Boston, Mass.

P. Barry, Secretary,
Rochester, N. Y., July 1st. 1853.

Thomas Paine.—J. S. M., Lawrence, Mass., criticises the brief paragraph put in to fill out page 147 of May number. We agree with our correspondent in his opinion that "few men have been more wronged and belied than this distinguished individual." We should probably disagree with him as to the parties that have done the lying—his friends or his enemies. No man ever had greater occasion to pray to be delivered from his friends. The fact is, Thomas was bad material to make a saint out of, and the sooner that endeavor is given over the better

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

Turnips, Varieties, Keeping and Feeding.—A Putnam County reader inquired what variety of turnips our Cattawissa subscriber raised 500 bushels per acre, as detailed on page 197; how kept and fed, &c. We forwarded his queries, but received the reply too late for the preceding pages. It is in substance as follows: "The seed sown is of the flat blue-top (purple-top.—ED.) and the blue-top, *round*, the latter yielding the most largely; the feeding and keeping quality the same. In large heaps they heat and spoil; so only 20 to 30 bushels are put in a heap, and coated with straw or turnip tops, to keep out the dirt which is thrown on to the depth of some six inches. The soil they grow in is used for this purpose. As wanted for feeding, 30, 60, or 100 bushels at a time are taken out to a warm cellar. The little frost that may be in them comes out, leaving them in nice condition for milch cows....In feeding, about ½ bushel per cow is thrown into an oak plank trough, chopped fine, and sprinkled with 6 or 8 quarts of meal of corn and cobs ground together. This divided into two messes constitutes, with some 20 lbs. of hay, the daily food of a cow, and keeps her in good condition with a full flow of rich milk throughout the Winter, leaving her in excellent order as a Summer cow, when grass comes. Every drop of urine and solid excrement is saved, and a large amount of rich manure is thus secured—*a very important consideration with every farmer.*

Manure for Turnips.—O. O. Stewart, Lincoln Co., Me. With the manures you have, there need be no longing for "patent manures," which are often too much like patent medicines—of very little practical use. Mix equal quantities of your barn yard or stable manure and muck together, and add a bushel of dry lime to a double load and you have a first rate turnip grower. The ashes, may very well be applied to the young plants, as they begin to make their appearance in the drill. Besides being a good fertilizer, ashes tend to keep away the garden flea. Put in rows 18 inches apart and thin to 10 inches or a foot in the row. The hen manure needs little preparation, but is perhaps best if pulverized, mixed with a quantity of dry muck or earth, and sown in the drill with the seed.

Lasalle County, Ill.—S. Martin writes, July 10th: "We are well satisfied with our prospect of a good corn crop—*no weeds* and large corn....King Philip corn silked out, and the Dent corn five feet high. Our corn was planted before the excessive wet weather came on and the rain being warm did not hinder our *good* seed from growing. There is plenty of poor corn here abouts. Cause: Some planted early, some late—just as it happened—and the weeds are now as tall as the corn....I improve my corn thus: I began by selecting the best ear I could find, and planting the kernels. The next year I selected the best from this year's seed, and so on yearly, and the crop grows better every year." (No doubt of it.—ED.)...."Seven acres of King Philip corn planted on sod are beginning to tassel....Winter wheat in this vicinity is rusting badly, and we fear the Spring wheat will be damaged....We suppose you had a happy time on the Fourth with friend Timothy Bunker, Esq., enjoy his turnips and ditches...." Sorry to say, not—see a preceding page.—ED.

Berries.—W. S. W., Barnstable Co., Mass. Our monthly "Kitchen Garden Calendar," and the berry articles appearing from time to time will give you the required information. See also the report of the Fruit Growers Convention of Western New-York, in the present number.

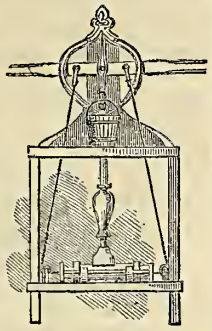
Berries from Seed.—H. T. Baldwin, McHenry Co. Ill.—Mash the well ripened fruit of Strawberries, Raspberries, Blackberries, Currants, Gooseberries &c., and wash out the seeds. Dry them thoroughly and put away in a cool, dry place till planting time in Spring, when they may be sown like ordinary vegetables, covering lightly with well pulverized soil. Of course the productions will be of various kinds, and of different degrees of goodness.

Evergreens from Seed.—H. W. Myers, Summit Co., O., and others. On page 13 of the January *Agriculturist* for 1857, we gave minute directions for raising White Pine, Arbor Vitæ, and other evergreens from seed. White Pine Seed, as well as others, is to be gathered in the Autumn when the cones are ripe, and planted in April or May in a light leaf-mold soil.

Currant Bush Caterpillars.—W. H Quinn, Rensselaer Co., N. Y. Hand-picking is the best means of exterminating these when once at work on the bushes. To prevent their attacks, sprinkle or syringe the bushes every few days, when the *leaves begin to open*, with soap suds, or the whale-oil soap mixture, described on page 149, May *Agriculturist*.

Canker Worm, Borer, &c.—Jas. S. Barker, Hancock Co., Ill. Tar applied direct to the body of a tree is injurious. You may, in a measure, prevent the ascent of the female canker moths by binding on a newspaper or piece of muslin and coating it with tar. You will see a more effectual method described on page 244 of this month's *Agriculturist*....The insect you found eating off the twigs, a sample of which you inclosed, appears to be a borer—not the real apple borer which works in the body of the tree, but more allied to the locust borer spoken of on a preceding page.

Edney's Pump.—We have several inquiries respecting this pump, and present herewith an engraving of a small working model which we have examined. It appears to be well adapted to forcing water to great heights. The forcing apparatus is placed at the bottom of the well. The piston works horizontally, and both ways. The long rods terminate in small chains, passing over pullies on each side of the pump. They connect at the top with the double-arm lever. By raising and depressing this lever alternately, the piston is moved in contrary directions, and the water is forced up through a central pipe, extending to the top of the well, or it may be carried any distance above the operators. We do not see why this arrangement is not as simple, cheap, and effective as anything yet proposed for accomplishing the same end.



Ditching Machines.—A. Rust, St. Clair, Mich. We know of no ditching machine that has stood the test of a thorough trial on a variety of soil. Give us a good Irishman, with his spade and pick, and if the ground be hard, let him have the assistance of a surface and subsoil plow.

Wild Winter Cherries.—L. Martin, Lasalle Co., Ill. It is quite likely you have one variety of the Winter Cherry, as it grows wild over a large portion of the Western country. We consider it none the less valuable for this, but are glad to find, on our own soil, a variety of the *Physalis*, which, to our taste, is quite equal to that brought from Europe, and cultivated with much care by many persons. Ours has this advantage, viz.: it ripens much earlier than the foreign variety. Most of the American sort that we sent out was the wild, improved by several years' cultivation. But the wild plant yields a valuable fruit—the difficulty has been that people have not known that the berries were valuable for sauce.

Large Tulips.—Mrs. V. E. White, of Ohio Co., Va., in response to the challenge of E. Kalb, in the June *Agriculturist*, to produce a larger tulip than was there described, gives the measurement of a pink one she then had in bloom, measuring 3¾ inches in depth, 7¼ inches in diameter, upon a stem 26¼ inches in length. She says: "Some of our early tulips, of which we have over twenty varieties, were larger than the above."

Candy-Tuft.—D. Colklesscn, Washington Co., Md.—The plant you speak of as coming from seed sown as Candy-Tuft, is doubtless one kind of that flower. The seed was purposely sent out by us mixed, to give variety, some producing a white and others a purple bloom. On page 21 of the January number is an illustration of the plant in bloom, accompanied with a description.

Destroying Ants in the Garden.—"Amateur," of Chatham Co., Geo., in reply to an article under the above head in a former number of the *Agriculturist*, gives the following: "Thrust a cane or hoe handle perpendicularly into their mounds, and the ants, not liking the day light thus unceremoniously let in upon them, and the formation of a chasm into which they often tumble, to the imminent risk of breaking their necks, leave in disgust. Where this is not practicable spread raw cotton, finely fringed out over their haunts. They find it a difficult matter to pass through, or over it and leave as before."

Varieties of Grapes, Raspberries and Gooseberries, &c., for out-door Culture.—J. Keag, Bedford Co., Pa. These are very much a matter of taste among cultivators. We will recommend a few which have proved good, and which we have mainly planted. *Grapes:* Delaware, Rebecca, Diana, Catawba, Isabella, and Hartford Prolific. *Raspberries:* Fastolf, Red Antwerp, Allens (hardy) and Brinkle's Orange—(several others might well be recommended,) *Gooseberries:* Confining ourselves to native seedlings so that no danger need be apprehended from mildew—Mountain, Downing and Houghton's Seedling. Add a few choice strawberries and currants to your garden. More on this topic next month.

Direction of Grape Vine Rows, Books &c.—J. C. Messer, Lucas Co., O and L. D. J., Knox Co., Ill.—We prefer having grape vine rows run north and south, but should arrange them with reference to the locality. Persoz' culture of the vine is a very good little treatise, and the process recommended is doubtless mainly correct.

Mildew on Gooseberries.—J. P. Miller, Washington Co., Pa., asks why his gooseberries mildew, while those of a neighbor, purchased at the same time, of the same nurseryman, do not? We cannot answer. If the soil is the same the cause must lie in the treatment Deep tillage and mulching the ground with straw or salt hay, is the best remedy for mildew. Suggestions on budding may be referred to at another time. Also on raising the box plant.

Tobacco Growing.—H. W. M., of Ohio, will find a full chapter on tobacco growing in the March *Agriculturist*, Vol XVI., page 54.

Cabbage Savoy.—Geo. P. Dorr, Jackson Co., Mich. This seed, sent out by us last Spring requires the same treatment every way as the cabbage, to which it is very closely allied. Cook it in the same manner.

Humbugs, Horticultural and otherwise—W. T. W., Queen's Co., N. Y. Beware of all these advertisements, whether of the "Celestial Rose," at $1 per seed, or $25 per potted plants; or, "New Hampshire Pine Apples," at a less price; or even that class, which, for merely a few postage stamps to pay return postage, you will be put in possession of an invaluable secret that will enable you to make lots of money easily. They are traps into which sensible people should no sooner fall than they would venture inside a mock auction shop.

Ringbone and Horse Books.—Wm. Wood, Clinton Co., Mich. Not knowing how bad a case of ring bone your horse has, or how it was induced, we can not venture an opinion as to its curableness. "Dadd's Modern Horse Doctor," for which you inquire, we can procure and forward you post-paid, for $1. It is a valuable work of its kind.

Garget in Cows.—The article on page 165 of the June *Agriculturist* has called out several remedies for this disease. C. L. French, of Bradford Co., Pa., finds the root of garget, or poke, cut up and given the cow, with meal or a spoonful of saltpetre in a mess, is a speedy cure....F. A. B., of Bristol Co., Mass., finds nothing equal to saltpetre, giving a teaspoonful at a time. Repeat the dose each day for several days, if a cure is not effected. J. Russell, Trumbull Co. O., draws out all the milk, and rubs the affected part thoroughly with hog's lard, or some other soft grease. He has never known it to fail when rubbed for a long time—say half an hour—and by next milking the cake has disappeared.

Poke Weed, or Garget.—*Phytolacca decandra*—S. R. Griggs, Washington Co., Vt, will be able to recognize this root from the following description: Root perennial, large and branching, somewhat like rhubarb, but of a light color, and strong to the taste. It throws up strong branches each year, some 5 to 8 feet high, which produce long racemes of dark purple berries, filled with juice. They are sometimes termed pigeon-berries. The root is poisonous, and so is most of the medicine we take. We have used it in cases of garget in cows with very good effect, boring a hole in a potato, and inserting a piece of the size of the finger. In obstinate cases we have known pieces inserted beneath the skin in the cow's bag or flank, near the affected part.

Defective Teats in a Heifer.—The heifer will probably give as much milk with three teats, as with four, if the lacteal vessels are in a healthy condition. If the defect has become chronic, and there is no swelling of the bag, we should attempt no remedy.

Bed-Bugs—Flies.—Is it so?—The papers are passing around the following. *Our* faith is weak, but here is what they say: "Recent experiments in more than one family have established the fact that the plant known to botanists as the Polygonum *hydropiper*, usually known as "water pepper," or "smart weed," which may be found in abundance along ditches, roads, lanes and barn yards, is an effectual and certain destroyer of the bed bug A strong decoction is made of the herb, and the places infested with the insect well washed with it. The plant may also with much advantage, be stuffed in the cracks and corners of the room.

Gophers *and* Ground Squirrels.—Such was the heading written for a Basket note on page 154 of May number. We did not notice that the printer put *or* for *and*, until our attention was called to it by P. Bayley, of Harrison Co., Mo. We did not intend to convey the idea that ground squirrels are the same animals as gophers. Mr. B. describes them thus: "The gopher in preparing his burrow raises a mound by the aid of a sack or pouch on each side of the neck. He subsists chiefly on roots as my garden can testify. There are several kinds of ground squirrel

here. One is grey, and almost as large as the grey squirrel of the woods. The others are smaller, somewhat resembling the chipmunk They burrow in the ground, and may be drowned out by pouring water in their holes.

Boys' and Girls' Own Columns.

EDITOR UNWELL.—The Publishing Editor generally claims the Boys' and Girls' Columns for his own, and he has being saying all Summer that in August there would be few advertisements, and he would then have room to have a long chat with his large family of young readers. But, unfortunately, when he had just got the first 25 pages stereotyped, and had commenced these columns, he was taken suddenly, and somewhat severely sick, and could not even come to the city to look after these last 7 pages. —*Associate Editors.*

P.S.—As we go to press, we hear that Mr. Judd is convalescent, and hopes soon to be out.

Planting One's Name.

Do you understand the design of the above picture? If you examine it as carefully as little George and his Mother are doing, you will see that seeds have been sown in such a manner, that when the plants come up they form the letters of George's name. This is a very pretty exercise, and we think that not only the boys of our *Agriculturist* family would find it pleasant, but for the girls also it would prove as entertaining, and much more healthful than the "quilting," "piecing" and "crochet work" they spend so much time upon. Try it. By looking over the Calendar of Operations you will find that several kinds of seeds may yet be sown for this purpose especially such as lettuce, turnips, radishes, spinach &c. With a stick mark out lines to represent letters of your name, or the picture of a dog, or any thing else you please, and sow the seeds in the marks thus made.

What a Little Boy can do.

Did you ever see a "Break" on a canal? First a little water, a stream no larger than your finger, may work its way over the bank. This washes away earth, the stream widens, and in a single night the whole bank may wash away, stopping hundreds of boats perhaps for many days. Now, that little stream could have been stopped by a little boy if he had chanced to see it, and had foresight enough to do so. We have in our drawer the record of an incident which inculcates an important lesson.

A little boy in Holland was returning one night from a village to which he had been sent by his father on an errand, when he noticed the water trickling through a narrow opening in the dike. He stopped and thought what the consequences would be if the hole was not closed. He knew, for he had often heard his father tell the sad disasters which had happened from such small beginnings; how, in a few hours, the opening would become bigger and bigger, and let in the mighty mass of waters pressing on the dike, until the whole defense being washed away, the rolling, dashing, angry waters would sweep on to the next village, destroying life and property, and everything in its way. Should he run home and alarm the villagers, it would be dark before they could arrive, and the hole might even then be so large as to defy all attempts to close it. Prompted by these thoughts, he seated himself on the bank of the canal, stopped the opening with his hand, and patiently awaited the approach of some villager. But no one came. Hour after hour rolled by, yet there sat the heroic boy, in cold and darkness, shivering, wet and tired, but stoutly pressing his hand against the dangerous breach. All night he stayed at his post At last the morning broke. A clergyman walking up the canal heard a groan, and looked around to see where it came from "Who are you there, my child?" he asked, seeing the boy, and surprised at his strange position. "I am keeping back the water, sir, and saving the village from being drowned," answered the child, with lips so benumbed with cold that he could scarcely speak. The astonished minister relieved the boy. The dike was closed, and the danger which threatened hundreds of lives was prevented.—*Bond of Brotherhood.*

Tracing Paper.

In copying pictures and diagrams, it is often desirable to use transparent paper. This is placed upon the picture, or other objects, and the main lines are marked upon it with a pencil or point. The copy is then laid upon the new sheet and the principal points are pricked through the transparent paper. In this way a correct outline is obtained. A very little sweet oil, or a little butter rubbed over common white writing paper and then dried so as not to rub off, makes a very good tracing paper. You can lay this upon a picture, the leaf of a tree or other object, and mark the outlines, and then lay it upon a sheet of white paper and run the point of a sharp bodkin, or a darning needle over the marks with sufficient pressure to leave the outlines on your drawing paper.... Giles Farmin. of Houston Co., Iowa, writes to the young readers of the *Agriculturist:* "Instead of using an oiled or greased paper, take clear white tissue paper." [It can be got at the stores for a trifle, and very often comes with buttons or other purchased articles.—ED.] "Place this on the picture, and with a *soft* lead pencil draw upon the tissue paper the outlines of the thing to be copied. Turn this marked sheet over upon the drawing paper, and run the same pencil over the lines again but on the other side. Enough of the first markings will blot off upon the drawing paper to leave the outlines of a *reversed* picture, which can be filled out. The tissue paper is now marked upon the upper side also. Turn this over upon another piece of drawing paper and again run the pencil or any pointed instrument over the lines, and you will get an exact copy of the original picture or object, but not reversed this time." The above are good suggestions. We have before explained that engravers must cut their blocks *reversed*, so that they will print correctly when turned over upon the sheet. The engraver gets the reversed outlines upon his block very readily, by first laying his tracing paper over the drawing to be engraved, and marking the outlines upon the upper side, and then turning the traced paper over upon the block, which of course reverses the picture. He then marks through it upon the block, or if it be marked with a soft pencil the outlines may be blotted off upon the block by simply pressing upon it. The outlines being thus obtained the other parts are filled up with a drawing pencil.

Agricultural Exhibitions for 1858.

STATE.

Place.	*Where held*	*Date.*
California	Marysville	Aug. 23—27
Missouri	St. Louis	Sept. 6—11
Amer. Pomol. Soc.	New-York	" —14
No. Western Virginia	Wheeling Island.	" 14—16
Vermont	Burlington	" 14—17
Ohio	Sandusky	" 14—17
New-Jersey,	Trenton	" 14—17
National Horse Show	Springfield, Mass.	" 14—17
Illinois	Centralia	" 14—17
Rhode-Island	Providence	" 14—18
Maine	Augusta	" 21—24
Pennsylvania	Pittsburg	Sept. 28 Oct. 1
Canada West	Toronto	" 28 " 1
Canada East	Montreal	" 28 " 1
Iowa	Oscaloosa	" 28 " 1
Michigan	Detroit	" 28 " 1
Kentucky	Louisville	" 28 " 2
Wisconsin	Madison	Oct. 4— 8
Indiana	Indianapolis	" 4— 9
New York	Syracuse	" 5— 8
New Hampshire	Dover	" 6— 8
Connecticut	Hartford	" 12—15
Alabama	Montgomery	" 18—22
United States	Richmond, Va.	" 25—30
Maryland	Baltimore	" 26—29
Virginia	Petersburg	Nov. 2— 5
North Carolina	Raleigh	" 2— 6
South Carolina	Columbia	" 9—12

COUNTY FAIRS.

CONNECTICUT.

Middlesex	Middletown	Oct.	6— 8

INDIANA.

Fayette	Connersville	Sept.	7—10
Rush	Rushville	"	14—17
Hendricks	Danville	"	14—17
Jennings	Vernon	"	15—17
Washington	Salem	"	20—23
Spencer	Rockport	"	22—24
Marion	Indianapolis	"	22—24
Clark	Charlestown	"	22—24
La Porte	La Porte	Sept. 28	Oct. 1
Wayne	Richmond	" 28	" 1
Fountain & Warren	Attica	" 29	" 1
Delaware	Muncie	" 29	" 1
Sullivan	Carlisle	" 30	" 1
Kosciusko	Warsaw	Oct.	13—15

ILLINOIS.

St. Clair	Belleville	Sept.	1— 3
Pike	Pittsfield	"	8—10
Morgan	Jacksonville	" 28	Oct. 1
Montgomery	Hillsboro	" 28	" 1
Edgar (Wabash Valley)	Paris	" 28	" 1
Adams	Quincy	" 29	" 1
Tazewell	Tremont	Oct.	6— 7

IOWA.

Johnson	Iowa City	Sept.	15—16
Polk	Des Moines	"	14—16
Lee	West Point	"	15—17
Jefferson	Fairfield	"	22—23
Boone	Boonesboro	"	22—23
Decatur	Leon	"	29—30
Sac	Sac City	Oct.	4—
Henry	Mount Pleasant.	"	5— 6
Louisa	Wapello	"	6—
Van Buren	Keosauqua	"	13—14
Pottawattamie	Council Bluffs	"	14—15
Marion	Knoxville	"	21—22
Wapello	Ottumwa	"	22—24

MAINE.

Oxford	South Paris	Oct.	5— 7
Androscoggin	Lewiston	"	5— 7
West Somerset	Anson	"	6— 7
North Aroostook	Presque Isle	"	6— 7
York	Saco	"	12—13
North Somerset	Solon	"	13—14
North Penobscot	Lee	"	13—14

MASSACHUSETTS.

Middlesex North	Lowell	Sept.	15—17
Middlesex South	Framingham	"	21—22
Bristol	Taunton	"	22—23
Housatonic	Great Barrington	"	22—24
Worcester North	Fitchburg	"	24—
Hampden	Springfield	"	28—30
Norfolk	Dedham	"	28—29
Middlesex	Concord	"	29—
Plymouth	Bridgewater	"	29—30
Essex	Danvers	"	29—30
Worcester South	Sturbridge	"	29—
Worcester West.	Barre	"	30—
Hampden East	Palmer Depot	Oct.	5— 6
Worcester	Worcester	"	6— 7
Franklin	Greenfield	"	6— 7
Barnstable	Barnstable	"	6— 7
Berkshire	Pittsfield	"	6— 8
Hampshire	Amherst	"	12—13
Nantucket	Nantucket	"	13—14
Hampshire, Franklin and Hampden		"	13—14

MICHIGAN.

Eaton	Charlotte	Sept.	8—30
Branch	Coldwater	Oct.	6— 8

MISSOURI.

N. E. District	Paris	Sept.	13—18
Howard	Fayette	"	14—18
Pettis	Georgetown	"	14—17
Lafayette	Lexington	"	14—18
N. W. District	St. Joseph	"	21—25
Saline	Miami	"	21—24
Boone	Columbia	" 30	Oct. 2
Central District	Booneville	Oct.	4—10

NEBRASKA.

Nemaha	Brownville	Oct.	13—16

NEW-HAMPSHIRE.

Sullivan	Charlestown	Sept.	15—16

NEW-JERSEY.

Burlington	Mount Holly	Oct.	5— 6

NEW-YORK.

Wayne Co. Horse Show		Aug.	5— 7
Saratoga	Mechanicsville	Sept.	7— 9
Madison	Morrisville	"	8—10
Monroe	Rochester	"	14—17
Albany	——	"	21—24
Oswego	Fulton	"	22—24
Queens	Flushing	"	22
Chenango	Norwich	"	23—25
Onondaga	Syracuse	"	22—23
Livingston	Geneseo	"	22—24
Washington	Salem	"	23—24
Yates	Penn Yan	"	23—24
Broome	Lisle	"	28—30
Oneida	Rome	"	28—30
Skaneateles	Skaneateles	"	29—
Orange	Montgomery	"	29—30
Greene	Cairo	"	29—30
Susquehanna Valley	Unadilla	"	29—30
Ontario	Canandaigua	Sept 29	Oct. 1
Seneca	Farmersville	Oct.	13—15
Montgomery	Fonda	"	26—

OHIO.

Ashtabula	Jefferson	Sept.	7— 9
Brown	Georgetown	"	7— 9
Fayette	Washington	"	7— 9
Hamilton	Carthage	"	7—10
Franklin	Columbus	"	8—10
Summit (Union)	Twinsburg	"	8—10
Clermont	Bantam	"	14—17
Portage	Ravenna	"	20—22
Clermont	Olive Branch	"	21—24
Geauga	Burton	"	22—24
Lawrence	Ironton	"	22—24
Lake	Painsville	"	22—24
Madison	London	"	22—24
Guernsey	Cambridge	"	23—24
Noble	Sarahsville	"	23—24
Marion	Marion	"	26—27
Warren	Lebanon	"	28—30
Green	Xenia	"	28—30
Knox	Mt. Vernon	"	28—30
Geauga (Free)	Claridon	"	28—30

Adams	West Union	"	28—30
Hardin	Kenton	"	29—30
Champaign	Urbana	Sept. 28	Oct. 1
Belmont	St. Clairsville	" 28	" 1
Crawford	Bucyrus	" 29	" 1
Richland	Mansfield	" 29	" 1
Columbiana	New Lisbon	" 29	" 1
Delaware	Delaware	" 29	" 1
Tuscarawas	Canal Dover	" 29	" 1
Highland	Hillsboro	" 29	" 1
Ross	Chillicothe	" 20	" 1
Van Wert	Van Wert	Oct.	5— 6
Mahoning	Canfield	"	5— 7
Lorain	Elyria	"	5— 7
Stark	Massillon	"	5— 7
Licking	Newark	"	6— 7
Fulton	Otakec	"	6— 7
Coshocton	Coshocton	"	6— 8
Seneca	Tiffin	"	6— 8
Union	Marysville	"	6— 8
Wood	Bowling Green.	"	6— 8
Washington	Marietta	"	6— 8
Butler	Hamilton	"	6— 8
Summit	Akron	"	6— 8
Williams	Bryan	"	6— 8
Sandusky	Fremont	"	6— 8
Morgan	McConnellsville,	"	6— 8
Harrison	Cadiz	"	6— 8
Erie	Huron	"	6— 8
Clark	Springfield	"	6— 8
Defiance	Defiance	"	6— 8
Putnam	Kalida	"	7— 8
Hancock	Findlay	"	7— 9
Morrow	Mt. Cilead	"	13—15
Athens	Athens	"	14—15
Carroll	Carrollton	"	14—16
	PENNSYLVANIA.		
Mercer	Mercer	Sept.	22—23
Bucks	Newtown	"	29
Tioga	Wellsboro	"	29—30
Lehigh	Allentown	" 28	Oct. 1
Chester	West Chester	Oct.	1— 2
Crawford	Conneautville	"	5— 7
York	York	"	6— 9
	VIRGINIA.		
Brooke	Wellsburg	Sept.	22—24
	WISCONSIN.		
N. W. Union	River Falls	Sept.	22—23
Richland	Richland Centre	Oct.	6— 7
Crawford	Seneca	"	12—13

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW-YORK, July 23, 1858.

The Wholesale Produce Markets, since the date of our last review, have become decidedly firmer for the leading kinds of Breadstuffs. These have arrived less freely, especially during the past week, owing, in part, to a break in the Erie Canal, half a mile West of Schenectady, which would require some days to repair. The late advices from the interior, particularly from the Northwest, in reference to the extensive injuries sustained by the wheat and other crops, from insects, rust and blight, have tended to make receivers withhold their supplies, in anticipation of higher prices. The favorable market news from Europe has also tended to increase the firmness of sellers. The demand has been very good, for home use, and for export. Fresh ground flour has been sparingly offered, as have likewise ground lots of wheat and corn. The receipts, as well as the available supplies, of wheat and corn, consisted, for the most part, of unsound and inferior parcels. Really sound and desirable lots have been very difficult to procure. These circumstances have had the effect of restricting business. The rise in freights, (to 2s.@ 2s.1½d. on flour, and 7d. on grain, for Liverpool) has also checked operations. The annexed list of prices shows general improvement in the value of the principal kinds of Breadstuffs, as compared with the rates current on June 23. Flour, Wheat and Corn, moreover, continue to favor sellers, and should it ultimately appear that crops have been as seriously damaged, as is now reported, it is quite probable that holders will be enabled to get even better prices. At present, it is undoubtedly true, that the crop accounts are gloomy enough, so far as small grain is concerned. A panic evidently prevails upon the subject throughout the country. We have no doubt that immense damage has been done to wheat and oats, that many fields which promised well a few weeks ago will not be worth the harvesting, and that others will not give half of an average yield; still we think that the result, taking the country as a whole, the crops will be better than the majority of people now anticipate. We have passed through such panics before, and this has been our invariable experience It ought to be understood that a part of the newspaper rumors of "tremendous losses of crops," are actually manufactured by unscrupulous persons who have old stock on hand which they wish to raise the price of....Cotton has been more sought after and prices have advanced. Our available supply is 61,706 bales, against 40,926 bales same period last year. The receipts at all the shipping ports, to latest dates this season, have been 3,030,120 bales, against 2,886,917 bales to the corresponding period of last season. The total exports from the United States so far this season have been 2,482,054 bales, against 2,191,332 bales to the same date last season. The total stock on hand and shipboard in all the shipping ports, at the latest dates, was 189,992 bales, against 118,245 bales at the same time last year. The stock in the interior towns at the latest dates was 35,303 bales, against 23,317 bales at the corresponding date a year ago....Provisions have been in good demand, at strengthening rates, with reduced supplies available....Hay and Hops have been freely offered and purchased at unchanged figures. The new hay now coming in, arrives in very good condition, and sells, for city use, for as much as old hay. This is rarely the case on the first appearance of new in our markets. Old hay is, of course, almost exclusively what shippers buy. They do not like to purchase new for shipment, so early, as they do not consider it a safe commodity to put on shipboard.. Hemp and Grass seeds have been very sparingly dealt in....Riee has been in active request, in part for export, at buoyant prices.... Wool has not been very brisk, in this market. Buyers have beeen generally engaged in purchasing supplies of the new clip in the interior, where from the active competition that has been experienced, prices have advanced over the opening rates. The receipts, here, are now increasing steadily, and in the course of a month, a good supply is looked for. At present, the stock of domestic Wool in market is unusually light, and is quite stiffly held....Tobacco is quiet, yet steady....Other articles of produce have presented no noticeable variation from the previous month.

CURRENT WHOLESALE PRICES.

	June 23.	July 23.
FLOUR—Com'n to Extra State	$3 80 @ 4 05	$4 10 @ 4 40
Common to Fancy Western	3 90 @ 4 15	4 05 @ 4 35
Extra Western	4 10 @ 7 00	4 20 @ 7 00
Fancy to Extra Genesee	4 25 @ 6 50	4 40 @ 6 50
Mixed to Extra Southern	4 50 @ 7 50	4 65 @ 7 50
RYE FLOUR—Fine and Super.	3 60 @ 3 87	3 00 @ 3 60
CORN MEAL	3 50 @ 3 90	3 65 @ 4 25
WHEAT—Canada White	1 62 @ 1 15	1 05 @ 1 18
Western White	1 00 @ 1 25	1 03 @ 1 30
Southern White	1 15 @ 1 31	1 15 @ 1 43
All kinds of Red	80 @ 1 10	80 @ 1 30
CORN—Yellow	77 @ 79	89 @ 95
White	75 @ 78	92 @ 95
Mixed	70 @ 74	67 @ 85
OATS—Western	45 @ 46	46½ @ 47½
Slate	41 @ 45	45½ @ 46½
Southern	34 @ 39	32 @ 40
RYE	71 @ 7 ½	69 @ 70
BARLEY	50 @ 60	55 @ 62½
White Beans	1 06¼ @ 1 12½	90 @ 1 15
Black-eyed Peas, per 2 bush	3 37½ @ 3 50	3 37½ @ 3 50
HAY, in bales, per 100 lbs	40 @ 70	40 @ 65
COTTON—Middlings, per lb	12¼ @ 12½	12¾ @ 12⅞
RICE, per 100 lbs	3 00 @ 3 75	3 00 @ 3 75
HOPS, per lb	4½ @ 7	5 @ 7
PORK—Mess, per bbl	@16 50	17 12½ @ 17 25
Prime, per bbl	13 75 @ 3 50	13 95 @ 14 00
BEEF—Repacked Mess	12 00 @13 50	11 50 @13 50
Country mess	10 75 @11 50	10 75 @ 11 50
HOGS, Dressed, per lb	5 @ 6	5¾ @ 7
Lard, in bbls. per lb	10½ @ 11	11 @ 11¾
BUTTER—Western, per lb	10 @ 17	11 @ 17
State, per lb	12 @ 22	12 @ 22
CHEESE, per lb	4 @ 8	4 @ 8
EGGS—Fresh, per dozen	10 @ 12½	16 @ 17
FEATHERS, Live Geese per lb.	40 @ 50	44 @ 50
SEED—Clover, per lb	7 @ 7½	7½ @ 8
Timothy, per bushel	1 75 @ 2 00	1 75 @ 2 00
SUGAR, Brown, per lb	5 @ 7½	5¾ @ 8½
MOLASSES, New-Orleans, prgl	36 @ 37	40 @
COFFEE, Rio, per lb	9¾ @ 11½	9¾ @ 11¾
TOBACCO—Kentucky, &c. pr lb	6½ @ 16	6½ @ 15
Seed Leaf, per lb	9 @ 35	9 @ 35
WOOL—Domestic fleece, per lb.	27 @ 45	27 @ 46
Domestic, pulled, per lb	25 @ 30	25 @ 38
HEMP—Undr'd Amer'n pr ton	110 @125	110 @125
Dressed American, per ton	170 @185	170 @185
TALLOW, per lb	9½ @ 9¾	9½ @
OIL CAKE, per ton	31 50 @37 50	30 00 @37 50
POTATOES—Norfolk, per bbl		2 50 @
Long Island per bush		75 @ 1 00
TURNIPS—Rutabagas, per bbl.		1 25 @
BEETS, per 100 bunches		2 50 @ 3 00
ONIONS, per bbl		2 25 @ 2 50
CABBAGES, per 100		2 00 @ 5 00
CUCUMBERS, per bbl		2 00 @ 2 50
SQUASHES, per bush		1 00 @
APPLES—Charleston, per bbl.		4 00 @ 4 50
Norfolk, per bbl		4 00 @
PEACHES Charleston and Norfolk, per bushel box		2 00 @ 5 00
RASPBERRIES—lge, per 100 bkts		7 00 @ 8 00
BLACKBERRIES, pe bush		5 00 @
HUCKLEBERRIES, per bush		4 00 @
CURRANTS per lb		6 @ 7
POULTRY—Fowls, per lb	14 @ 15	15 @
Chickens, Spring, per pair	50 @ 75	37 @ 63
Ducks, per pair	75 @ 1 25	62 @ 1 00
Turkeys, per lb	15 @	15 @

Total receipts and the total sales of Breadstuffs for 26 business days, ending with to-day, and comparison with 24 business days the previous month:

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley	Oats.
24 bus. days *last* mon.	403 570	1,367,810	993,125	38,850	2,100	208,450
26 bus days *this* mon.	297,987	833,358	361,216	19,615	610	119,785
SALES.	*Flour*	*Wheat.*	*Corn.*	*Rye.*	*Barley*	
24 business days *last* month.	415,100	1,632,000	817,000	76,500	37,500	
26 business days *this* month	317,4 3	1 212,250	750,075	61,700	1,800	

The following is a comparative statement of the exports of the leading kinds of Breadstuffs from the port of New York, from January 1 to July 19, both days included:

	1857.	1858.
Wheat Flour, bbls.	479,585	818,078
Rye Flour, bbls	2,652	3,258
Corn Meal, bbls	31,567	41,906
Wheat, bush	1,062,567	2,330,983
Corn, bush.	1 533,129	1,236,804
Rye, bush	81,446	

The following is a statement of the exports of the leading kinds of Breadstuffs, from the Atlantic ports of the United States since Sept 1, 1857:

To Great Britain and Ireland. From	To Date.	Bbls Flour.	Bush. Wheat.	Bush, Corn
New York	July 16, 1858	686,949	4,821,311	1,709,107
New Orleans	July 3, 1858	268,735	532,076	841,793
Philadelphia	July 6, 1858	89,634	160,977	460,739
Baltimore	July 8, 1858	91,572	204,238	250,197
Boston	July 9, 1858	3 667		8,926
Other Ports	July 2, 1858	22,591	128,597	3,920
Total from Sept 1 1857,		1,163,118	5,847,159	3,274,676
To about same period, 1857.		846,250	7,253,440	4 604,491
To about same period, 1856.		84,578	5,911,716	6,342,660
To about same period, 1855,		139,922	202 875	6,019,460
To the Continent.				
From New York to June 23,		58,99,151	115,782	10,651
From othe ports to latest date.		160,407	141,527	6,030

Chicago Breadstuff Trade Statistics, Jan. 1 to July 10.

	1857.		1858.	
	Receipts.	*Exports.*	*Receipts.*	*Exports*
Flour, bbls.	112,846	70,879	234,247	191,298
Wheat, bush	1,820,044	1,719,904	5,379,094	4.630,193
Corn, bush	3,301,224	2,913,469	4,424,367	2,630,773
Oats, bush	283,484	139,511	1,390,510	1,136,307

Stock of Breadstuffs in Store in Chicago July, 1

Flour, bbls	5,750	Corn, bush	527,348
Wheat, Spring, bush	882,241	Oats, bush	84,303
Wheat, Red, bush	6,815	Rye, bush	1,200
Wheat, White, bush	600	Barley, bush	11,297

Shipments of Breadstuffs from Milwaukee, each season, to July 12.

	1857.	1858.
Flour, bbls	125,355	171,932
Wheat, bush	1,236,430	1.897,499

N. Y. LIVE STOCK MARKETS—BEEVES.—Receipts for five weeks ending July 21, were 18,155, or 2,561 more than during the five weeks preceding. Rcceipts and variations were, for week ending June 23, 4,503, averaging 1½c. decline; June 30, 3,041, at ½c. decline; July 7, 3,374, at ½c. advance; July 14, 3,958, at ½c. decline; July 21, 3,279, at ½c. advance, making a decline of 1½c. during the month....July 21, prices ranged on estimated dressed weights, as follows: First quality, 9c. @ 9½c.; Medium quality, 8c. @ 8¾c.; Poorest quality (of which there was some *very* poor), 6c. @ 7c. Average of all sales. 8½c.

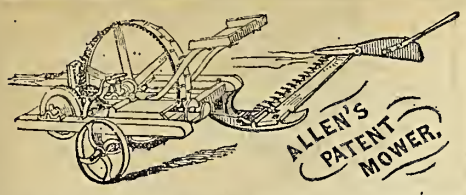
VEAL CALVES have been in less supply for the past five weeks, the receipts footing up but 3,547 head. They are now selling at 5c. @ 6c. ℔ lb gross weight. A few of the finer bring 6½c.

SHEEP AND LAMBS.—Rcceipts have increased largely, the numbers for the past five weeks being 50,527 against 30,850 for the previous five weeks. Prices are low, varying from 3½c. to 4c. ℔ lb. for sheep, live weight. A very few of the best bring 4½c. Lambs are worth 6c. to 7c., and if very fat, 8c. ℔ lb. gross.

HOGS.—Arrivals have been less free, being only 24,500 for the five weeks just closed. Prices have advanced 1c, ℔ lb. gross weight, selling readily at 5½c. @ 5¾c. live weight, for corn-fed hogs.

THE WEATHER has been very warm during most of the past month, the mercury rising above 95° on several successive days, and at one time reaching 98° in the shade. Frequent showers during such excessive heat has kept vegetation fresh, and in rapid growth. Hay and grain have mainly been secured in good order, and the crop is fully an average one in this region and throughout the country. Other crops promise well....Our WEATHER NOTES, condensed, read: June 23 to July 2, a heated term of cloudless sunshine, the mercury reaching 98° in the shade on the 26th and 28th, and near that point on several other days: succeeding, this we had heavy showers through July 3rd, and till M. on the forenoon of the 4th; 5 to 9 clear and very warm, affording a fine opportunity for farmers to finish their hay and early grains; 10, cloudy; 11 and 12, clear and warm—96° on 11th, and heavy wind in the afternoon; 13, cooler, with very heavy noonday shower, settling into a steady rain extending to the 14th, which continued cloudy; 15 to 17, clear and warm; 18, cloudy A. M., heavy showers P. M.; 19, clear and fine; 20, cloudy A. M., showers P. M., and during night; 21, mostly cloudy, with thunder shower at night; 22 and 23 clear and warm.

☞ **The actual circulation of the Agriculturist to regular subscribers, is believed to be much larger than that of any other Agricultural or Horticultural Journal in the world.**



STRONG AND DURABLE.—LIGHT OF draft to the team. Will cut all kinds of grass better than it can be done with a scythe—leaving it spread—so as to save labor of spreading it. It can be worked at a slow or fast gait and by oxen if desired. It is easily managed and safe to the driver.

All we claim for it is admitted by those who use it and it has received their universal approbation.

I am making them for the coming season, when desired with a hoist for raising the finger board, a very simple and efficient addition, and can also furnish when desired a very simple Reaping attachment—which does not at all affect its simplicity or efficiency as a mower. R. L. ALLEN, 191 Water-st.

MR. R. L. ALLEN, NEW-YORK:—The subscriber having seen Allen's Patent Mowing Machine in use, both in heavy and light grass, of different sorts, is prepared to speak of its performance with the highest approbation. It was drawn by a pair of light horses with apparent ease, cutting a wide swarth perfectly clean, whether the grass were standing or badly lodged, and leaving it spread in the best possible manner: This was done during and immediately after a heavy shower, and without any clogging of the knives.

MARSHALL P. WILDER,
President of the U. S. Agricultural Society.

I used one of your Mowers in cutting my entire crop this season; then sold it, and it afterward cut the crops of three other farmers, each of whom bought it. One man paid $140 or it. The whole cost of repairs for the season was not one dollar. Another neighbor cut 240 acres with it at no expense for repairs of any consequence. We all consider it in this neighborhood as the only satisfactory machine ever used here.

JAMES E. DUNLAP.
Jacksonville, Morgan Co., Ill., Dec. 1857.

We cut our entire crop of grass with your Allen Mower this season, and then sold it for $240. It is now in constant use and gives full satisfaction. It is daily running in such grass and clover as used to be considered impossible to be cut by machines.

C. G. & A. STARKWEATHER.
Stockton, California, June 17, 1857.

Delano's Independent Tooth Hay and Grain Rake.

This Rake has given universal satisfaction wherever it has been introduced. The ease and facility with which the hay may be placed in windrows, or hunched or cocked preparatory to loading, with entire freedom from dust: its superiority as a gleaner; the adaptation of the teeth to all surfaces, however irregular, are qualities which commend the DELANO RAKE, and must ultimately bring it into exclusive use; in short, it is as greatly superior to the revolver or any other, as the revolver was, when first introduced, to the hand rake. We know of farmers who harvest their entire crop of hay by the use of the DELANO RAKE and the fork alone—no hand rake being needed in the field.

Price with wheels complete $25.

SELF ADJUSTING HAY ELEVATOR OR HOISTING FORK.

By the use of this simple and low priced apparatus, a two-horse wagon-load may be unloaded and deposited in the mow, just where it is needed, within ten minutes; and if unusual exertion be made, to avoid a threatened storm, in half that time, the workmen being fresh and ready for re-loading.

Those manufactured by us are of improved construction. We also manufacture the Anti-Friction Blocks, to accompany the Forks. As these blocks cannot take fire, they are therefore cheaper than the common low-priced blocks.

Price of Hay Elevator $8. Anti-Friction Blocks, per set $5. Manufactured and for sale by

D. LANDRETH & SON.
Agricultural Warehouse,
Nos. 21 & 23 south-6th, Philadelphia.

LANDRETH'S RURAL REGISTER AND ALMANAC, published annually, containing a monthly Calendar for the Farm, Garden and Green House, furnished gratis to all applicants.

ALLEN'S ENDLESS CHAIN ONE OR TWO HORSE POWER.—Thresher and Separator—made in best and most durable manner, and is not excelled by any in existence.

EMERY'S ENDLESS CHAIN HORSE POWER, Thresher, &c., at Manufacturer's price.

BOGARDUS' Iron Horse Power.—TAPLIN'S Wood rim circular do.

HALL'S & PITT'S 6 to 8 Horse Power Thresher and Cleaner and several other kinds. For sale by R. L. ALLEN, 191 Water-st.

CORN SHELLERS FOR HORSE OR hand power—Fan Mills—Grain Mills—Vegetable Cutters. Hay and Stalk Cutters. Vegetable Boilers, for boiling for stock. Hay Presses, &c, of most approved kinds. For sale by R. L. ALLEN, 191 Water-st.

Potato Digger.

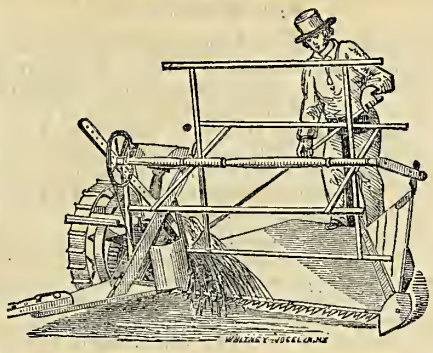
This is a new and highly improved Implement, got up by myself, after *long experience of working it in the field.* It is by far the best thing of the kind in use. One man and a pair of horses will dig faster than twenty men can pick up. It throws all the potatoes, (even the smallest), clean out of the ground, and leaves them clear of dirt on the surface. R. L. ALLEN, 191 Water-st., New-York.

Patent Potato Diggers,

IMPROVED CIDER MILLS and PRESSES, HAY ELEVATORS, great labor savers.
For sale by TREDWELL & PELL,
251 Pearl Street, New-York.

FOR THE HARVEST OF 1858.

The best Combined Reaping and Mowing Machine in use, as endorsed by the United States Agricultural Society.



Manny's Patent with Wood's Improvement.

It is with much pleasure and renewed confidence, that I offer my machine to the Farmers for the coming harvest, with all its improvements and increased high reputation as a combined Machine and Single mower. The large sale the past season, and great success at the National Trial of Harvest Implements at Syracuse in July last, where it was awarded one Gold and two Silver Medals, is conclusive to every unprejudiced farmer that it is the most approved machine of the kind in use, and the subscriber begs to say that they will be perfect and complete in workmanship and material, and are offered to them on terms accommodating and suited to the times. With each machine will be furnished two scythes, two extra guards two extra sections, one extra pinion, and wrench.

Warranted capable of cutting from 10 to 15 acres of grass or grain per day, in a workmanlike manner.

Price of Machines as heretofore. The Combined Machine varies in price according to width of cut and its adaptation in size and strength to different sections of the country, from $125 to $150, delivered here on the cars.

Price of Single Mower, steel Bar.....$115.00

WALTER A. WOOD,
Manufacturer and Proprietor.
Hoosick Falls, N. Y.

TO THE FARMERS, HAY DEALERS, AND PLANTERS OF THE UNITED STATES—INGERSOLL'S IMPROVED PORTABLE HAY and COTTON PRESS, combines greater power and portability, requires less labor, occupies less space, and costs less money than any other hand power machine for baling HAY OR COTTON ever offered to the public. It has recently been much improved, and is warranted to give satisfaction.

We have numerous letters from those who have seen and used these presses during the past season, similar to the following from Wm. Thompson, Esq., South Londondary, Vt., who writes Feb. 8, 1858, as follows:

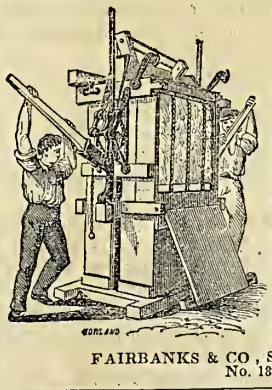
GENTS: "I think your press, with the improvement you have made recently, will exceed anything of the kind yet got up, for it will press more in a day, with only two hands to work it, and do it easier, than any other press in New-England."

No. 1 Press—Weight of Bale 150 to 200 pounds.
No. 2 Press— " " 250 to 300 "

Presses constantly on hand and other sizes and for other purposes made to order. For further information call or address the

FARMERS' MANUFACTURING CO.,
Greenpoint, opposite New-York.

N. B.—The Brooklyn and Williamsburg City Cars run up to Greenpoint, and the New-York Dry Dock stages go to the Greenpoint Ferry.



Ingersoll's

Premium Portable

HAY PRESS.

THIS PRESS combines greater power and portability, requires less labor, occupies less space, and costs less money, than any other machine for baling hay ever offered to the public.

It is equally convenient for pressing cotton, hemp, hops, broom corn, rags, husks, &c. Samples may be seen at our warehouse, and circulars, with cuts and full descriptions, will be furnished upon application, by letter or otherwise, to

FAIRBANKS & CO., Scale Manufacturers,
No. 189 Broadway, New-York.

Garden, Field and Flower Seeds.

The subscriber has now on hand a full assortment of Vegetable, Field, Herb and Flower Seeds of the growth of 1857, and of the very best quality, for sale Wholesale and Retail. Orders by mail attended to immediately.

TURNIP SEED.

Strap Leaved Red Top, Extra White Flat Dutch, Large White Norfolk, Large White Globe, Yellow Aberdeen, Yellow Stone, Waite's Eclipse, Skirving's Purple Top Rutabaga or Russia, Ashcroft's Swede, River's Stubble, Long White French, and all other varieties. Send for a catalogue.

R. L. ALLEN, 191 Water-st.

SEED BUCKWHEAT. EXTRA CLEAN.

Hungarian Grass $5 per bushel or 25 cents per quart CHINESE SUGAR CANE (American and Imported). IMPHEE or AFRICAN SUGAR CANE. R. L. ALLEN, 191 Water-st.

Cane Mills and Distilleries.

GENERAL COPPER-SMITH WORK.

Distilleries of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills, syrup pans, skimmers, dippers, syrup guages and pumps, brewing apparatus, by steam or fire. JOHN W. REID, 11 Old-slip.

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Invaluable for Farmers, Grocers, Butchers, Candle and Oil Makers, Hotels, Restaurant Keepers, AND IS THE BEST DAIRY OR MILK HOUSE IN THE WORLD.

Milk can be kept sweet for weeks in Summer and Butter made with equal facility the entire season.

A MILK HOUSE on this plan can be kept at 40° the entire season, causing a perfect yield of cream, and the purest butter known.

For rights, plans, or estimates, apply to the undersigned.

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WHEELER & WILSON'S Sewing Machines,

OFFICE 343 BROADWAY, NEW-YORK.
SEND FOR A CIRCULAR.

Patent Alarm Whistles and Speaking Pipes Manufactured and for Sale by

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Sole Patentee and Maker
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The PATENT WHISTLE is acknowledged by every one to be the best arrangement for Speaking Pipe Alarms in use. It is far superior to the Bell, and less liable to get out of order. The Pipe is made by a Patent Machine and is a superior article, and Warranted in every particular.

Sold by all the principal Hardware Stores in the States.

H. A. Lothrop's Patent Hoe.

The subscribers, in presenting this new Hoe to the public, only ask a trial to satisfy the most skeptical of its advantages over the common hoe either in the field or garden, and believing the following testimonial in its favor, among many others received, is more satisfactory to the public than anything we can say in its praise; we will leave it with the public to judge of its merits

BOSTON May 13, 1858.

H. A. LOTHROP, ESQ.—MY DEAR SIR:—I am so much pleased with your Patent Hoe that I can not refrain from expressing my great satisfaction in their use. They are a decided improvement over any similar implement I have ever met with, leaving the ground light and level and accomplishing much more than the common hoe with the same application of power. I think a trial of a few moments will satisfy any one of the correctness of these opinions.

I shall use no other hoe on my grounds, and I would thank you to send me, by express, half a dozen of each size, with bill of the same. Yours respectfully,

MARSHALL P. WILDER.

Manufactured by H. A. LOTHROP & CO., Sharon, Mass.

R. S. STENTON'S LANDSIDE Cutter and Improved Plow.

Patented February 16, 1858. A recent, and one of the greatest improvements in plows ever invented, particularly adapted for breaking up OLD GROUND SOD, and PRAIRIE lands, giving one third more breadth of work for the same team and draught, and in the same time, that is to say, a Plow that, as at present constructed, will turn TWELVE inches, will, with this Landside attachment, cut and turn SIXTEEN inches, with less labor for the man and without any more strain upon the team.

Western men are particularly invited to call and see this great, yet simple improvement which can be adapted to any sod-breaking Plow now in use. Thus an EIGHTEEN inch Western Prairie Breaker can be made to cut and turn a TWENTY-FOUR furrow slice without any addition to the team. Larger or smaller plows work in the same ratio.

Address or call on R. S. STENTON, 229 Pearl-St., New-York. Licenses or rights for Sale.

Agricultural Implements

of all kinds, for sale by J. B. RYAN, Importer of Hardware 114 Yonge-st., Toronto, Canada West.

Manufacturers of above goods will send their lists.

Cast Iron Road Scrapers.

The above, from the Manufactory of HEDGES, FREE & CO., of Cincinnati, Ohio, are made from superior Yankee models, and will out last half a dozen wooden ones. Retail price $8 and $9.

KITCHEN MILL.

Hedges, Free & Co., also make a cheap hand mill which will grind coarse or fine, either corn, wheat, rye or buckwheat, at the rate of one pound per minute. Retail price, $7.

H. F. & Co., also make 100, 150, 200 and 250 gallon Sugar Boilers for $16, $18, $20 and $22.

MILL STONES—Smut Machines. Bolting cloth—Gin gear and Mill irons. For sale by R. L. ALLEN, 191 Water-st.

COTTON SEED OIL CAKE—A VERY superior article for horses, milch cows and farm stock generally. For sale by R. L. ALLEN, 191 Water-st.

TEAS. A full assortment of Green Teas, Also, choice kinds of Black Teas, Oolong, English Breakfast, &c. In half chests, or boxes 10 to 15 lbs. Storekeepers in villages who have a demand for fine teas are invited to look at our stock.

TEAS.

TEAS.

JAMES CASSIDY & CO.
35 Front-St., New-York

PERUVIAN GUANO—BONE DUST—Superphosphate of Lime—Poudrette—Land Plaster—warranted of best quality. For Sale by R L ALLEN. 191 Water-St., New-York.

Bone Manure.

SAWINGS, TURNINGS AND CRUSHED BONES FOR Sale by the Manufacturers in large or small quantities.

A. LISTER & CO.,
Tarrytown.
Westchester Co., N. Y.

ELIDE GUANO—We recommend this guano, as a superior article and at much less price than Peruvian. For sale by R. L. ALLEN, 191 Water-st.

☞Owing to the illness of the Publishing Editor, who usually attends personally to that department, this number goes to press without several notices of exhibitions, books, &e., &c., that would have otherwise appeared.

Our "Basket" Articles

will be found unusually valuable this month, as several good suggestions are thrown into the small type, both on account of their too late arrival or preparation for the preceding pages, and also to make room for a greater variety. The larger we make the paper the more crowded we seem to be for room to get in the mass of information flowing into our storehouse.

Please Speak of the German Edition.

Many of our readers have German friends and neighbors, who do not read the English language. By speaking to them respecting our German Edition, they will not only favor our new enterprize, but confer a benefit upon those they may induce to subscribe. While there are several million Germans in this country, there is not another journal of this character and size, printed in their language—indeed this is now the *only* German Agricultural paper in the United States.

☞Any one desiring copies of the German Edition (to be shown as specimens), will be cheerfully supplied on making the fact known to us. The German Edition is in all respects, like the English, both in matter and engravings—the reading matter of course being in the German language.

The Long White French Turnip Seed

Is being rapidly called for, and is nearly run out. Any person sending in new subscribers for either the English or German edition, may still order an ounce for each dollar forwarded. A 3-cent postage stamp should hereafter be sent to prepay the postage on each half ounce ordered. The seed may be sown any time in July, or the first half of August.

An ounce package will suffice for twenty square rods, if carefully sown, and this will furnish a fine supply of turnips for table use next Winter and Spring, and some for feeding. We are now using some of last year's crop, and find them white, firm, sweet, free from rankness of taste, or woody texture. As previously stated, we believe this the best turnip ever raised in this country, and we expect to be able to obtain a large supply of the seed to add to our list of seeds for general distribution to all subscribers next Winter.

EXTRA PREMIUMS,

offered *only* in return for time and services to persons procuring and forwarding *new* subscribers to the *American Agriculturist*. The subscribers obtained will themselves be entitled to receive the seeds offered in our regular list, No. 1 to No. 52. ☞ Only *one* of the following premiums will be given on the same new subscriber.

Premium No. 4.

To any person obtaining a *new* subscriber we will send *an ounce* package of the seed of the *Long White French Turnip*, described on page 134 of May number. An ounce will be given for *each* new name. The new subscriber will himself be entitled to select the usual packages of the seeds, Nos. 1 to 52, offered in our February number. The names may be sent at $1 each (or at club rates when for new clubs or additions to those already formed): but when the seed is to go to Canada or to the Pacific Coast, 14 cents additional will need to be sent to us for extra postage on each ounce of seed forwarded.

Premium No. 1.

Webster's Unabridged Dictionary, is still offered for 40 subscribers, obtained at club rates.

Convention of Agricultural Editors.

In accordance with the nearly unanimous expression of the Agricultural press of the country, a preliminary meeting of Editors of Agricultural and Horticultural Journals will be held in New York City on the 14th day of September. The place and hour of meeting will be announced in a circular addressed specially to members of the press.

It is understood, of course, that the gentlemen present at the preliminary meeting will be guided by the circumstances in deciding whether to organize a permanent association at once, or adjourn to another time.

Propositions have been received for holding the preliminary meeting at Springfield, and other points, but three-fourths of the agricultural press of the country have spoken in favor of the above time and place, and the originators of the movement have no authority to change that decision. The 14th of September is the opening day of the American Pomological Convention in New York City—an occasion of unusual interest this year. The first day is named for the Editors' meeting, in order to give those who desire to do so an opportunity to be present here and afterwards visit Springfield.

PROSPECTUS OF THE

American Agriculturist.

PRINTED IN THE GERMAN LANGUAGE.

Beginning July 1st, 1858.

We take pleasure in Announcing to the large class of German people interested in Farming, Gardening, Fruit Growing, Stock raising, Implements, &c., as well as those who have, perchance, but a small village or city plot under culture, that in order to meet the wants of those who as yet read only the German Language, we have completed arrangements, by which hereafter, the *American Agriculturist* will be printed simultaneously in both the English and GERMAN LANGUAGES.

There are in the United States alone, several millions of German people, among whom are found a large number of our most industrious and pains-taking cultivators of the Soil. In Germany more investigations are being made in Scientific and practical Agriculture, than in almost any other Country; and besides a large number of Agricultural Schools and Colleges, there are several periodicals devoted especially to practical Agriculture and Horticulture. But in this country next to nothing has been done in this department.

We, therefore, in response to oft repeated calls from the German people, very cheerfully enter the open field, and will endeavor to supply what seems to be a great desideratum, viz.: a Journal in the *German* Language, devoted exclusively to subjects connected with SOIL CULTURE, or to the out-door and In-door labors of Rural Life.

Since practical operations are founded upon the same principles, and the modes of tillage are the same, whether pursued by those speaking English or German, we believe that a Journal carried on in both Languages may be better in each, than if published in either Language only, since a wider class of practical experience will thus be drawn from.

Again, the use of the same engravings and editorials, as well as publishing force, in both editions, will economize expense, so that a much cheaper Journal, or a better one can be supplied for the same cost, than if two separate enterprizes were carried on.

The *American Agriculturist* was originated in 1842, and it has now attained a circulation *greater than any other like journal in the world*, while it is on all hands acknowledged to be a standard work, unequalled for the large amount of practical information it supplies at a very small cost. Time, patience and long experience have been required to bring it to its present standard. The subscribers to the German edition will at once reap the benefit of all these advantages.

The teachings of the AGRICULTURIST *are confined to no State or Territory, but are adapted to the wants of all sections of the country—it is, as its name indicates, truly* AMERICAN IN ITS CHARACTER.

The German edition will be of the same size and price as the English, and contain all of its reading matter, and its numerous illustrative engravings.

TERMS—INVARIABLY IN ADVANCE.

One copy one year.....$1 00
Six copies one year.....5 00
Ten or more copies one year....80 cents each.

An extra copy to the person sending 15 or more names, at 80 cents each.

☞In addition to the above rates: Postage to Canada 6 cents, to England and France 24 cents, to Germany 24 cents, and to Prussia 72 cents *per annum*. Delivery in New-York city and Brooklyn, 12 cents a year.

Postage anywhere in the United States and Territories must be paid by the subscriber, and is *only six cents a year*, if paid in advance at the office where received.

Subscriptions can begin Jan. 1st., July 1st., or at any other dates if specially desired. (For the present, year, subscriptions to the German edition, when desired, will be taken from July to December inclusive, at half the above yearly rates.)

The paper is considered *paid* for whenever it is sent, and will be promptly discontinued when the time for which it is ordered expires.

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Contents for August, 1858.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

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American Agriculturist in German.

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September.

She never tattles, or plays the coquette,
Nor gossips with the idle village set,
Sleeps soundly when her daily task is done,
And wakes before her window greets the sun.

HOLTY.

The ideal of a country girl, which the poet here gives, lets us into a very important secret of farm life. For it must be confessed, that with all the charms with which it is actually invested, and with those superadded, which the imagination throws around it, country life is not attractive to the great mass of those who cultivate the earth. While there are those who enter into the spirit of their calling, and find it the most beautiful and enjoyable life, the large majority find it a painful endurance; are discontented, and watch for the first opportunity to escape from the toils and associations of the farm. You may demonstrate to them that the soil is the safest investment for their money, that its cultivation is the most healthful and honorable employment, that its pecuniary returns are the most safe and satisfactory, they are still discontented, and sigh for a change.

It has been well said that "the cultivation of the farm is the natural employment of man. It is upon the farm that virtue should thrive the best, that the body and the mind should be developed the most healthfully, that temptations should be the weakest, that social intercourse should be the simplest and sweetest, that beauty should thrill the soul with the finest raptures, and that life should be tranquilest in its flow, longest in its period, and happiest in its passage and its issues. This is the general and the first ideal of the farmer's life based upon the nature of the farmer's calling, and a universally recognized human want." Yet farm life presents no such beautiful aspect to multitudes who are engaged in it. It is repulsive, and all over our country the cream of the agricultural population rises annually, and disappears forever from the farm. The sifting process has been going on for the last half century, and all the new life and vigor infused into agricultural pursuits, by societies and clubs, by public discussions and by the monthly and weekly papers, have hardly arrested the emigration. There are many towns, in the older States that have gained nothing in wealth or population for the last forty years. They are simply prolific seed beds for the supply of other callings.

The poet gives us a clue to one of the causes of this depopulation of the farming districts. He presents us not with his own, but with the farmer's ideal of a prospective wife and mother. She must have no love for gossip, which means that she shall rarely visit her neighbors. She must not be coquettish, that is. she must ignore attractive dress, and all those womanly arts by which she shines in society. She must go to bed with the hens, sleep soundly, and be up with the lark, to attend to her daily tasks. Labor is glorified, as the chief end of man and woman upon the farm.

Any one intimately acquainted with the habits, and style of living among the cultivators of the soil knows, that there is more truth than poetry in this representation, and it is to this feature of farm life, in part, that so many are repelled from it. In many a rural district, the great man is not at all distinguished for his intellectual endowments, or for his moral qualities. He is simply your man of muscle, and his heroic achievements are feats of physical strength—huge trees felled by the ax in the shortest possible time, heavy stones lifted to their place in the wall, and acres of thick grass mowed in the quickest time upon record. The standard of excellence is brute muscle, and could a man be endowed with the strength of a horse he would become a demi-god, and receive the homage of the multitude, without any other change.

Now our humanity revolts at this glorification of muscle over mind and heart. A farmer is made for something better than to tax his muscles with perpetual toil, and his manhood is not to be measured by the number of pounds he can lift, or the skill with which he can wield an ax or a scythe. His wife is not to fill her place, and glorify her womanhood, *only* by her household industries. She has a higher value than to darn stockings, and make butter and cheese. All these industries in the house, and upon the farm, are but the instrument of the true life they should lead. Farm life with all the beauties and glories that encircle it is no better than chimney sweeping with its soot and sweat, if it do not rise above its work. Man rebels against toil and drudgery simply *for their own sake.* He will work hard and glory in it, for a noble end.

It is because so much is made of muscle, and so little of mind, that multitudes of the young of both sexes quit the farm in early life. They get some notion of life outside of the farm, not only from school books, and visits to the market town, but from the weekly journal of politics or religion that they read. Distance lends enchantment to the view, and as soon as they escape parental authority, they are off where labor has some higher reward than the feeding of the person, and the filling of the purse.

There is, too, upon the farm, a great neglect of all ornament. As a rule every thing is managed solely with reference to utility. No appeal is made to that sense of the beautiful which is a part of our being, and which God addresses everywhere in the works of his hand. No attention is paid to ornament, even where it can be had without cost. The house often has a barn look, and is only distinguished from the dormitory of the cattle, by a little more protection from the weather. Like the barn, it is often unpainted, though there is economy as well as beauty in the oil and lead. It is often without shutters or curtains to the windows, without carpets to the floors, or paper to the walls. There is no appeal made to the taste, from cellar to garret. It is the simplest provision possible, made for an eating and sleeping animal. The great room of the house is the kitchen, and here, too often, the cooking, the eating, and the whole social intercourse of the family takes place. There is no opportunity for the household to forget their toils, and abandon themselves to the enjoyments which their higher natures crave. A room to live in, to enjoy the society of wife and children, to receive friends and entertain them, to read, write and worship in, where one can feel that he is something more than an animal, and has other duties than physical toil, is a room yet to be added to many a farm house. There is as little taste shown upon the farm, as in the home. The fences are made to stop cattle; the wall is not faced, the rails are not laid in straight lines. The meadows are still peopled with stumps, and rocks, and the borders fringed with unsightly brush and brambles. Work that will secure results the present season is the one thing needful. There is never a time when the farmer can clean up his fences, and meadows, and make them look as if a man of taste was lord of the soil.

Young people of the present generation who read of the light of the nineteenth century, become disgusted very early with this barren matter of fact life. They crave society and long for the life of the village or the city, where man lives for something outside of his calling, and even business has a holiday aspect. If their tastes cannot be cultivated and gratified upon the farm, they will go where they can be. This topic is suggestive, and will be resumed on another occasion.

Empty vessels make the greatest sound; empty heads ditto.

Mental ornament will hide bodily defects.

Calendar of Operations for Sept. 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, earlier for the North, later for the South.

EXPLANATIONS.—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated; thus, work marked *fm.* indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The early harvest over and late crops not yet matured, the interval should be spent in getting in the Winter grain, securing a large quantity of muck or other fertilizing materials, and making some permanent improvements upon the farm.

Agricultural Exhibitions—Read the remarks on a following page, and by your presence, wholesome counsel, improved stock and farm products strive to make them what they should be.

Barns and Hovels—Make early preparations to build enough of these to accommodate *all* the stock next Winter.

Buckwheat—Cut, f, mm, as soon as it will answer. If left too long, much grain will be lost in harvesting. Cradle and bind, rather than mow it, and thresh as soon as it is carted in, saving the straw for bedding.

Bushes—Continue to "grub" or "whip," ff, m. Clean out hedge rows and till the soil now worse than wasted.

Butter and Cheese making are supposed to be going on briskly in-doors. September and October are the best months for laying down butter for Winter use.

Cattle—Supply with the soiling crops, turnip and beet tops, cabbage trimmings, &c., as the pastures fail. A little sugar cane or corn stalks fed to milch cows will show good results in the quantity and quality of milk. Give full feed of grass and other green crops to fattening cattle, as flesh can be made much more rapidly now than during cold weather.

Cellars should be thoroughly cleansed, ventilated and whitewashed before receiving the Winter fruits and vegetables.

Corn—Select the earliest, most prolific, and best for seed, tracing up by a few husks and hanging in the loft or granaries. Cut and shock as soon as ripe, or upon the first severe frost. The grain will be heavier, and the fodder much better than when exposed uncut in the field to alternate storm and sun, frost and heat.

Cisterns—Construct during the month for household and barn use, unless already well provided with water.

Draining—Follow up briskly before heavy Autumn rains. Remember that low marshy lands are doubled in value by draining.

Eggs—Now that they are plenty put away a quantity for Winter use, either in salt or lime water.

Fences should be carefully watched now that the pasture feed is short and the corn field looks tempting.

Forests—Continue to cut away, ff, those intended to reclaim for tillage.

General Improvements—Clear meadows and other lands from stones putting them into permanent fence. Clear up the hedge rows and bushes encroaching on the tillage, drain that bog swamp, which has produced only frogs and flags, piling up sufficient manure from it to dress your corn fields next year.

Fowls—Keep their roosts dusted with plaster, and barrel the home-made guano for another season. Read directions for putting down eggs on another page.

Grain and Granaries—Continue the directions of last month.

Hemp and Flax will need harvesting, mm, l.

Hogs—Commence early to fatten, and keep yards and pens well supplied with manure materials. They may do much toward paying for their fattening by the manure they are capable of making at this season.

Manure—Apply the directions of last month, and collect a large quantity for another season, as well as to use on the wheat and rye now being sown.

Muck—Dig and cart or pile up, ff, m, until the rains drive you from your "claim." Store a large quantity under cover to use in the stables next Winter. *It* WILL PAY.

Pastures are now getting short. Feed all the garden refuse and green crops to make good the failing grass.

Plow grounds for Wheat and Rye, ff, turning the soil a little deeper than formerly. Subsoil for these crops if possible.

Potatoes—Dig as wanted for use or market; but the Winter crop is generally better in the ground until cool weather, unless the field is wanted for Winter grain.

Root crops are growing rapidly this month. Keep the ground well stirred with the cultivator and horse or hand hoe, and suffer no weeds to grow in the rows.

Rye—Sow, ff, m, if not done last month.

Sheep—Guard against prowling dogs, keep supplied with salt and rub tar upon their noses to keep away the *Cephalemyia ovis* or bot-fly which breeds worms by depositing eggs in their nostrils.

Soiling Crops—Cut and feed as wanted, ff, m. Any remaining should be harvested and cured while the weather is still favorable for doing so.

Stone Fences or Walls—Build these during the leisure of this month, to use up the stones and make a substantial fence at the same time.

Sugar Cane—Continue to cut and feed, ff, m. The main or sugar crop should be harvested as soon as the foliage is killed by frost.

Timber—Complete cutting this month in preference to leaving it till Winter.

Timothy—Sow, ff, m, with Wheat, or by itself for a future grass crop.

Turnips—Thin late sowings, feed early ones and keep all well hoed. Sow more of the quick growing varieties on vacant ground, ff.

Weeds—Throw to the hogs or add to composts before they ripen seeds. Keep yards and manure heaps free from them.

Wheat should now be put in as early as may be, on deeply plowed and finely pulverized soil that has received a good coating of manure. Many complaints of winter-kill are owing to late sowing. The growth is not sufficient before Winter sets in to protect the roots. Where it can be done, use the drill in sowing.

Orchard and Nursery.

Gathering early fruits, pruning, washing and digging about the trees will constitute the principal labors in the orchard during this month. The Nurseryman is still engaged in

Budding late growing varieties, especially peaches. Insert the buds low according to directions given on page 161 of volume XVI. Use every precaution to obtain shoots from *genuine* varieties, and mark the rows with the name or number of the kind used.

Examine all buds inserted three or four weeks ago and if they have failed, insert others of the same kind. Look to bandages, and unless strips of old cloth were used which rupture by the growth of the tree, loosen the binding or slit it with a knife, if the union is firm.

Evergreens *may* be moved, m, ll, but Spring is a better time. If pruning or shearing is requisite the present is the most suitable time. By no means trim an evergreen to a naked stem as you would a deciduous tree. The knife should only be used to remove dead branches, and to clip the ends occasionally to form a pyramidal or cone shaped head.

Fruits—Gather early varieties with care, picking by hand. Do not wait for Bartlett and other pears to soften upon the tree, but pick just before they ripen and allow them to mature in the market or on the fruit shelves. Late fruits should remain on the trees till next month as their keeping qualities would be injured by early picking.

Grounds for Fall and Spring Planting—Prepare during the leisure of this month. The soil which is to produce a crop of trees should be heavily manured previous to planting.

Hoe Nursery rows still, to prevent late weeds from seeding the ground. A cultivator, plow or horse-hoe run between the rows frequently, will do most of the work.

Insects—September is the very best time to dislodge the borer. Examine each tree, especially those of few years' orchard growth, and with a whale bone probe, finish his career. Read article on page 243 August number.

Labels—Procure a good supply for marking young trees set or sent out in the Fall, when you will be too busy to prepare them.

Layering—Continue, f, m, as directed last month. Select wood of the present season's growth.

Manures—Prepare a good supply of stable manure, muck, ashes and lime for both orchard and nursery.

Pits or Seeds of Stone Fruits—Collect and plant at once, or put in boxes of earth and expose to the weather till late Fall or early Spring.

Planting—Prepare for, ll, and early bespeak good trees from the nurseryman himself rather than from an agent or tree peddler.

Pruning may very properly be continued during this month. It is much better to do it now, in this and northern latitudes than defer it until Spring, that worst season for pruning.

Records of both orchard and nurseries should be kept in a book for the purpose. In cutting scions and buds for propagating, and in taking up trees for setting out, too much care as to variety can not be used. In addition to labels or stakes, have a book record of the kinds.

Seed Beds—Do not allow them to become overrun with weeds in the latter part of the season.

Seeds of Nursery Stock—Gather as they ripen, and, as nearly all of them require planting in Autumn, it is better to put them in at once, or place in boxes of earth and leave in the open air.

Weeds—Systematically keep them from growing in the nursery or about orchard trees.

Kitchen and Fruit Garden.

The season thus far, and especially during August has been very favorable for garden crops, and the cultivator is still gathering the fruits of his toil with a plentiful supply of vegetables now ready for market.

Blackberries—Cut out old canes which have perfected their crop of fruit.

Cabbage and Cauliflowers—Sow, ff, m, for early Spring use to be pricked out in a cold frame during the Winter. Use the plow or horse hoe among late field cabbages, and keep free from weeds.

Celery—Earth up in dry weather, ff, m, and l, as needed taking care not to bruise the stalks.

Cold Frames—Get these in readiness, with the sashes in order, and arrange them for use, ll.

Corn—Late plantings are now yielding a full supply. Dry a quantity for Winter use.

Corn Salad—Sow, ff, m.

Cucumbers—Gather pickles, f, m, before they are injured by the frost.

Grapes are ripening and may be made into wine, m, ll. Gather with care and put some away for Winter.

Hoe growing crops often, especially late turnips and cabbages.

Hops—Gather, ff, m, and house the poles for another year.

Kale—Sow, f, m.

Lettuce—Sow, ff, for late Fall use, and, mm, for cold frames. As it bears but little frost, transplant to the frames, ll, if the weather is cold.

Manures—Begin to collect a goodly supply for next Spring. Muck can scarcely be too highly estimated for garden use when composted with other manures.

Mushrooms—Collect spawn, and other materials, ff, m, and make beds, m, ll.

Nasturtiums—Gather and pickle, ff, m.

Onions—Sow, ff, m, for Spring sets, and early use.

Parsley—Sow, ff, m, for Spring use.

Potatoes may be dug, ll, and stored for Winter.

Radishes—Sow, ff, m, for Fall, and ll, for Winter use.

Raspberries—Cut out old canes that have done bearing, and house stakes for another season.

Rhubarb—Seed may be sown, ff, m, or left until Spring. Now is a good time to put up a quantity in glass jars or air tight cans for winter use as described elsewhere. Select the latest growth of the Linnæus variety.

Seeds—Collect as fast as they ripen, and keep unmixed and well marked.

Spinach sow, ff, and thin out, m, ll, for standing over Winter.

Strawberries—Plant, ff, m, if the bed was not set out last month. Water them unless the ground is sufficiently moist.

Tomatoes—While abundant, put away a large quantity in cans or bottles for Winter use.

Turnips—Keep late crops well hoed, running a small plow or horse hoe between the rows often.

Water newly planted seeds if the ground is dry and early vegetation is desired. Otherwise they may remain for weeks without coming up.

Weeds—Keep down and prevent their sowing seed for a future crop.

Winter Cherries are now daily ripening and falling upon the ground. Collect often for use, and put away a quantity of the latest growth with the hull on, in boxes for winter use, covering with cotton to exclude air.

Winter Cress—Sow, ff, m.

Flower Garden and Lawn.

These grounds should still present a fine show of late Summer and Autumn blooming plants which need frequent hoeings, occasional waterings, and a careful removal of weeds. Many of the plants which were brought from the Parlor, Green and Forcing houses, and either transplanted into the border, or plunged into the earth without removing from the pots will need returning as the cool nights of Autumn approach. Attend also to some of the early flowering

Annuals, the beds for which may be prepared on a warm border. After thorough manuring and deep working—trenching if possible—sow Centurias, Clarkia, Collinsia, Coreopsis, Mignonette, Phlox, Scabious, Sweet Alyssum, &c., which will, with a little protection, stand the Winter and come into early bloom in the Spring; or some of them may be set in pots and placed in the house for Winter flowering.

Biennials and Perennials—Fibrous rooted plants may be divided and reset, ll, the better to establish themselves for early blooming another season.

Bulbous Plants—Prepare grounds and put in, ff, m, l.,

he tulips, hyacinths, crown imperials, crocuses, &c., which are still out of the ground. We much prefer planting them early. Now is the proper time to sow seed for new varieties.

Carnations—Remove layers, f, m, and pot or insert in the border. Transplant seedlings to blooming beds, watering at the same time.

Chrysanthemums—Stake up, removing weak shoots, and prune side branches off from those trained to a single stem.

Cuttings of woody shrubs may be made, ll.

Dahlias are still in fine flower. Keep them fastened to stakes and prune off straggling side branches. Mark the varieties of flower before they are destroyed by frost. A simple method is to tie a *white* strip of cloth to a *white* flower stalk, a *red* strip to a red or scarlet flower, &c. Doubling the strips conveys the idea of a *double* flower. This is not sufficiently definite for the amateur who should preserve the original names and specify the habits and colors upon labels attached to the plants by wires.

Delphinium—Sow, m, ll.

Evergreens—Plant, ff, m, if they *must* be put out before Spring. Prune or shear those requiring it.

Flower Stalks—Cut away and remove from the grounds as fast as they are done blooming.

Flower Pits—Construct, m, ll, for safely keeping tender varieties over Winter, where there are no properly constructed *houses*. A good plan of a cheap one was given on page 79 Vol. XVI.

Geraniums—Take off slips, ff, m, and pot for Winter bloom.

Gravel Walks—Keep free from grass and weeds.

Hedges—Give the last shearing for the season, ff, preserving a neat form widest at the bottom.

Lawn—Keep neat and clean, mowing and raking occasionally. Scatter seed over any thin spots.

Lillies—Transplant or plant out, m, ll.

Pansies—Sow seed and part layers, f, m.

Pœonies—Divide and reset, ll

Pinks—Separate layers and pot or plant for next season.

Primulas—Sow, ff, m.

Roses—Bud, ff, any omitted last month. Layer the present season's growth at the same time.

Seeds—Collect varieties before they are wasted upon the ground.

Tender Plants—Remove to the Green and Hot houses, mm, those varieties which would be injured by the frost. Dress and cleanse them before carrying in.

Verbenas—Pot runners, f, m, to preserve a stock for Winter and early Spring bloom. Layers may still be made by simply covering a part of the base of the straggling branches which readily take root.

Wall Flowers and Stocks—Lift from borders and pot, m, l.

Water thoroughly plants now reset or potted.

Weeds—Do not neglect them as the flowers begin to fade and the grounds lose somewhat of their attractiveness.

Green and Hot Houses.

These should be looked to now, and, unless already done, they should have a thorough over-hauling and cleansing at once. Look to the furnaces, flues, cisterns and water-pipes; see that the glazing is complete, and cords, pullies, &c., in working order. If the houses have been entirely empty, give a thorough syringing with the force pump or garden engine, throwing the water with force into every corner, crack and creviee, to dislodge insects harboring there. Arrange the shelves, renew the bark or saw dust bed if necessary, prepare boxes and pots to receive the plants, collect mold, peat and sand for potting, and having completed the other arrangements, paint where required, leaving the windows open for a few days previous to bringing in the plants. If tender plants are exposed to the odor of new paint, it often causes defoliation. Everything being complete, commence bringing in and arranging the plants, f, m, according as the weather is warm, or cool, beginning with the most tender varieties. Place the taller plants on the back shelves, and low kinds in front, bearing in mind at the same time that some varieties require more light than others. Arrange them near or at a distance from the furnace as they need a strong or light heat. A dry shelf should contain those plants which require very little water, including most of the bulbous kinds. Having brought them all in before the cool nights have checked their growth, it will be necessary to admit abundance of

Air both by the upper and lower ventilators, closing at night.

Annuals—Sow a few, f, m, l, for a succession of bloom.

Bark and saw dust beds should be renewed, ff, m.

Bulbs—Plant, f, m, l, for a succession of Winter bloom, keeping them in the green house for the present.

Camellias—Finish repotting, ff, m, and take to houses, m, l. Grafting or inarching may still be performed, ff, m.

Ericas and Epacris—Repot, f, m.

Fires—Start, m, ll, to expel dampness from forcing houses.

Geraniums—Take from borders, f, m, and pot for Winter bloom.

Labels—Have in readiness to mark all the plants as they are taken in.

Pines—Shift, ff, those intended for fruiting next season, if not already done.

Potting generally should qe completed early, and every thing arranged for filling the shelves.

Prune and Dress Potted Plants previous to carrying to the houses.

Verbenas and Petunias—Make cuttings, and layer to keep up a stock for propagation and for Winter bloom.

Water—Give to plants when repotted, and apply freely inside the house. Dampen the floors and syringe overhead to maintain a humid atmosphere.

Apiary for September.

BY M. QUINBY.

St. Johnsville, N. Y.

It should be understood by all bee-keepers, that if there are no *weak* colonies in an apiary, there is but little danger of bees being robbed. If strong colonies are ever plundered, it is by injudicious feeding, or after a beginning has been made by the robbers with weak ones, or some other encouragement given. The yield of honey fails almost entirely nearly everywhere, with the flowers of Buckwheat in the early part of this month. All temptations should be at once out of the way—examine every colony, young or old, and any one too weak to keep robbers away, should be removed, as such ones can not be wintered. When honey first fails is the time of danger. Attention then costs no more than at another time, and may be worth many times that bestowed at some convenient season. When two or three weak stocks stand near each other, they may be united for mutual defense. To prevent their quarreling, sprinkle them thoroughly with water made very sweet with sugar, and flavored with a few drops of peppermint or other essence. Bees adhere to their old stand, and when many feet apart, can not be united successfully. Two neighbors living a mile or two apart, could exchange bees sometimes, advantageously.

A queenless stock that has stores to winter a full swarm, should have bees and a queen introduced; it will generally make a good stock hive, while it is worth little to take up, on account of bee-bread mixed with the honey. A *new swarm*, that has made combs without a queen, although it has stores for Winter, should be broken up. It has too many drone-cells for a profitable stock. Every stock with foul brood, should be condemned at once: it is usually the best way to kill the bees, and secure the honey. Be careful that healthy colonies do not get *any* of the honey as the disease is quite sure to be carried with it. To render such honey safe and healthy, to feed to bees, add plenty of water to prevent burning, then scald and skim it thoroughly. Man may eat it without scalding or any bad effect, if taken from parts of the hive where there is no brood. To select the best combs for the table, take those near the top and outside of the hive; the drone-cells seldom contain bee-bread.

The Chinese Cane for Sweetening.

The present and prospective high prices of all grades of sugar will render it an object for those who have the Chinese Sugar Cane growing in quantity, to turn it to account in the manufacture of syrup. The still imperfect development of processes for manufacturing *sugar* from the juice, will prevent much being done in that line, the present season at least. We still hope that even during this year the experiments to be made will go far to establish some convenient and profitable mode of obtaining the dry sugar itself. But whether this be the case or not, we have proved by our own experiments, last year, if we had not had hundreds of confirmatory evidences, that the juice may be converted into a cheap palatable syrup. As stated in a former number, we obtained about 100 gallons of syrup from half an acre, though the imperfection in the manufacture rendered the larger portion of it of poor quality. The same processes which made even a small portion of it an excellent syrup, would have rendered the whole so, if they had been known and adopted in season

The articles we published last Fall and Winter perhaps indicated clearly enough what are the main requisites for producing good syrup, but we will add a hint or two now.

1. Some kind of mill or rollers will be needed for pressing out the juice thoroughly. Whether the mill be large or small, of wood or iron, will depend upon the amount of material to be pressed, and the convenience of obtaining such a mill as may be desired. We think iron rollers are by far the best, unless for the smallest experiments, when home-made wooden rollers may he used.

2. The cane should be cut as soon as convenient after the seed pulp enters the ripening or hard doughy state. It should be cut no faster than pressed or boiled. The cutting may be continued until after sufficient freezing and thawing takes place to slightly sour the juice.

3. The boiling should be commenced as soon as the juice is expressed.

4. The boiling down should be done in shallow vessels, with the fire touching only the bottom, for in no case, and at no stage of the boiling, should the fire on the outside of the vessel be allowed to come up as high as the surface of the liquid within.

5. The boiling should be *as brisk as possible*, until the syrup is so thick as to be in danger of burning, when the heat should be reduced. Three or four hours at most is all the time that should ordinarily be taken to reduce the juice to a moderately thick syrup.

6. In a majority of cases reported, the best results have been obtained by adding nothing to the juice, but boiling rapidly in vessels of a few inches in depth, and simply removing the rising scum entirely from the surface. (The "skimmings" may be turned to good account for vinegar, by simply putting them in barrels with some water, and leaving them to sour.)

The exceptions to this last rule are, that when the canes are long ripened, or subject to freezing and thawing, or when the boiling is long continued, it is well to add a little soda or lime, to neutralize any acid formed. The same will be the case when the juice has stood long after expressing it, before brisk boiling has been secured.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

Note to Contributors.—We have a hundred or more Notes, Replies, etc., designed for the "Basket," but the present month this department has been unceremoniously crowded out of its usual place, on pages 282-3, by the Telegraph article, and a large amount of extra advertisements — neither of which were contemplated when the 16 pages preceding 281 were made up and stereotyped.

Borage.—R. A. Davis, Somerset Co., Me. This plant, like many others collected and sent out from the "Government Seed Store," is of very little practical value R. Buist, in his "Kitchen Gardener," speaks to the point when he says; "Borage is cultivated in our gardens on account of the supposed cordial virtues of its flowers, but they have long lost their reputation." We regard it as little better than a pest in the garden where it sows an immense quantity of seeds which spring up like other weeds to be eradicated with difficulty. We were foolish enough to try it

Bees, a Weak Stock.—J. G. S., Suffolk Co., L. I., has two old swarms of bees, one strong and the other weak. He inquires whether he can put the weak one with the stronger, or transfer it to a strong new swarm in a larger hive.—*Ans.*: It is probable that the weak stock has lost its queen, and there are not as many bees left, as there appears to be. It is doubtful if it would *pay* to transfer them, even if successful. It is nearly always fatal to put a weak colony with a strong one, except on the day they swarm. The only way at other times, is to scent them strongly with smoke, or sugar water flavored with some essence. The advantage that a few bees would be to a strong colony, would hardly balance the evil of the disturbance. If the weak stock is free from worms, and has stores enough to winter a swarm, and it is desirable to save it, probably some neighbor would have a colony destined for the brimstone pit, that he would give or sell, to be introduced into it, which might make it a valuable stock. M. Q.

Squashes and Pumpkins, Keeping.—A. A. Gage, Rockingham Co., N. H. Gather them carefully, before heavy frosts in the Fall, and lay them away under cover, where they will not freeze. Upon the approach of very cold weather, carry them without bruising or breaking the stems, to some dry part of the house, where frost does not reach. Cellars are usually too damp for them. Houses are sometimes constructed solely for keeping large quantities of them for market, and warmed by means of a stove during the Winter.

Horrisania (N. Y.) Hort. Society.—This young and vigorous association have decided to hold a Fall Exhibition, Oct. 6 and 7. Committee of arrangements: Messrs. Samuel Munn, Wm. H. Wilcox, Geo. H. Pollock, Thos. E. Sutton, H. P. Sandford, Geo. W. Alexander and Gilbert Dayton. The following are the officers elected for the ensuing year: *President.*—Samuel Munn. *Vice Presidents.*—Wm. H. Fox, Robert H. Elton, L. K. Osborn, C. Moger, Thos. W. Ball, Harvey M. Morris, T. E. Sutton, Frances I. Smith, Benj. M. Whitlock, Adrian Janes, F. W. Gilley, Lewis G. Morris, David Milliken, G. W. Alexander, Jas. Garner, Andw. Richardson, Jordan L. Mott, Jr., F. Grote: *Secretary.*—Wm. H. Willcox

Benefits of Hoeing.

Keeping down weeds is not the only end of hoeing. Exterminating them, so that they may not interfere with useful plants, or go to sced, is highly important, but this is not the whole of the chapter. We refer now, to the great benefit arising from a thorough pulverization of the soil. Hard, unbroken ground, though free from weeds, is not in a condition to receive sensible benefit from the atmosphere. The dews of night can not penetrate it, and when Summer rains fall, they only dash against the surface and run off, as from a rock.

The benefit of hoeing was impressed upon us, the present Summer, during a dry time which threatened to become a drouth. Noticing certain Boston Marrow Squash vines beginning to wilt, we broke up the hard, dry soil at the extremity of the roots, and pulverized it well. The very first night, it imbibed the dews, as it had not done before for a long time. And in a few days, when a copious shower fell, the water, instead of running off from the hills, soaked into the soil and revived the plants into a healthy growth. The same thing was observed in the case of a recently planted tree, which had begun to flag, in the long-continued dry weather. Hoeing the ground for several feet around the tree prepared it to catch and retain the dews and rains. The tree fairly smiled under the treatment. Mulching was added to the hoeing and the raining, and we now hope to save a fine specimen of *Magnolia acuminata.*

Fall Colts.

To the Editor of the American Agriculturist:

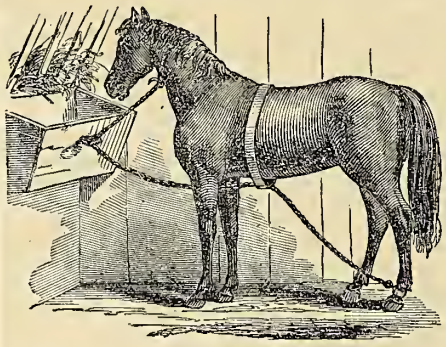
It is the custom of most farmers and stock breeders to have all their young animals come in the Spring of the year. There is abundant reason for this, as it is more natural to the dam, in the first place, and then there is the young grass furnishing a generous flow of milk, the healthy condition of the animals in that genial season, and the less trouble to the breeder in caring for them. In this view I decidedly agree with the great mass of farmers in Spring breeding.

But with colts, particularly when it is necessary to work the mares that produce them on the farm, Spring colts are oftentimes inconvenient and troublesome, so much so that it is better to dispense with their breeding altogether than to be bothered with young colts at just that busy, hurrying season of the year, when plowing, harrowing, and getting in the Spring crops is of the highest consequence. And it is most generally this class of farmers who have the least Fall work to do with their horses. In September the heavy team work is about finished, the wheat is got in, and the crops mainly harvested. The mares can then be spared to drop a foal, and with good keep, it can be well nursed on the fresh October grass, and get well along by the time the cold weather fairly sets in. In March the colt is ready to wean, and by the first day of April the dam is in condition, although again in foal, to do a good season's work, if carefully driven, and properly fed—overworked she never should be, whether in foal or not.

Some of the best horses we have known were Fall colts, and in many sections of the country, stallions are kept purposely for a Fall season, to accommodate such farmers as practice that system. And now, that by the opening of our wide, stoneless, prairie regions to grain growing so extensively, oxen are mostly discarded for farm labor, it is more necessary for farmers to breed their own colts than formerly The practice of breeding Fall colts may be commended as one of sound economy and convenience.

WESTERN FARMER.

REMARK.—We doubt the propriety of the above course. If the colt be dropped in September, the dam will be in the *heaviest* period of gestation not only during the hottest weather, but also while subjected to the severest work. We should say, let the colts be dropped as early as possible in the Spring, and if the mare must be worked so hard as to heat and injure the milk, let the colt be weaned and brought up by hand. We would, however, suggest, that better results may be obtained in the long run, by allowing working mares to breed only twice in three years, alternately in March and September. This will leave them free for hard service one entire Summer out of three, and give a season for recruiting between each period of gestation. The subject is open for discussion by practical breeders.—ED.



To Break an old Horse from pulling at the Halter.

We have drawn the above sketch to illustrate a method of preventing an old horse from pulling at the halter, as described to us by Mr. David Lyman, of Middlefield, Ct. Since looking at the engraving it has occurred to us that there is perhaps danger that the horse, if a vicious one and accustomed to pulling, may throw himself and receive severe injury and sprains. Mr. L. describes the operation as follows:

Put a strong strap or rope around the neck, and another strap with a ring in it around the pastern of one of the *hind* feet, and attach a strong rope to the ring, and pass it under a firm strap or cir-single buckled loosely around the girth, just back of the shoulder. Continue the rope between the fore legs and through a hole or ring in the manger, or post, where the horse will pull, and then tie it to the strap around the neck—then let him pull "to his heart's content." A few such trials will most likely subdue him. The harder he pulls back the harder his hind foot is pulled forward, and the experimenter will be surprised to see how little the horse can do—he will not be likely to even get his hind foot off the ground.

I have in this manner cured a mare, 10 years old, which was the most vicious beast in this respect I have ever seen. For some two weeks I tied her in this way always, except in the stable at night, when I secured her by tying around her neck a rope which she could not break.

PRETTY SENTIMENT.—We have planted some little trees, and expect that ere long the beautiful birds will build their nests in the spreading branches; and it may be that they will finally cast mottled shadows over our grave.

All truth must not be told at all times.

Ashes and Muck.

One of the best methods of using muck, particularly in the vicinity of villages where wood is the principal fuel, is to compost it with ashes. In these villages, ashes are always to be had, and the enterprising farmer, who takes the paper, will buy them up early in the winter, before his old fogy brethren think of moving. They cannot blame him, if they find the market bare, when they want ashes for dressing their potatoes and corn next June.

Ashes contain, in large quantities, potash and lime, both powerful alkalies, and efficient decomposers of organic substances. The vegetable matter, of which peat and muck are principally composed, undergoes a rapid decomposition, when mixed with either potash or lime. It is thus reduced to that impalpable state, in which it can be taken up by the roots of growing plants. The mode of composting the muck and ashes, is not a matter of very great importance. There should not be less than five bushels of ashes to a cord of muck or peat. Farmers, who have used this compost in about these proportions, affirm that the results, in a course of years, are as satisfactory as a like quantity of barn yard manure. As the ashes cost only about ten to twelve cents a bushel, it will be seen that this is a very cheap manure. The application of fifteen or twenty cords to the acre produces large crops of corn, potatoes, and other hoed crops, and the effect is visible upon the grass crop for many years afterwards.

Where the compost is prepared at this season of the year, it should be forked over once or twice, before it is applied in the Spring. One advantage of this preparation is, that it may be drawn directly to the fields where it is to be used. The decomposition will go on quite as well in the open field as under cover, and nothing valuable will be lost.

While farmers are carting wood and lumber to the cities and villages, as they often are during the winter, they may as well carry back ashes to their farms as not. The expense of transportation will not be felt, and the land will receive some compensation for the wood it has lost. This compost is particularly valuable for fruit trees. A half cord dug in under an old apple tree will give it a new lease of life.

Errors in the Use of Muck.

Where farmers have experimented with muck, and failed to benefit their land by its use, it is probably owing to an unseasonable application. There are few muck or peat swamps, that will afford a good dressing for land without some preparation. They frequently contain salts of iron, and other deleterious compounds, that will destroy vegetation. Some in their first attempts to use muck are ignorant of this fact, and seeing the grass turn yellow and die under the top dressing, they conclude that muck is a humbug. One has often occasion to notice the difference in muck from the same swamp. On the banks of the same ditch, where the muck is allowed to lie for one season, you will see some spots entirely barren, while others show a stunted vegetation, and others still, great luxuriance. It is never safe to apply *fresh* muck or peat to growing crops. It is too cold and sour, and often charged with poisonous matters.

It may be properly seasoned in various ways, according to the circumstances of the cultivator. The cheapest way of preparing it for use, where

it is not immediately wanted, is to expose it to the elements for a year. In this case, it is a good plan to fork it over at least twice in the course of the year, and break the lumps as fine as possible. The rain and frost will thus have better access to every particle in the mass. The freezings and thawings of Winter will be more numerous, and the whole will be more perfectly comminuted, and charged with the ammonia which the snow and rain furnish in small quantities.

A better way still, is to draw the muck to the field where you wish to use it the next season, and there thoroughly mix it with quick lime, at the rate of a barrel to every two cords of muck. Fork the heaps over at the beginning and close of the freezing weather, and the compost will be fit for a top dressing, or for plowing in at the usual time of planting. Either common stone lime, or that made from oyster shells may be used.

A still better article for curing muck, is wood ashes. These contain not only lime, but large quantities of potash, which is very active in destroying the vegetable fiber of the muck, and in correcting its acids. It will be well to use a barrel of fresh or unleached ashes to the cord of muck, and fork over, as in the case of the lime. By using a still larger quantity of ashes, say ten bushels to the cord, the compost may be prepared in three months.

But the most thorough preparation the muck can have is to mix it with stable manure, or with animal matter. This may be done by putting it in the stables and yards, or by drawing both muck and manure to the fields where they will be wanted next Spring and mixing them there, in alternate layers of two parts muck to one of manure. They should be forked over at least twice, in the course of the Winter. If fish, night soil, or butcher's offal is used, four or five parts of the muck may be taken to one of the manure. A cord of muck to 1000 white or bony fish, is a good proportion. If a farmer prepares muck in any of these ways he will not be disappointed in the results.

How the Chinese Make Manures.

In connection with our remarks, last month, about poudrette, we wish to state how the Chinese manage the manure-heap. It has often been the wonder of farmers in this part of the world, how the Chinese, with but few domestic animals, have been able to keep their lands in a high state of fertility, and to sustain such an immense population. We do not now wonder so much, when we know what pains they take in the saving and manufacture of manures.

Having very few horses or cattle, and therefore little barn yard manure, they save all the human excrements. And not only the solid parts, but the liquid, which, being diluted with water, they apply to the roots of all growing plants. The country people visit the cities and large towns regularly, and carry off the contents of privies and urinals at a stipulated price, which they make into poudrette, somewhat in the manner we have formerly specified. The publicity of "necessaries," and the unblushing display of chamber vessels everywhere, at first shock Occidental sensibilities; but custom and the usefulness of the fertilizing materials thus saved, soon reconcile one to the singular usage.

Oil-cake is another of their manures, made from a bean. This bean is crushed, then steamed, and an oil pressed from it, and the cake which remains becomes an excellent fertilizer. It is often used in liquid form, having been broken up, and steeped and then reduced by the addition of considerable water.

The Chinese use the sediment collected from the bottom of their canals, for manure. They dig large pits, into which they throw successive layers of canal mud, weeds, straw, garbage and all corruptable matters. When a pit has become full, it is cleaned out, and filled again in the same way, so that, in the course of a year a large quantity of compost is secured. Nor is this all. Ashes of all kinds are preserved, and used with the greatest economy. The hair from the barbers' shops is saved, and sold at so much a pound. Boys go about the streets, with rake and basket, gathering up everything which can be converted into manure, certain of finding ready sale for it.

Manuring in the Hill.

A Sausage Story.—An old friend of ours — one sick and tired of the care and bustle of a city life, has retired into the country, and "gone to farming," as the saying is. His land, albeit well situated and commanding sundry fine prospects, is not so particularly fertile as some we have seen — requiring scientific culture and a liberal system of manuring to induce an abundant yield. So far by way of explanation.

Once upon a time our friend being upon a short visit to New Orleans, was attending an auction sale down town, and as it so happened, they were selling damaged sausages at the time. There were some eight or ten barrels of them, and they were "just going at 50 cents a barrel," when the auctioneer, with all apparent seriousness, remarked that they were worth more than that to manure land with. Here was an idea. "Sixty-two and a half cents — third and last call — gone!" retorted the auctioneer. "Cash takes them at sixty-two and a half cents per barrel!"

To have them shipped to his country seat was the immediate work of our friend, and as it was then planting time, and the sausages, to use a common phrase, "were getting no better very fast," to have them safe underground and out of the way was his next movement. He was about to plant a field of several acres of corn — the soil of the piny woods species — so here was just the spot for this new experiment in agriculture, this new wrinkle in the science of geoponics. One "link" of sausage being deemed amply sufficient, that amount was placed in each hill, accompanied by the usual number of kernels of corn and an occasional pumpkin seed, and all were nicely covered over in the usual style. Now, after premising that several days have occurred since the corn was planted, the sequel of the story shall be told in a dialogue between our friend and one of his neighbors.

Neighbor — Well, friend, have you planted your corn?

Friend — Yes, several days since.

N. Is it up yet?

F. Up! yes: and gone; the most of it

N. How is that?

F. Well, you see, I bought a lot of damaged sausages the other day in New Orleans, a smooth tongue of an auctioneer saying they would make excellent manure if nothing else. I brought the lot over, commenced planting my corn at once, as it was time, planted a sausage in each hill, and —

N. Well, and what?

F. And felt satisfied that I had made a good job of it. Some days afterwards I went out to see how the corn was coming on, and a pretty piece of business I have made of trying agricultural experiments.

N. Why, what was the matter?

F. Matter! The first thing I saw before reaching the field was the greatest lot of dogs digging and stratching all over it! There were my dogs, and your dogs, and all the neighbors' dogs, besides about three hundred strange dogs I never set my eyes on before, and every one was hard at it mining after the buried sausages. Somehow or other, the rascally whelps had scented out the business, and they have dug up every hill by this time. If I could set every dog of them on that auctioneer, I'd be satisfied. [Writer unknown.]

A Substitute for Barn Yard Manure.

We say, a substitute, though we are not certain that it is a full equivalent. It will, however, answer nearly as well, and should be used by farmers to make up the lack of ordinary manure. It is this; a compost of muck and lime, or of muck and ashes. Dissolve a bushel of salt in water enough to slake five or six bushels of fresh lime to a fine, dry powder. It is not well to slake the lime faster than it is wanted for use, because it is much more efficacious if applied while hot, and covered at once with a layer of muck. The best rule for preparing the compost heap is, a bushel of lime to one load of muck, intimately mixed; though three bushels to five loads makes a very good manure. In laying up the heap, let the layers of muck and lime be thin, so that the sourness of the muck may be neutralized, and decomposition be more rapid and complete. After the heap is finished, and has lain a month or six weeks, it should be overhauled, and shoveled into a promiscuous mass, ready for use.

Where lime is expensive, or difficult to command, unleached ashes may be used, at the rate of three or four bushels to a cord of muck. After lying a month or two, it should be turned over and mixed again, as recommended in the other case. Lime or ashes mixed with sods and weeds and other refuse will make a good bank for the farmer to draw upon, when the institution under the port-hole of the barn has ceased to make anything like satisfactory dividends.

Water Proof Cement.

Is one of the adjuncts of good husbandry, and is every year working its way into notice upon the farm. It is known in various parts of the country, under the names of *water lime*, *hydraulic lime*, and *Roman cement*. It has the property of drying rapidly; and hardens under water. It was formerly imported, and was consequently very little used on account of the expense; but since it was discovered that we have the rock from which it is made, in inexhaustible quantities, its manufacture has been commenced in this country, and it is now furnished almost as cheap as the common lime.

Its most important uses to the farmer is in the preparation of manure and house cellars. Every farmer wants a cellar under his barn, and needs to have the bottom made water tight. Without this provision much of the liquid manure will soak into the earth. It is nearly impossible to furnish absorbents in sufficiently large quantity to prevent all loss. The cementing of the bottoms and sides of the manure cellar is so simple, that any farmer can do it himself, if the mason is not convenient. If the bottom is a hard gravel, he may put the cement directly upon it. If it is not, it should be filled in with small stones to the depth of several inches, and the cement be laid upon

these. A layer of bricks may be substituted for stones.

The plaster is prepared, by mixing one part of the cement, with two parts of dry sharp sand, the more gritty and coarse the better. The mixing should be done in the dry state, and then sufficient water added, to make it of the right thickness to be spread easily with the trowel. As it sets very quickly, but a small quantity can be mixed at a time. It should be applied immediately, and smoothed off. The thickness of the coat, will depend somewhat upon the situation of the cellar, and the uses you desire to make of it. If a cart is to be driven upon it, it should be at least five or six inches thick. If the cellar is surrounded with springs, and it is desirable to keep out water, it should also be made thick, and the plaster should be laid on in three successive layers, each layer having time to dry, before it is followed by another. The sides should also be cemented two or three feet high—or to the top if water is likely to ooze in. With such a cellar all the liquid manure can be saved, and in case the superincumbent mass of muck and stable manure ferments and dries, water can be added, or the liquid at the bottom can be pumped up on top.

The root cellar should also be cemented and made both rat and frost proof. The destruction of roots, occasioned by rats is very great, and cement is the best safeguard we have ever tried. Cement stops every crevice, and virtually makes a large stone jar, inaccessible to all vermin. It makes a smooth bottom, that may easily be kept clean.

The house cellar should also be treated in the same way. The comfort of the housekeeper will be very much increased, to know that every thing left in the cellar is perfectly safe from depredators. Cisterns for the barn and house are also needed, and for the preparation of these, cement is indispensible. Rain water is much better for washing than well water. It is also much better for cattle, and saves a great deal of time, in watering them. Make a reservoir under the barn, to catch all the rain that falls from the roof.

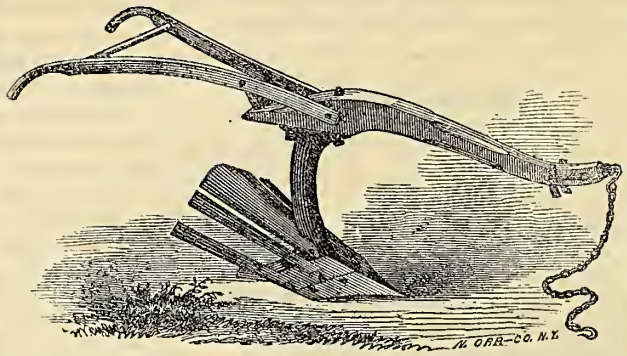
Potatoes Mixing in the Hill.

To the Editor of the American Agriculturist:

This question has been recently started in the *Agriculturist*, and is one worthy of being thoroughly investigated. In the face of your emphatic declaration that, potatoes mixing in the hill, or, as I should say, mixing at the *root*, "is contrary to reason and general experience," I am willing to enter the lists in defence of the affirmative of the proposition.

Your correspondent, I. S. Merrill, has given a case in point, and while I have no doubt of the fact as he has stated it, I apprehend his conclusions are at fault, when he says, "that the mixing was produced through the *blossoms* I readily admit." Now, if this is correct, how do you account for the fact that *sweet* potatoes, a plant that has never been known to bloom in this latitude, are very readily *mixed at the roots*? I will undertake to do it to order, from pure seed of the red and yellow varieties, to be furnished by yourself or any other gentleman, and pledge myself beforehand that the product shall be as "ringstreaked and speckled" as Jacob's sheep, by a process most simple; just try it yourself. Take a sprout of each variety, and place the two in the same hill, and, my word for it, you will have as perfect a mixture as you can desire. Plant a dozen hills, and at least half of them will be mixed. This is a fact which is familiar to almost every sweet potato-grower in New Jersey, and has repeatedly come under my notice for nearly 50 years. I have had a perfect mixture of the Mercer and Foxite varieties of the common potato at a distance of 8 or 10 feet. A. B.

Gloucester Co., N. J., Aug. 10.



A New Potato Digger.

We present above a cut of a recently improved implement for digging potatoes, got up by R. L. Allen, of this city. The form of the instrument is so well shown by the engraving, that a brief description will suffice. The lower part or share, is of cast iron, in shape like a flat double mould board plow. The prongs are of wrought instead of cast iron, and each is bolted, independently, on to the share. In these respects, as well as in their greater length and the turn given them, we think the improvement is very decided over any previous implement of the kind. By running the Digger under the center of the rows, and just below the potatoes, the soil and the potatoes are turned flat over, leaving the latter on the top. We have not yet had an opportunity of seeing it work, but understand from several farmers in this neighborhood, who have used it for a few weeks past, that the operation is highly satisfactory. This implement, as will be seen from its form, would make an excellent cultivator for stirring the soil.

Top Dressing and re-seeding old Meadows.

To the Editor of the American Agriculturist:

I attended to this operation last week for a small bit of meadow, and the benefit is already so apparent, after a Summer shower, that I am constrained to say a few words about it. The common practice of taking up meadows every few years, for the purpose of manuring them, and stocking them anew, is a very expensive one. It is the practice of some cultivators in England, and of not a few in this country, to keep a portion of their meadows perpetually in grass. This is the natural crop of the soil, and if there be any exception to the economy of a rotation of crops, it would seem to be this. I have now in sight, from my window, a meadow that has not been plowed for the last thirty years, and yet it produces annually not far from four tons to the acre. It is always mowed twice and sometimes thrice in a season.

It will perhaps be objected to the Summer dressing, that much of the manure will be evaporated by the sun. This might be the case if green stable manure were applied. But compost, such as is prepared in the open yard, or pig sty, is not liable to lose much of its strength, even in the heat of Summer. The muck absorbs the ammonia and salts, and holds them until they are released by the rains, and carried down to the roots of the grasses. The first heavy shower, after the dressing, will change the grass to a deep luxuriant green. The compost should be made as fine as possible before it is spread. Where there are bare spots, or where the grass is thin, seed should be sown. The compost may be more uniformly distributed by going over the ground with a bush harrow, after it is spread. This will also bury the seed, and help its germination. If meadows were top dressed, every third or fourth year, there would probably be little occasion for re-seeding. It is upon poor thin grass that the worms prey most, and that the Winter frost has the worst influence. Abundant fertilizers make strong roots, which take a deeper hold upon the soil.

Farmers, who have the usual means of making compost—a good stock of animals and a muck swamp—have no excuse for neglecting their meadows. From my own experience, and observation, I am persuaded, that top dressing is one of the best uses, to which yard and compost manure can be put.

It will cost the farmer say fifteen dollars for ten cords of compost, made upon his own premises; and two dollars more for a peck of herds grass seed, and eight pounds of clover seed. This, spread upon almost any acre of meadow yielding less than a ton of hay, would increase the product at least a ton, annually, for three years. Estimating this at eight dollars a ton, standing, and we have twenty-four dollars for the sixteen expended, or 50 per cent. This is a better return than the farmer often gets for his manure.

The best crops of grass grown in this vicinity are secured by judicious top dressing. It makes a thick strong turf, very smooth, and just the place for the use of the mowing machine. The first part of the present month is a good time to apply the dressing, and the seed. The roots will become established before the Winter sets in.

Eastern Connecticut.

Remark.—We have usually advised burying manure *in* the soil rather than exposing upon the surface to sun, wind and rains. Still there are many instances, like those referred to above, where, on the whole, it is better to top dress a meadow than to be at the expense of plowing or re-seeding; provided always, that it be done on soils which absorb all the rains that fall upon them. If water at any time runs *over* the surface, into open ditches or elsewhere, much of the manure will be washed away and wasted. The time of application also makes some difference. Manure placed upon the surface in Autumn is sooner washed into the soil by frequent rains, and is less exposed to evaporation, than if applied in the Spring to lie upon the surface through the Summer.—Ed.

Reports on Crops---A Model.

We are glad to get as many reports of the state of the crops as possible, but too frequently they are so "long drawn out" that it is half a day's work to get at the essence of twenty or thirty letters that arrive in a morning mail. The following postscript to a business letter printed just as received, we consider a good model.

"Sennett, Cayuga Co., N. Y., Aug. 7."—Our

Red Wheat is very heavy, yields from 20 to 35 bushels per acre. White Wheat is very poor. Spring Wheat I never knew so good before. Barley light. Oats a good crop. Corn very promising, Potatoes show rot.

J. R. Page.

Still Slops for Geese and Ducks.

To the Editor of the American Agriculturist:

With all the late "stump-tail" milk investigations of our New-York committees staring us in the face, I have some faith in the virtue of Still Slops—when properly used. I do not believe that Still Slops, free from poisonous admixtures, when run off from the *pure* grain—and *nothing else*—cooled, and mixed with good hay, or grass, hurts nothing of the cow or sheep kind, to say nothing of hogs. It is a palatable, nutritious food for many kinds of farm stock. It is from the abuse of the article in feeding nothing else with it, hot, as it comes from the vats, and the creatures fed upon it in a nauseous state of filth and confinement, that its evil influences come. Mark, that I say nothing of Still Slops where strychnine and other poisons are used in manufacturing whisky.

But I now have a word or two to say on fatting geese and ducks, both of which are profitably raised and fed for market under favorable circumstances, or may be an unmitigated nuisance under others. I have reared both these varieties of water-fowl many years, having good conveniences for them, and have found them exceedingly convenient as an article of family diet, as well as a marketable commodity.

Last year, a large distillery being erected in our neighborhood, we commenced in the month of September feeding geese and ducks with slops, which we got for ten cents a barrel. We made some cheap troughs, a dozen feet long, of two boards six inches wide, in shape of the letter V, and fed the poultry twice a day with all they would eat, letting them run at large, as usual, with free access to water and grass. They ate it voraciously, and fatted and grew rapidly; and when slaughtered, their flesh was fine and delicate. I am decidedly in favor of Still Slops—thus fed—for water-fowls, as being both cheap and nutritious; although it is not so *hearty* food as pure Indian meal.

For hens and turkeys, it is not so good, being apt to scour them, and I would not try to *fat* them on it unless mixed with an equal quantity of pure meal or boiled potatoes. For those who can obtain Still Slops at a low price it is certainly worth the trial.

Experience.

Feed for Chickens.

To the Editor of the American Agriculturist:

According to a former number of the *Agriculturist*, a subscriber living at Rock Island, Ill., found it difficult to raise chickens. So did I, while I fed them fine Indian meal. I improved by mixing whole buckwheat, rye and wheat with Indian. At last I had corn cracked the average size of rice or samp, which I fed to them while young, and increased the size as they grew older. Before they were as large as quails they would scamper for the largest pieces.

I find they do best to run out after the dew is off the grass, but should be kept in during wet weather. Since I commenced this plan of feeding, my loss has not been over five per cent. Last Spring I had 70 chickens hatched, and lost but 3, and one of them was killed by the coop falling on him. I hope "Rock Islander" will try this method and publish the result.

New-Jersey Subscriber.

Tim Bunker on Making Tiles.

Mr. Editor.—I didn't like it a bit, that you did not come out to attend Sally's wedding. You must know, that weddings do not come every day in a farm house, and in mine they only come once in a generation, for Sally is my only daughter. She had got her heart very much set upon seeing you out here, for she and John have read the paper so much, that they think you sort o' belong to the family. John came back with that young buck of a reporter you sent, quite crest fallen—declared he wouldn't have gone to the depot if he had known you were going to disappoint him. He says he has made up his mind, since reading that account, that all the green things in the world, are not in the country. Whether he means that some of the houses in the city are painted green, or the folks in them have that look, perhaps your reporter can tell. The girls however were amazingly tickled with the man's description of the Hookertown women, and are a good deal provoked that you didn't publish the poetry and all. They say if you will put in the part that you threw out, they will pay double price for it, as an advertisement. I suspect they have a great itching to know if he said anything more about them. You had better keep him at home in future, if you want him to do any thing more for the paper.

I told you, awhile ago, that if you wanted to see anything of the Hookertown, of the present generation, you should come soon. I was a good deal more of a prophet than I thought of at the time, for the paper was not dry, on which I wrote it, before I heard that a tile factory had been started in my own neighborhood.

"Who would have tho't it?" exclaimed Seth Twigs as he knocked the ashes out of his third pipe, and rose to go. "Why Esq. Bunker, that is the strangest thing that has happened in my day. I should as soon expect to hear they were catching whale in the Connecticut River."

"And do you think there will be a call for the tiles?" inquired the minister, whose conservatism was a little disturbed by the advent of a tile factory in his parish.

"Trust Miles Standish for that," answered Deacon Smith. "The fact is, Standish, never went in to anything yet, that he did not see his way out of it, before he started."

"Blamed if he hasn't got it all ciphered out," said Twiggs. "Showed it to me 'tother day when I was up there."

"And how many does he calculate to sell," I inquired.

"A hundred thousand the first year, and half a million the second. Had the hundred thousand engaged before he started."

Miles Standish, you know, is a historic name, one of the first Puritan families that landed upon the shores of New-England, and here is the family, in direct descent from the first Miles, in the seventh generation. The present Miles owns the ancestral farm; and on one corner of it is a clay bed, of unrivaled excellence. It has been used for some years as a brick yard, and many a kiln has been sent off to the neighboring city, and down the river. But the reverses of last year stopped the demand for brick, and Miles has been in trouble ever since, until I hinted to him carelessly last Spring, that he had better go to making tiles and drain his farm.

I have since read somewhere, that this is the way they do so much draining in the old country. The tiles are made upon the farm where they are to be used, to a great extent, and there is very little paid out for freight. The owners of the large estates there have plenty of capital for the purpose, and tiles are made and put down by the million. But it will probably never be the best way, with us, for every man to try to make his own tile. Our farms are too small, and as a rule, our farmers have not the necessary capital, even if they have clay beds. What we want is a tile factory in every neighborhood, or district of twenty miles diameter or less; so that a farmer with his surplus team can cart tiles to his farm in the leisure parts of the year. He can, in this way, make his team serviceable, which would otherwise lie idle. He will not feel the expense of freight at all.

As matters now are, freight is the great bugbear which prevents people from going to draining. The two inch tile, which cost twelve dollars a thousand in Albany, about double the first cost by the time they get where an Eastern farmer wants to use them.

Hearing of the tile factory I went up to see it yesterday, and to have a talk with Standish about it. I found the hint I dropped in half joke last Spring had fallen into good soil, and was bearing good fruit. He had got it all ciphered out, as Seth Twigs said.

Said he, "Esq. Bunker, I've thought a heap of what you said about turning my brick-yard into a tile factory, and you see I've partly done it. The only thing that stumbled me was, whether I should have any market for the tile after I got them made. I looked over my farm, and found that I could use at least fifty thousand in draining some swales, and if these worked well, I should probably want more. I went round some into the neighboring towns, and found a good many who wanted to try the experiment, and were willing to engage from one to ten thousand a piece. I marketed a hundred thousand. You see I had a plenty of brick to make a kiln of for burning, and this at the market price for brick cost me about a thousand dollars. The iron machine for moulding tile that you see there, cost 150 dollars, and the drying house perhaps 800 more. So that any man, who owns a brickyard with the usual fixtures for grinding clay, wants about two thousand dollars capital to start the tile business with, on a small scale. I can burn sixteen thousand tile in that kiln at once, and it takes about ten cords of wood to do it. The actual cost of moulding, not counting the clay anything, or the interest of the money, is about two dollars a thousand, and the burning, where wood is four dollars a cord should not be over five dollars. This brings the actual cost of two inch tiles, not far from seven dollars a thousand. If I can sell them at twelve dollars a thousand, even though it costs me something to deliver them at the river landing, I can make a handsome profit. If the thing works half as well as you claim, there can't fail to be a better demand for tile, than there ever was for brick."

This Hookertown clay bed is one of the best you ever saw. You work right into a side hill, where the clay is fifty feet deep, or more. It lies in nice layers about the thickness of slate, and is entirely free from sand and gravel. It makes a very tough tile. There is clay enough right here in this valley, close to a navigable river, to make all the tiles the State will ever want.

The first tile factory in Connecticut is a great event, and will work as great changes among us, as the first cotton factory did in Rhode Island. It will double the products of our farms in less than ten years, if the farmers will use them. It

is wonderful to see the waking up, on this subject. I don't know as I ought to speak in meeting, but I thought you would like to know that Jeke Frink has engaged five thousand tiles, and is going to put them down this Fall. It wont be a year before Jotham Sparrowgrass will have them down in his drained swamp; but he will never own that he is draining land. It will only be another contrivance to keep out the muskrats, and the tadpoles. A very *curis* man is uncle Jotham. Yours to command,

TIMOTHY BUNKER, Esq.

Hookertown, Ct., August 3d, 1858.

REMARKS.—We are really sorry for the disappointment felt by our Hookertown friends, at our failure to appear at the wedding—but could not help it possibly, under the circumstances. We will do anything by way of atonement—attend Sally's second day wedding, or the next wedding that comes off in Hookertown, should any of the damsels see fit to get up one on our account. We shall not dare to send any more reporters.

ED.]

Wheat Sowing.

We hear many complaints of the total, or partial failure of the wheat crop, in various sections of the country. In some places it has been winter killed, in others smitten by rust, and in many others cut off by the insects. The truth probably is, that, excepting destruction by insects, there is about the same amount of injury received from these sources as occurs every year. The business of collecting information from the wheat-growing districts is now so systematized, that we hear much more of the failures, than we were accustomed to, ten years ago. Whole columns of reports are published in the daily newspapers, and the story of failure in fifty counties of the union makes a great impression. Wheat has never been so certain a crop as Indian corn. It is a more captious plant in its wants, and must have more careful attention. It demand a porous soil, rich in vegetable matter, such as is found in the newly cleared lands of the West. In old lands *the mechanical preparation of the soil is* a matter of prime importance. The more nearly you can make it like the virgin soil the better. If it be not already dry it should be made so. The soil should be deeply stirred with a subsoil plow to let the rains pass down quickly, and to give air to the roots of the plants. More wheat is winter killed by stagnant water freezing around the plants, than by any other cause. The deep stirring of the soil is also a help in Summer, guarding the crop against drouth. If the land is not underdrained it should be plowed in narrow lands, with deep dead furrows to give the water a chance to pass off into them.

Sow Early.—The experience of wheat growers is very uniformly in favor of early sowing. The sooner it is put in after the first of this month, the better. The roots have time to get a strong hold of the soil and are not easily thrown out by the frost.

Select your Seed.—This may be done by threshing the bundles only partially. A few strokes of the flail will knock out the plumpest kernels. Some of the fanning mills have riddles for this purpose, runing the smallest kernels through, and saving the large ones for seed. Attention to this matter is of great importance if you wish to keep up the reputation of any given variety. The early red varieties, such as the pure Red Mediterranean are most reliable against insect ravages.

Use a Drill, if you cultivate wheat in any considerable quantity. It will soon pay for itself in the saving it makes in the seed, and in the larger yield per acre. If without a drill, plow in the seed with a shallow furrow.

Manures.—Do not be afraid of making the land too rich. Wheat will not grow where buckwheat, and some other grains might yield a tolerable crop. Barn yard manures are always good and safe. Ashes, lime, plaster, and clover turned in green will each and all pay, in certain conditions of the soil. As good wheat can be grown now as ever, in the oldest parts of the country, if cultivators will heed these suggestions—except where the insects happen to abound for the time being.

Sow Rye Early.

To the Editor of the American Agriculturist:

Of all the crops raised in this northern climate, rye is, perhaps, the surest; but even rye, sure as it is, may fail, and that too, in a good season like the present. A neighbor of mine sowed part of a field with rye on the 25th of August, 1857, and the balance of the same field the last of October, land and seed both alike. The result was, a good crop on the portion first sown, estimated at 20 to 25 bushels per acre, while that sown late was not harvested for the reason that there was nothing to harvest. I have known similar instances almost every year, and yet there are those who continue to throw away their seed, lose their labor and the use of their land, because they have known a good crop raised on new cleared land, sown so late that it did not come up till Spring. J. TALLMADGE.

Saratoga Co., N. Y.

Two $100 Prize Articles Wanted.

FENCING—DAIRY.

After repeated attempts, we have partially failed to obtain just such articles as we desire, upon two of the most important topics connected with farm life. We therefore offer a premium, or remuneration, of one hundred dollars for the best short series of articles upon FENCING, and the same sum for another short series on DAIRY operations.

We desire plain, straight-forward, practical, common-sense articles, such as only experienced and observing men would write. We care nothing for the literary style — that we can attend to —only so that they give such detailed instruction as working men need. Discussions of uncertain or doubtful theories, or of the history of fencing or dairying, are not desirable. The shorter the series the better, if embracing the main features of the subject. If written so plainly as to be appreciated and understood by the mere tyro, they will be all the more valuable for those familiar with the subject. If so valuable as to be worth more than the sum above offered, on account of the time and skill expended, more will be cheerfully paid. Any requisite amount of expense for engravings to illustrate the subject, will be furnished. If desired, the writers may retain the copy-right of their productions.

The articles are desired to begin in the earlier numbers of the next volume of the *Agriculturist.*

"Come! get up—you've been in bed *long* enough," said the gardener when pulling carrots for market.

Pride is as loud a beggar as want, and a great deal more saucy.

Farm Buildings....VII.

BARNS.

In submitting a plan for a barn, we are aware that in its convenience and arrangement it must be subordinate to the position, the uses, and climate of the farm itself. A very good barn accommodation for one farm may be a very poor one for another, and the *principle* on which it is founded must be the main object in its structure, leaving its arrangement, and completion to the judgment and convenience of the proprietor, subject only to the particular use he wants to make of it.

For instance: a grain barn requires, principally, bays, scaffolds, and granary, with a place for threshing, and cleaning apparatus, horse power, bins, &c. A miscellaneous stock barn requires bays, and scaffolds for hay, a bin for storing meal and grain for feeding, and commodious stabling, with contiguous yards and sheds well supplied with racks. A dairy barn requires the same, with particular accommodation for cows, their warmth, comfort, and shelter. The three different objects may, in fact, be combined in a general plan, and used for either, with but little alteration, or temporary fitting up, if properly planned in the beginning; and as our object is chiefly suggestive in what we have to say, and submit, we can only deal in generals.

There are usually two different styles of barn adopted by our farmers, depending somewhat on the position of their site, and the use to be made of them, viz: *the bank, or side-hill barn*, with underground stables; and *the level or above-ground plan*, with little or with no underground room at all. We propose to give a plan of each, with the best features attached for general purposes. In prefacing either plan, however, we shall bear in mind that, being *but* a barn no more expense need be lavished upon it than is absolutely necessary for economy in storing, and expending the crops, and sheltering the stock of the farm. It is a rough building, for rough purposes—not a dwelling for man, but for beasts. Therefore, anything expended upon it beyond the security of these objects is so much capital wasted, and not chargeable to farm economy, and management. A fine house elaborately finished, may give satisfaction and enjoyment to its inmates sufficient to compensate a large outlay; but a barn aside from its outward appearance to the eye, involves no such necessity. The dumb brute within it, quietly eating its accustomed forage, or resting in its comfortable bed, is quite as content and thrives as well as if its apartment were planed and painted, and so that its physical welfare be promoted, is quite as well in the plainest, as in a fanciful tenement. We have known a barn costing five thousand dollars less valuable intrinsically, as a barn, than one of the same accommodation costing fifteen hundred, while the latter was also in better keeping with the farm itself. Consequently, in all that appertains to barn arrangement we shall advocate all of cheapness that is compatible with durability, security in storage, and stock accommodation. We first give the plan of a

BANK, OR SIDE-HILL BARN.

[*See next page.*]

This, it will be seen, is set in the side of a slope or moderate hill, facing to the east, or south, with a stone wall underneath, 7½, or 8 feet high from the ground. The rear wall runs into the bank, and is on a level with the ground above, while the front is on a level with the lower plain or area. The foundation walls are 60x50 feet, the front

enclosed part retreating 12 feet under the body of the barn above. This front under-wall may be of stone, or not, at pleasure, a stone foundation, with wooden posts resting upon it, and boarded or planked, being quite sufficient for all purposes of shelter or warmth. A wing of stone, 12, 14, or 16 feet in length, according to the desired width of the outer sheds, may stretch out on each side as a butment for the sheds to rest upon next the barn, and keep the rear earth bank in place, while the sheds may be of any width desired, and extended out on each, or either one of the sides, at pleasure, with racks or mangers for catttle feeding. The frame of the barn above extends over, to give open shed room in front of the wall beneath, and where forage may be thrown from the barn floor above for the stock below, or to be worked into manure in the yard.

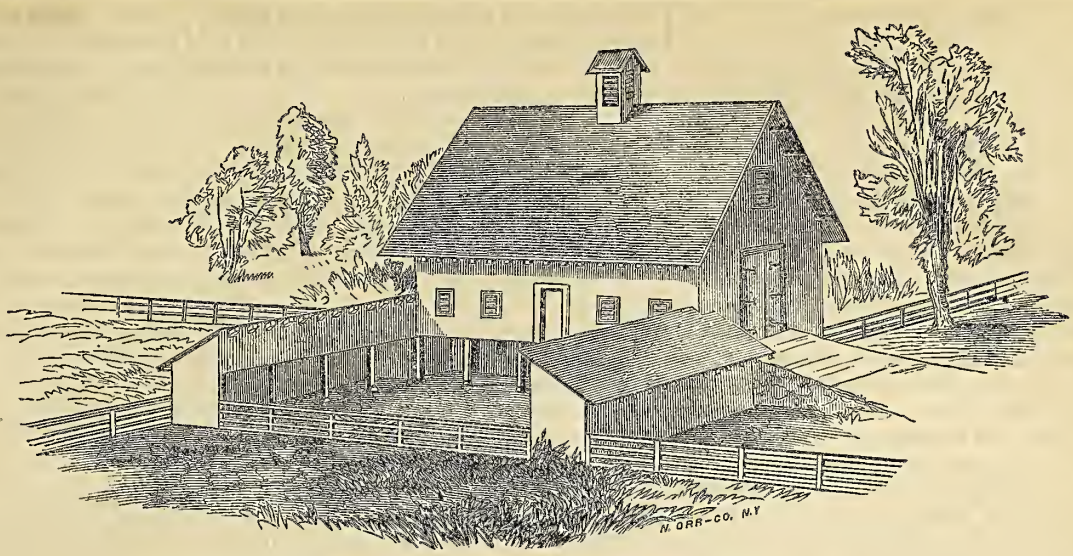


Fig. 1—BANK OR SIDE-HILL BARN—ELEVATION.

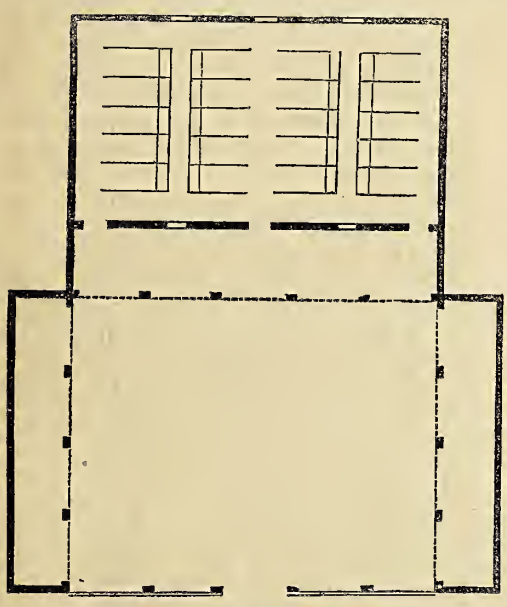


Fig. 2—UNDER GROUND PLAN.

The frame of the barn above is 60x50 feet with posts set upon stones below, to support the overshot sill as shown in the ground plan. Underneath are 4 lines of stalls, two on each side of the center passage-way, heading each other, with a 4 foot feeding alley between them, receiving the forage from above, from which it is thrown into the mangers 2½ feet wide, to which the cattle are tied or chained. The stalls are double, allowing two animals, if neat stock, in each. They are tied at the sides next the partitions, to prevent injury to each other. On the hill side are three windows in the upper part of the wall to admit light and ventilation, either glazed, or grated, as may be necessary.

MAIN FLOOR PLAN—(Fig. 3).

Entering the barn at either end, as shown in the engraving, is a floor, either 12 or 14 feet wide, as may be most convenient, which passes through the entire length. On one side is a large bay for hay or grain in the sheaf. Opposite, in part, is another bay. Next to that a passage of 5 feet wide to carry out straw, or hay to throw down below into the yard. Next to the passage is a granary, and adjoining it a tool house, or area for threshing-machines, straw-cutters, &c., with a partition off from the floor, or not, at pleasure.

Nine feet above the floor, on each side, should be a line of girts, connecting the inner posts, on which may be thrown loose poles to hold a temporary scaffold for the storage of hay, or grain in the sheaf, when required. By such arrangement the barn can be filled to the peak or ridgepole, and the ventilator above will carry out all the heated air and moisture given off from the forage stored within.—Slatted windows, or side ventilators are in the side next to the yard, if required. The roof has a "third" pitch, or one foot rise to two feet in width, which lasts longer, and gives more storage than a flatter one.

An essential feature in all bank or side-hill barns is, that they be well banked with earth, so that the falling water may freely pass away from the walls, and the stables and yards well drained. Without such precaution they are little better than a nuisance, the rains, and melting snows flooding everything beneath the building, and in the yards and sheds below. We had occasion a few years ago to occupy an otherwise well built barn for the Winter with a considerable stock of cattle; and although there was abundant stable room, for want of proper filling in and embankment on the hill-side, every rain poured in so as to flood the poor animals most uncomfortably. This is a part of the work, therefore, which should receive the most thorough attention.

We can not say that under all circumstances, even with a good site, we would prefer a side-hill barn; but if so, we should take extraordinary precaution to secure it from frost and wet, by the most thorough filling, embankment, and drainage.

Its advantages are: the warmth of its stables in Winter, and their coolness in Summer; storage for roots, if required; much additional room under the same roof, but not, we think, at diminished expense; and great compactness of storage, over that of the common plan.

We had almost forgotten to say that a flight of steps should reach from the upper floor to that below, to pass up and down upon, and these may be placed where most convenient, or available.

As to the material of which the barn should be built, a stone-wall foundation, well laid in mortar, or not, depending for this on the kind of stone used, with a wooden frame and covering, is the cheapest, and, as we think, the best; and as to the manner of framing and building, every farmer is too familiar with things of the kind to need our instruction. In general, we can only say: build *well*. One good building is worth two poor ones, and a barn should be put up for a life time. A small extra sum expended for convenience is soon repaid in the time and labor of those who perform its duties, or use it for storage alone. A barn should, in fact, receive as much the study and attention of the farmer as his dwelling; for in the barn is stored, expended and produced a large share of his wealth; and he might as well expect that his household would live contented and happy in a wretchedly contrived house, as his laborers, and the beasts they look after would be so in an illy constructed barn, and stables.

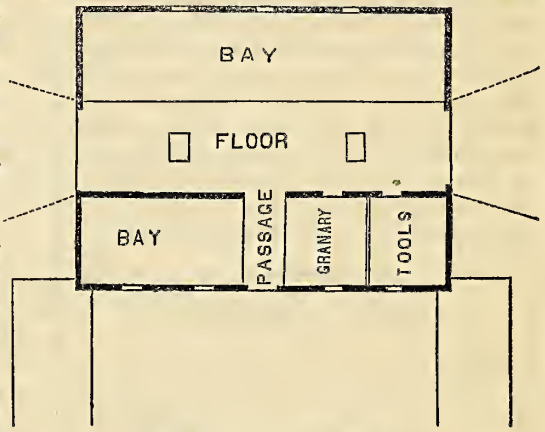


Fig. 3—MAIN FLOOR PLAN.

HARD ON A FAT MAN.—A corpulent gentleman had been so crowded in traveling, that when about to journey from Macon, France, in a diligence (stage,) he sent the hotel boy to pay for *two* seats in advance. When the vehicle called for him, he found himself booked for two seats as had been directed, but one of the reserved seats was on the inside and the other on the outside.

Cheap Cisterns.

Cheap cisterns have fallen into some disrepute, of late, through the impositions of certain traveling cistern-builders. A few years ago, numerous quacks went through the rural districts in various parts of the country, proclaiming that they had invented a new plan for building cisterns. And not the least attractive part of their method was its superior cheapness: five dollars would do the whole. Their wonderful new method was simply this: They dug a hole in the ground, large enough to contain 25 barrels of water. The hole tapered gradually from the top to the bottom, and was shaped like many stone-jars. After being excavated smoothly, it was plastered over upon the ground itself, and then the top was covered with planks. This method answered very well for the Summer months; but, if built where the frost could reach the cistern, its fate was sealed in the first Winter: the frost heaved the earth and plaster into the cistern, and "the patent, cheap, and durable water-holder" was no more.

An improvement on this style of cistern can easily be made, as follows: Excavate of the size wanted, and in the shape above-mentioned, for its obvious utility in plastering. Choose, if possible, stiff, clay soil, and a sheltered position. Cover the bottom with flat stones or with brick laid in water-lime cement, and plastered over with the same. The bricks must be hard and well burned, and the cement made of water-lime mixed at the rate of one-third lime with two-thirds sand. Lay up the sides with one course of brick, putting a good coating of water-lime mortar, as you go, between the bricks and the earth behind. When you reach the top, lay across the opening several stout joists or locust timber, and cover with thick planks. An opening should be cut out in these plank, for the curb; and this should be large enough to allow the descent of a man to clean out the cistern. Then cover the whole platform with soil enough to exclude frost.

Farming by Machinery.

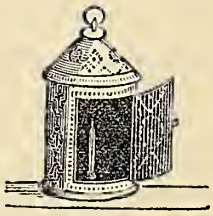
We hail gladly the introduction of every good labor-saving machine; and we rejoice to see that the prejudice against such implements is disappearing from the public mind. It is becoming plain to every one, that the substitution of mechanical forces for mere muscular strength tends to elevate mankind. Men are changed by it from machines to makers and controllers of machines. Instead of going the same round of hard, wearing labor, from generation to generation, like a blind horse in the tread-mill, they may now throw very much burdensome toil upon machinery; may subject the powerful but blind forces of nature to the control of the human will. If wood and iron can do much of the drudgery of life, just as well as human sinews, surely it is better that they should do it. If by the aid of a horse and a cultivator, one man can till as much land, as ten men with ten hoes could do their work, surely, there is a great gain. So with all substitutes for the expenditure of human strength.

To us, the great argument for machinery in agriculture is not its cheapening effect, but the relief it gives the farmer from wasting toil, and the opportunity it affords him for self-improvement. Its tendency is to elevate, as well as to make him rich. Its tendency is to make farming attractive, no less than profitable. Well has a writer observed: "Machinery, regarded as a means to banish man's slavery to toil, by substituting brain work for the labor of the hand, is the high road to that fuller and more perfect development of society, which poets have painted, philosophers predicted, and revelation, it is believed by many, expressly predicted."

Economical Hints.

1. Have a work-bench and a few tools in your woodshed, or in a little room at one end of your barn. There are many small jobs, in the course of a year, which any man of common ingenuity can do as well as a professed carpenter. And there are many rainy days and "odd spells" when these jobs can be done. And how much running to the village, and how much waiting and patience this would save!

2. Have a place for everything, and everything in its place. Those tools—why should they be lying around, the auger here, the jack-plane there, and the saw yonder, and the adz and screw-driver no where? Don't put away a shovel, hoe, spade or any implement without cleaning it. This may seem needless care, but in the long run it is a saving of time and money. Rust corrodes and weakens the best made tools. There *are* men who leave their plows standing in the furrow, or lying by the side of the fence from one year to another. And the "bran-new" scythe is often left dangling from the crotch of an apple-tree, month after month. Hear what a sensible farmer says: "Drive in stout, wooden pins to hang your yokes upon, nail strips of board from joist to joist to hang chains upon, make a rack overhead for pitchforks, rakes, turning sticks," &c. To all of which we respond: So let it be!



Blinks from a Lantern.....No. III.

BY DIOGENES REDIVIVUS.

A NEW LOCATION FOR FARMS.

I have hitherto looked for a good farmer upon the farm, with very little success. I now purpose to change the process a little and look for a good farm *in* the farmer. For I have made up my mind, that this, after all, is the true location of the farm. Man is a sort of walking photograph establishment, realizing, in form and color, the ideas that are floating in his mind One man is born a carpenter. He has a natural tact for making boards smooth, and framing timbers together. The sight of a chest of tools always gives him pleasure, and he loves nothing so well, as to saw, hew, plane, and bore. He realizes his ideal of blessedness, at an early age, in a carpenter's shop. Another is born a poet, has a lively sense of the beautiful, and an ear for rythm. He is thrilled with music from childhood, catches every song that he hears sung by enchantment, and begins to rhyme long before he learns to write. The epics, the lyrics, the odes, that make him immortal, are all in his soul before they get into books.

Now Diogenes is decidedly of the opinion, that this is true of every man's life work; as true of workers in dirt, as of workers in marble, and in letters. The thing formed must first be in the mind, before it can have expression in material forms.

Here perhaps is the great difficulty in finding good farms. It would be a very curious picture gallery, if we could go into a hall, and see it hung all around with the ideal farms which men have in their minds..

The minds of many who cultivate the soil are a perfect blank as to their calling. They have no love for it. They only look upon the farm as a machine for producing corn and potatoes. They have about the same affection for it, as the boy has for the crank of the grind stone. It is a necessary evil, from which they mean to be delivered as soon as possible. Now with this idea in a man's mind, it is clearly impossible for him to make a good farm. It would be miraculous if such a man ever attained one.

Other's have no objection to the labors of the husbandman, but they have no perfect plan of a farm that they would like to realize. They have correct ideas of certain points in farm economy, fancy good horses and fine stock, a smooth meadow, or a clean grain field, but they have no conception of the details of the work, by which these things are realized. So the horses they own are likely to be any thing else, than the horses they admire, and the brood mares they keep are likely to be old broken down animals, unfit for work. The meadows they cultivate, quite likely are full of rocks and stumps, and the fences lined with a row of brush, that would almost serve for a hedge. The barns they have are without cellars—without convenience for feeding, for watering or for saving the manures of the animals stabled. If the stables are in the right place, the hay mow is where it ought not to be. There is no adaptation of means to ends, in any department of the farm. Whatever is known is not known to any good purpose.

There are others, a very few, who are born with the map of a farm in their brains. They seem to understand at a glance what needs to be done on a given farm, to adapt it to a given department of husbandry. In looking over a place for a day, they would make up their minds, whether it could be best worked as a dairy farm, a stock farm, a sheep farm, or for a mixed husbandry. They would not purchase a piece of land until they had judged of its capabilities, and determined what to do with it. They would have this matter as definitely settled in their minds, as the carpenter who should purchase a lot of lumber, with which to build a house, the plan of which he had already drawn. Most farms purchased are only the raw materials of farms. The man, who has a farm in his brains knows just what to do with this material, the moment he comes into possession. The farm is not only a machine for raising crops, but for doing this economically. If the farm buildings are to be located they are placed with reference to economy, in carting the manures and crops to it from the farm. Diogenes during his long search with his lantern, for a genuine farmer, found one cultivator whose error in this respect has done more than all other causes combined to keep him poor through life. Instead of having a compact farm, with the buildings near the middle, his land is scattered in a half-dozen different plots, some of it a mile-and-a-half or two miles from home. He has wasted labor to the amount of several hundred dollars annually, in this unfortunate location of his fields. This alone, saved, would have made him a rich man, at the close of fifty years, the period for which he has cultivated the land.

The man who has a farm in his brains, also sees what improvements are feasible. Here are certain small lots, whose walls have always been in the way of cultivation. The fences are at once

removed. There are rocks and stumps in the way of the plow and the mower. These fields are cleaned up. Again, the swamps and low lands need drainage. The tiles are laid down, and tracts of land that were a nuisance are turned into fruitful meadows. He studies the capabilities of his farm, as he becomes acquainted with it, and turns them to the best advantage. He transfers the farm in his mind to the acres around him. Such a cultivator is an artist, as much so as he who carves in wood or stone. There is as much room for genius and for fame in this work, as there is in the cultivation of the fine arts so called. For, alas! good farmers, who are true to their calling, and ennoble it, are even more scarce than poets, painters and sculptors. Diogenes hopes to live to see the day, when the proper definition of a farmer shall be—*a Soil Artist*. Now he is too often an unskillful dauber in mud. He defaces, and murders the soil, which he should beautify and improve. He has no model farm in his brain, and for that reason he never has one elsewhere.

Old Time Agriculture in America.

INTERESTING REMINISCENCES.

Our New England fathers pursued farming under difficulties of which we have little conception. The country from which they emigrated was further advanced in civilization, and better tilled than any then on the globe; and this they exchanged for one entirely new to them, and for a soil and climate unlike those of which they had before some experience. Thrown into a savage wilderness, their knowledge of farming on the smooth plains of the old country would avail them but little. Almost everything must be learned anew, and their knowledge of farming in America must be acquired by slow and painful experience. Who will wonder, then, that their progress was slow? Rather, let us wonder that they did not succumb to the difficulties and hardships.

The early settlers had no beasts of burden for many months after their arrival. And when at length a few cows were sent over, being poorly fed on coarse meadow hay, many of them drooped and died, and others surviving this, were killed by the wolves or the Indians. Besides, the difficulty and cost of importation were then so great, as to raise their price above the means of ordinary farmers. In the year 1636, cows sold from twenty-five to thirty pounds sterling, $125 to $150, and oxen at forty pounds a pair. The cattle, too, were greatly inferior to those of the present day. The ox was small and ill-shaped, and the horse very unlike the noble dray-horses of Boston and Baltimore of the present day, and the sheep were inferior, both in size and form, and in the fineness of the wool. In 1638, there were no horses in the Plymouth colony; and history tells us that one John Alden, the rival suitor of Miles Standish, carried home his bride "on the back of a bull, which he had covered with a piece of handsome broadcloth, he leading the ungainly animal by a rope fastened to a ring in its nose."

Agricultural implements could then be imported from the mother country, but all persons could not afford to obtain them in this way. A farmer of the present day would not think the best of them worth much, they were so rudely made, so heavy and unwieldly. Many of their tools were made from bog-ore, the only metal then to be had, and were very brittle and easily destroyed.

Twelve years after the landing at Plymouth, the farmers of the colony had no plows, and were obliged to prepare their lands for seed with the hoe. As late as 1637, there were only thirty-six plows in the whole of Massachusetts. For a long period after this, the State paid a bounty to any one who should buy and keep a plow in repair, making it his sole business to go from farm to farm, breaking up land. This must have been a real plow-man!

It was a great advantage, surely, to the first settlers, to acquire the use of the several new plants employed by the natives for food. Yet it took some time to learn how to cultivate them, and hardly less, how to relish them. Indian corn was one of these plants; and pumpkins, squashes, potatoes and tobacco were almost equally strangers to them. It is said that the potato was so rare in England, at the beginning of the 17th century, as to be used only in the smallest quantities. "It was sold at two shillings a pound for the Queen's table, and was used as a fruit, baked into pies, seasoned with spices and wine, and sometimes eaten with sugar."

The colonists adopted, to a great extent, the Indian mode of cultivating the plants above named, and, as the times then were, it answered a good purpose. For example, like the natives, they planted their corn four feet apart; and those living near the sea-coast, manured their plants in the hill with horse-shoe crabs; those living on streams in the interior used fishes for the same purpose. They planted beans among their corn, that the former might be supported by the latter. They hilled their corn about two feet high, supposing it necessary to sustain the stalks.

An Honest Cat.

To the Editor of the American Agriculturist:

In the March *Agriculturist* the question was asked, "Did any body ever have an honest house cat?" Not having seen an answer to the above, I come to the aid of the too oft abused cat, and reply that I have seen several which I considered worthy the appellation, foremost among which is the subject of this sketch.

But first I dislike the idea contained in the article above alluded to, viz: that house cats were intended mainly to be pulled about by children, which is the chief cause of their indolence and thievishness. Need we wonder at their inactivity, when we observe the abuse they meet with at the hands of children who drag them about by the tail, ears or legs, whichever is reached first, and too often kicked out of the way by other members of the household? It is only a wonder that they have energy to move when life is in danger, and we can scarcely blame them for obtaining, in a stealthy way, that which hard treatment disables them from procuring honestly.

But to return to our house cat, "Timmy," as he is called. He is what the writer alluded to styles a "wether cat," (and we would never have any other). Tim is a Maltese, three years old, weighing about 10 lbs., and was adopted when four weeks old. He was always a pet of the children, playing and frolicking with them, but never abused, ranging the house with impunity from garret to cellar, pantry, milk-room and meat closet included. He is fed from the table at every meal, with meat and vegetables to his liking, but generally choses the latter now that he is old enough to catch his own meat—in doing which he soon freed the premises from vermin. He never leaves home, nor allows intruders to infest the house or barn, or even remain within his dominions. He follows the milk-pails to and from the yard, and if they are left, as they sometimes are, for a few minutes at the gate, he seats himself beside them, but neither touches the contents nor permits anything else to do so, but awaits their removal to the milk-room, when he expects, and always receives his share in a small dish under the shelf, to which he has free access through a small aperture made for his express convenience.

With such a cat it is useless to say we are never troubled with rats or mice. We know nothing of terriers, and care as little. Give us half a dozen such cats as "Timmy," and we would not exchange them for as many of the best terriers in the country. And now, Mr. Editor, if you have not yet seen an honest house cat, one that would not steal cream, butter, cheese or meat, please call at our Woodland Cottage, and we will show you one. C. R. W.

Genesee Co., Mich.

Treatment of Sprains.

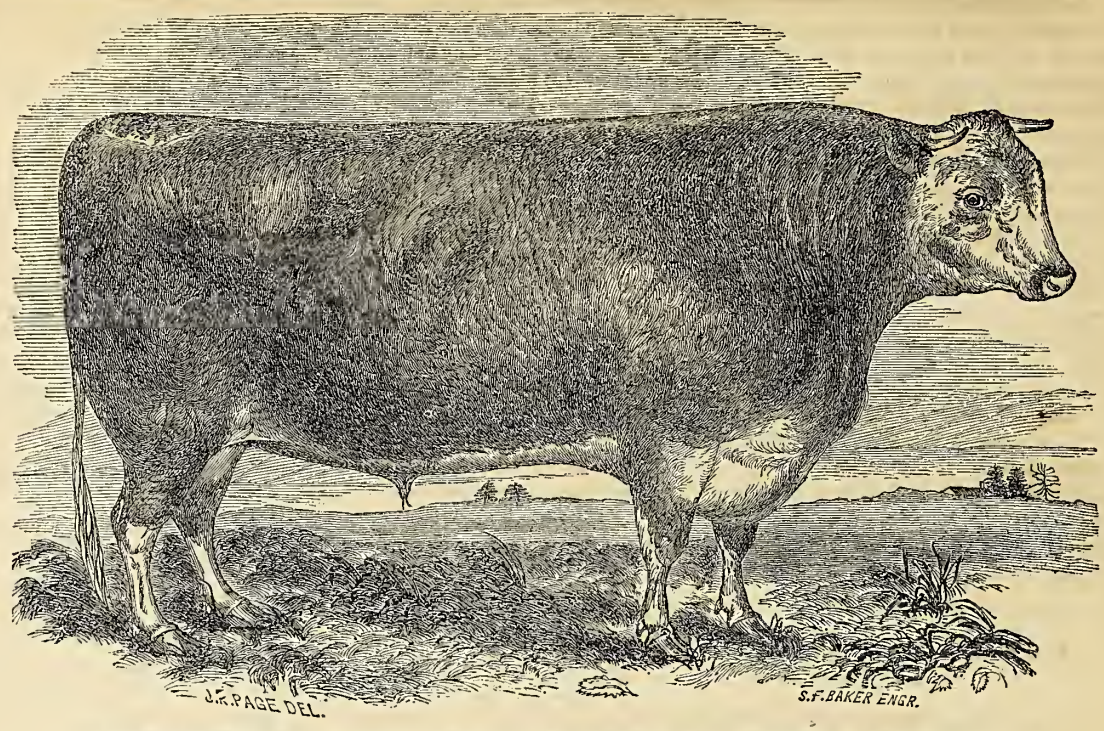
These are very common with both man and beast, and we present the following very good suggestions for their treatment from Dr. Hall's N. Y. Journal of Health—a very valuable work: SPRAINS or *Strains of the Joints* are very painful, and more tedious of recovery than a broken bone. What we call flesh is *muscle;* every muscle tapers down to a kind of string, which we call cord or sinew. The muscle is above the joint, and the sinewy part is below it, or *vice versa*, and the action is much like that of a string over a pulley. When the ankle, for example, is "*sprained*," the cord, tendon, or ligament (all mean the same thing) is torn in part or whole, either in its body, or from its attachment to the bone; and inflammation—that is, a rush of blood to the spot—takes place as instantly as in case of a cut on the finger. Why? For two reasons. Some blood-vessels are ruptured, and very naturally pour out their contents; and second, by an infallible physiological law, an additional supply of blood is sent to the part, to repair the damages, to glue, to make grow together, the torn parts. From this double supply of blood, the parts are overflown, as it were, and push out, causing what we call "*swelling*"—an accumulation of dead blood, so to speak. But dead blood can not repair an injury. Two things, then, are to be done, to get rid of it, and to allow the parts to grow together. But if the finger be cut, it never will heal as long as the wound is pressed apart every half hour, nor will a torn tendon grow together, if it is stretched upon by the ceaseless movement of a joint, therefore, the first and indispensable step, in every case of sprain, *is perfect quietude of the part;* a single bend of the joint will retard what Nature has been hours in mending. It is in this way, that persons with sprained ankles are many months in getting well. In cases of sprain, then, children who can not be kept still, should be kept in bed, and so with many grown persons.

The "*swelling*" can be got rid of in several ways; by a bandage, which, in all cases of sprain should be applied by a skillful physician—otherwise, mortification and loss of limb may result. A bandage thus applied keeps the joint still, keeps an excess of blood from coming to the part, and by its pressure causes an absorption of extra blood or other extraneous matter.

Another mode of getting rid of the swelling is, to let cold water run on the part injured for hours; this carries away the heat, and the more volatile parts of extraneous matters already there; and by cooling the parts, prevents an excess of blood being attracted to the place; so that, in reality, a bandage and a stream of cold water cure sprains in the same manner essentially, by a beautifully acting physiological law. The knowledge of these principles should be treasured up in every mind

Hereford Cattle.

In our March No., page 76 of this volume, we gave a full description of the Hereford Cattle, illustrating the breed with engravings from Youatt and Martin's work—these being the best we could then obtain. But the more we have looked at those pictures, and compared them with specimens of the animal in this country, the less satisfactory they appear, since they do manifest injustice to the breed as now improved, both in style and appearance. We are glad therefore to be able to present original sketches, taken for this journal from Mr. Corning's excellent Herefords. They are quite life-like and show what the best Herefords now are, in form, substance and value. We get few better engravings of Cattle than the two here given



IMPORTED HEREFORD BULL "CARDINAL WISEMAN," THE PROPERTY OF E. CORNING, JR., ESQ., ALBANY, N. Y.

Values of Blooded Cattle.

We have been asked to explain why, at some of the late public sales of thorough-bred Cattle and other farm stock, the prices ruled so much lower than a year or two ago, with a fear added, that prices might ultimately get so far down as not only to result in a serious loss to present holders of such stock, but to render it no object to rear them for breeding purposes.

It would be strange, indeed, if such a financial revulsion as we lately passed did not affect the prices of any and everything which, though highly useful, is not very common, and to which partially, at least, fancy values are apt to be attached. That blooded stock of all kinds has not been utterly unsalable, instead of selling at quite tolerable prices, as they have done at the recent public sales, is surprising, and only proves that they have a *positive* value, and that the public still appreciate that value, regardless of money pressure and low prices in most other things. The live stock of a country, once reduced, is slow to come up. The capital invested in them is enormous. They cannot, like the grains and other agricultural crops, be produced in a single year, but are the growth of several years, with food, labor and a very considerable outlay added. They are, therefore, not a temporary, but one of the *permanent* branches of our industry, indispensable to our consumption, and not a luxury that may be put aside without inconvenience, or suffering. The population of the country *must* have meats, as well as bread and clothing, and for so much as they want, the demand is good, always. As to prices, that must depend on the extent of supply. Happily for the stock breeder, and grazier, the country is not overstocked with either Cattle or Sheep. Nor is it soon likely to be. Agriculture, instead of gaining on the other branches of human industry, barely holds its own, and with the new enterprises continually opening to the ambition of our young men, they are drawn off in too great proportional numbers to give agricultural labor or capital a preponderance of supply.

Fine, or improved farm stock, is, among its kind, what improved machinery is in the production of fabrics of any class. A *better* article is produced at a *cheaper* rate. A well-bred Short-Horn, or a Devon bull will beget a calf in a common cow worth, at the lowest estimate, one to two dollars more at six weeks old, for veal, than a common scrub—or ten to fifteen, or even twenty dollars when grown into a bullock for beef. A Southdown or a Cotswold ram crossed upon the common ewe gives the same proportionate value to the lamb, or the wether. So with other improved stock, of whatever kind, excepting some, perhaps, which do not enter into consumptive articles, and are only bred as a thing of taste, or fancy merely. Whatever has intrinsic value will maintain it, in the long run, let temporary causes of depression be what they may. Therefore, we do not regard the lower prices at which blood animals may have been recently sold as affecting at all their permanent breeding value.

We admit, however, that some classes of fancy, or improved stock have been too high in price for purposes of utility *only*. But as in everything where great excellence has been attained, superior quality will command its price. And it is well that it is so. Without that reward, the attainment of marked superiority would be neglected in every thing. Were we a stock-breeder in the better class of animals, we would increase rather than diminish our stock at the present time, to be in readiness to supply the better demand which is sure to come soon.

Swiss Cattle.

To the Editor of the American Agriculturist:

With the July *Agriculturist* I am so well pleased, that I determined, if you will forward a copy of the German edition, to try to collect subscribers from among my German neighbors. Will you, if consistent, give a description, &c., of Swiss cattle, and if introduced would they maintain that superiority as milkers which they possess in their native land?

The Lehigh County Agricultural Exhibition for 1858, will be held at Allentown, September 28th to October 1st. A visit, I think, would amply repay you—for it is only a few hours' ride—to see our large and spacious barns filled to overflowing. The largest stone and the largest iron bridges in the Union are here—only a few miles apart—crossing the Jordan. In one view, you can see the smoke rising from the furnaces manufacturing one-sixth of all the iron made in the United States, and last though not least, an honest and upright German people.

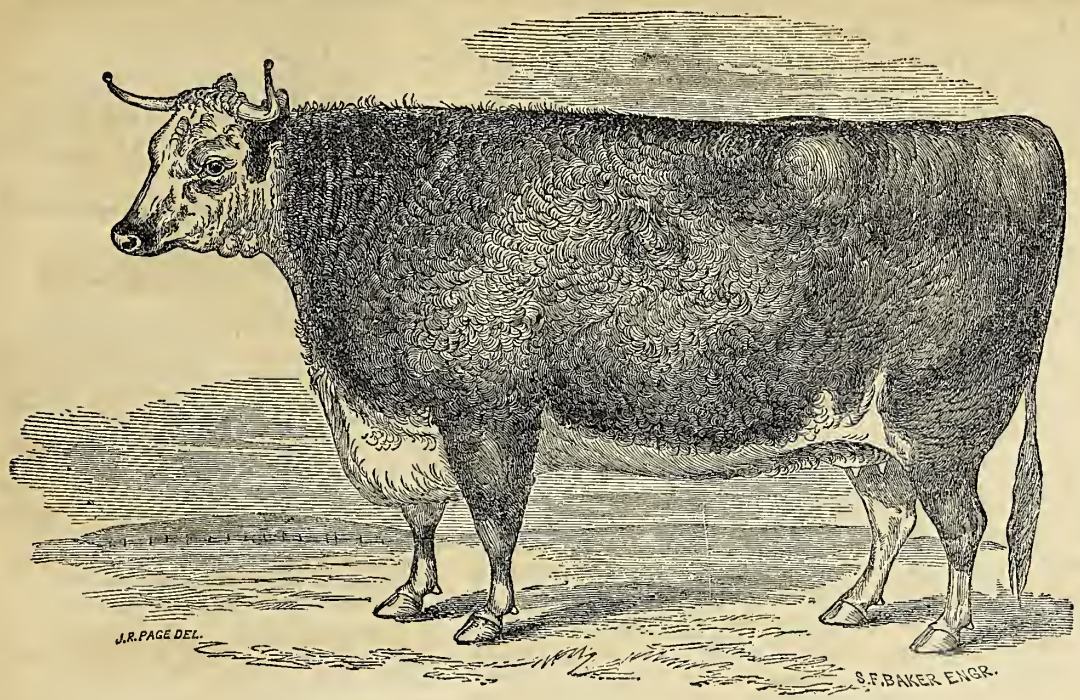
EDWARD KOHLER.

Whitehall Station, Lehigh Co., Pa., Aug. 5, 1850.

REMARKS.—We regret that we cannot give our correspondent a description of Swiss cattle, from personal inspection, rather than from the loose observations made upon them by others, and those not of the most exact kind.

There are, as we learn, two different classes of cows in Switzerland adapted to their different ranges, and climates. In the rich lands, and valleys, are kept a fine, short legged, broad backed race, weighing some ten or twelve hundred pounds, deep milkers, and good in all the requirements of the dairy. As near as we can learn, they are something akin to the Dutch or Holland cattle, which are a sub-variety of Short Horn, excellent milkers, but rather coarse in bone, and mostly black and white in color. Many of the Holland cows were imported into New York, from time to time, many years ago; and, although they exhibited excellent dairy qualities, failed to establish any decided superiority over our good crosses with the Short Horn, Devon, Ayrshire, and Alderney on our best native cows.

The other race of Swiss cows is the mountain breed, or such as are kept through the Summer on the steep mountain sides of the highlands, where a light, agile creature only can crop the herbage on their precipitous sides. They cannot, of course, be deep milkers, but what they do give is rich, and creamy, making excellent butter and cheese. We do not believe that either of the breeds of Swiss cows introduced into the United States would be an improvement, either in themselves, or their crosses, on what we now have in the fine races of English, Scotch, and Channel Island cattle, under the various names of Short-horn, Devon, Hereford, Alderney, Ayrshire, and Galloway, of which we have recently given full accounts and descriptions. These are destined, as we think, to be favorites with our farmers and cattle breeders beyond all others. Removed into



HEREFORD COW "GRACE," THE PROPERTY OF E. CORNING, JR., ESQ., ALBANY, N. Y.

a new country, far away from our native land, we are apt to look back to the days of our childhood, while "distance lends enchantment to the view," and we fancy that many things, which we left behind us, if only in our possession now, as then, would be superior to what we have; but a trial would only convince us that many of them are ill adapted to our new wants and conditions.

Care of the Health of the Horse.

We refer now, not to any special management of horses in particular cases, but to the ordinary, daily care which they require. Were this noble animal properly cared for every day, there would be little need of any special treatment. As it is, horses are continually ailing; it is almost impossible to buy one that is perfectly sound.

In the general management of the horse, it is very important to secure him a plenty of fresh air. Neither man nor beast can enjoy health while inhaling corruption at every breath. And yet, most stables are built with little regard to this important matter. They are low, contracted, close and hot, with scarcely any means of ventilation. The urine and dung are allowed to lie upon the floor mixed with litter, and, fermentation setting in very soon, a pungent and unwholesome gas is emitted which pervades the whole stable. Who has not perceived this on entering a barn, especially in the morning? The heat and odor are sometimes so powerful as almost to stifle one's breath. It is no wonder that horses occupying such stalls, should suffer from inflamed eyes, chronic cough, diseased lungs and glanders. The only surprise is, that they can endure such barbarous treatment, as long as they do, with so great impunity.

Every stable, then, should be well ventilated. The stalls should not be boarded up tight from floor to ceiling, but left open from four to four and-a-half feet upward. There should be some means for introducing fresh air in the neighborhood of the stalls. It should not be through a window blowing directly on the horse, but at some little distance from him. Then, there should be an opening in the roof of the stable through which the foul and heated air can escape. Between this ventilator at the top and the aperture in the lower part of the building, a constant circulation will be kept up; but neither one will work efficiently without the other.

It is generally considered inexpedient to occupy the loft directly over the stalls, with hay. The foul vapors rising night and day mix with the hay and make it unpalatable and unwholesome. Many insist even that the ceiling above the stalls should be plastered. The floor overhead should at least be battened tight to prevent the dropping of seeds and dust upon the hair and into the eyes of the horse. But if this is done, some means should be provided for the free escape from the stall of bad air and the introduction of that which is fresh and wholesome.

One important means of securing good air in stables is to keep them scrupulously clean. Some persons allow dung to accumulate for several days, and many clear it out only once a day. It is absurd to expect pure air where fermentation and putrefaction are going forward. All manure and wet litter should be swept out twice a day, and means should be provided for the passing away of urine. The floor of the stall should have a slight inclination, allowing the water to run off into a gutter; or if any object to this, they should frequently strew their stable floors with saw-dust, tan-bark, or plaster. Dr. Dadd observes: "The bedding which, according to long custom, is stowed under the crib, there acting as a sort of noxious smelling bottle to the horse's nostrils, should be spread out in the open air, and sorted; the refuse and excrements removed to a dung heap located as far from the stable as possible; for the common manure receptacle, under the stable floor, is one of the worst features of stable economy. The stable floor should be washed clean as often as circumstances permit."

Remarks upon "Notes on Honey Bees."

To the Editor of the American Agriculturist:

S. C. Mendenhal, gives some "Notes on the Honey Bees," in the August number of the *Agriculturist*, page 237, that are so out of the usual routine of their doings, that they would seem to require some remarks, even if I were not called upon by name for "explanation." The incidents related are certainly very remarkable, and so many are together that I find myself wishing that I was assured that there was no mistake about it. Assuming that this matter is fact, that the comb of that old "gum" was really 25 years old, (it must have been tough as well as black,) we might expect it to be as described; he concludes the paragraph by asking, "Does not this prove that bees degenerate in size, if old brood combs are used?" and thus intimates, that somebody had said they would not. I have known combs half that age to be used for brood, and the bees bred in them *could not* be distinguished from those reared in new combs! But this does not prove that cells used twenty-five years, are not too small. The cell is at first a little larger than really needed; but each young bee reared, leaving a cocoon, would in time fill it, however large the cell, or thin the lining. But what I contend for is that the cells do not fill up as fast as the interest of the majority of our patent venders leads them to represent, and therefore the renewal of combs, because of the cells becoming too small, is unnecessary, short of eight or ten years.

The writer's next item is in relation to swarms leaving before clustering, and he asks for a "remedy." This happens so seldom with us, that I had not thought of it Since writing the work on bees in 1853, I have had five years further experience, making the whole time thirty years; and during this time, such an occurrence has never happened with me, although the chances have been somewhat numerous. As for a remedy for those who are losers in this way; I would say that it has been remarked that "*very good attention* to the bees would lead them to *expect* a tenement to be provided when needed, and they would take no pains to look up one." I would at least recommend this *attention*, as something likely to pay in several ways—it is an important item in bee keeping.

The last item relative to the piping of the queen, is still more unusual. My printed remarks on that part are fully confirmed by subsequent experience. On the average, the queen will not commence piping in more than one stock in fifty, before the first swarm. That they should do so in two out of three of Mr. Ms. neighbor's, is quite possible; but I suspect there has been some mistake. Mr. M. further says, "In a swarm that has been out four days, I last evening heard the queen *piping* when I was twenty feet from the hive." This is a circumstance so *very extraordinary* (piping in a new swarm) that I would like to inquire as to the position of said swarm relative to the old stocks, whether near or otherwise; whether at the distance of 20 feet, it was not *possible* for the piping (heard at that distance) to proceed from one of the old stocks, the one for instance, that had sent out said four-days-old-swarm; it seems that two of three were piping before the *first* swarm.

If these things can be substantiated as facts, (leaving no chance to doubt,) they are worthy of notice, as forming exceptions to general rules.

St. Johnsville, N. Y. M. QUINBY.

Should Drones be Killed?

Mr J. K., of Bedford Co., Pa., asks:—"What think you of the practice of killing the *drones* in the bee hive? They are very numerous at this time of the year, and consume much honey. Will their destruction injure the swarm?" We submitted the above questions to Mr. Quinby, to which he replies as follows:

It is now admitted that the drones are the males among bees. Nature has so arranged it, that sexual intercourse takes place in the air. The excursions made by the queen for that purpose, are attended with much peril. To prevent failures as much as possible, a large number of males (drones) are provided, and multitudes of them are on the wing soon after the middle of each fair day. Nature provided drones enough for isolated colonies. When several hives, or stocks are brought together, the instinct that reared drones enough for one, is retained, and each colony provides the usual number, while one or two stocks might produce nearly enough. When a great number of stocks are in company, the chances of the queen being lost by entering the wrong hive after her excursion are greatly multiplied; perhaps a few more drones than one or two colonies would produce might be expedient to make her success as certain as possible. Yet when a large number of stocks are together, a majority of the drones may be destroyed to advantage, and thus save all the honey they would consume. Unless the workers are very much reduced, the drones can be of no use a few weeks after swarming is over. A better way, where one has the moveable frames, would be to remove nearly all of the drone cells in the Spring, and substitute worker cells instead, thereby preventing the rearing of the drones.

Bees and Bee Culture.

A LIST OF THE BOOKS ON THIS SUBJECT IN THE ENGLISH LANGUAGE.

We present below an exceedingly valuable and interesting list of more than *Sixty volumes* printed in the English language, since A. D. 1600, *devoted wholly or chiefly to the Culture of the* Honey Bee. This catalogue, prepared with great care and labor expressly for the *Agriculturist*, by our well known correspondent E. W. G., is the only one of the kind, at least in this country, so far as we know; and apart from its interest to the general reader, will be a great convenience to those specially engaged in inquiries concerning the habits and instincts of bees. At some future time, we may comment upon the history suggested by this catalogue, which we leave now to speak for itself. It does not include works on Entomology in general, or special treatises in Cyclopedias and Scientific Journals. Though some of the more recent British publications are omitted, it is as complete and accurate as we have the means of making it; but if our readers discover the omission of any titles, which it is in their power to supply, we beg them to inform us. In a few cases we have given the titles at unusual length, as an indication of the character of the works.

Butler, (Charles). Oxford: 1609 8vo.
[2d Edition, London: 1623. 4to.]
The Feminine Monarchie: or the Historie of Bees, and the right Ordering of them.

Levett, (John). London: 1630. 8vo
The Ordering of Bees.

Remnant, (Richard). London: 1637 4to.
History of Bees.

Hartlib, (Samuel). London: 1655. 4to.
The Reformed Commonwealth of Bees.

Purchas, (Rev. Samuel). London: 1657. 4to.
A Theater of Political Flying Insects: wherein especially the Nature, the Worth, the Work, the Wonder and the manner of Right-Ordering of the BEE is Discovered and Described. Together with Discourses Historical, and Observations Physical, concerning them.

Gedde, (John). London: 1675. 8vo.
Method of Beehouses and Colonies.

Warder, (Joseph). London: 1676. (With plates.) 8vo.
Apiarium, or a Discourse of Bees: tending to the best way of improving them and to the fallacies that are imposed by some for private lucre on the credulous lovers and admirers of these insects.

——— London: 1680. 8vo., with plates.
A Further Discovery of Bees.

Worlidge, (John). London: 1691. 12mo.
Apiarium: or a Discourse of the Government and Ordering of Bees with their nature and properties.

Southerne, (Edmund). London: 1693. 4to.
A Treatise Concerning the Right Use and Ordering of Bees: Newlie made and set forth according to the Author's own Experience: which by any heretofore hath not been done.

Warder, (Joseph). London: 1712. 18mo. pp. 166.
[Ninth Edition. London: 1765.]
The True Amazons; or, The Monarchy of Bees: Being a new discovery and improvement of those wonderful creatures. [With directions "plain and easy how to manage them both in Straw hives and transparent boxes; so that with laying out of but four or five Pounds, in three or four years, if the Summers are kind, you may get thirty or forty Pounds *per annum*."]

Gedde, (John). London: 1721. 8vo.
The English Apiary: or Complets Bee Master.

Reaumur, (R. A. F.). London: 1744. 8vo.
12 Copper plates. pp. 468.
The Natural History of Bees: containing an account of their production, their economy, the manner of their making wax and honey, and the best methods for the improvement and preservation of them. Translated from the French [by N. Bazin].

Thorley, (Rev. John). London: 1744. 8vo. Copper plates. pp. 208. [Second Edition, 8vo. 1765].
Melisselogia: or, The Female Monarchy: Being an enquiry into the nature, order and government of Bees, those admirable, instructive and useful insects. With a new, easy and effectual method to preserve them, not only in colonies, but common hives, from that cruel death to which their ignorant, injurious and most ingrateful owners so commonly condemn them. A secret unknown to past ages, and now published for the benefit of mankind. Written upon forty years observation and experience.

White, (Stephen). London: 1756. 8vo.
Collateral Bee Boxes: or a new, easy and advantageous method of managing Bees, in which part of the honey is taken away in an easy manner, without destroying or much disturbing the Bees; early swarms, if desired, are encouraged, and late ones prevented.

Swammerdam, (John, M. D.). London: 1758.
The Book of Nature; or, The History of Insects. Translated from the Dutch and Latin, by Thomas Floyd. [Seventy-eight pages of this elaborate folio, and ten copper plate engravings are given to "A Treatise of Bees; or, an accurate description of their origin, generation, sex, economy, labors and use."]

Mills, (John, F. R. S.). London: 1766, 8vo. pp. 168.
An Essay on the Management of Bees: wherein is shown * * * that the practice of saving their lives when their honey and wax are taken from them was known to the Antients, and is, in itself, simple and easily executed.

Wildman, (Thomas). London: 1768. 4to. pp. 176.
[Second Edition, 1779]. Copper plates.
A Treatise on the Management of Bees: wherein is contained the Natural History of those Insects; with the various methods of cultivating them, both antient and modern, and the improved treatment of them.

White, (William). London: 1771. 8vo.
Complete Guide to the Mystery and Management of Bees.

Debraw, (John). London: 1777. 8vo.
Discoveries on the Sex of Bees: explaining the manner in which their species is propagated; with an account of the utilities that may be derived from these discoveries by their application to practice.

Keys, (John). London: 1780. 8vo.
The Practical Bee-Master: in which is shewn how to manage Bees, either in Straw hives, or in boxes, without destroying them, and with more ease, safety and profit than by any method hitherto made public. [With strictures on Wildman's treatise.]

Bromwich, (Bryan J.). 1783. 8vo
The Experienced Beekeeper: an essay on the management of Bees.

Bonner, (James). London: 1795. 8vo.
Plan for speedily increasing the number of Beehives in Scotland.

Keys, (John). London: 1796. Plates. pp. 272.]
The Ancient Bee-master's Farewell; or, Full and plain directions for the management of Bees to the greatest advantage; declaring further improvements, &c., &c. [With strictures on Bonner].

Isaac, (John). London: 1799. 12mo.
The general Apiarian; wherein a simple, humane and advantageous method of obtaining the produce of the bees, without destroying them, is pointed out.

Anonymous. London; 1800. 8vo.
Comfort to Aristeus: or a few useful hints on the management of Bees, so as to render honey and wax a cheap and plentiful commodity, &c., &c

Huber, (Francis). London: 1806. 12mo.
New Observations on the History of Bees; translated from the French.

Keys, (John). London, 1814. 12mo. pp. 272.
A Treatise on the breeding and management of Bees to the greatest advantage. [This seems to be simply a reprint of "The Ancient Bee Master's Farewell."]

Huish, (Robert). London: 1815. 8vo. Plates. pp. 395
[New edition, greatly enlarged. 1844. pp. 458.]
A Treatise on the Nature, economy and practical management of Bees, in which the various systems of Apiarians are examined, &c.

Bevan, (Edward). London: 1827. 12mo. Plates. pp. 404. [New Edition, xtended and revised, 1838].
The Honey Bee: its Natural History, Physiology and Management

Thacher, (James, M. D.). Boston: 1829. 12mo. pp. 164.
A Practical Treatise on the Management of Bees: with the best method of destroying and preventing the depredations of the bee-moth.

Smith, (Jerome V. C., M. D.) Boston: 1831. 18mo pp. 106.
An Essay on the Practicability of cultivating the Honey Bee in maritime towns and cities.

Payne, (J. H.). London; 1833. 12mo. pp. 71.
The Apiarian's Guide.

Bagster, (Samuel, Jr.). London: 1834. 12mo. Forty wood cuts. pp. 244.
The Management of Bees: with a description of the "Ladies' Safety Hive."

Kelsey, (Francis). New-York: 1835. 12mo. pp. 24.
A Practical Treatise on the Management of Honey Bees.

Nutt, (Thomas). 3d Edition. Wisbech: 1835. 12mo. pp. 269. Sixth edition. London: 1846. pp. 340.
Humanity to Honey Bees: or, Practical Directions for the management of honey Bees upon an improved and humane plan, by which the lives of bees may be preserved, &c.

Smith, (Richard). 1839. 12mo.
The Cottager's Bee Book.

Weeks, (John M.). New and enlarged Edition. Boston: 1840. 18mo. pp. 128.
A Manual: or an Easy Method of Managing Bees, with infallible rules to prevent their destruction by the moth.

Hall, (William M.). New-Haven: 1840. pp. 48.
The Apiarian: or a Practical Treatise, &c

Duncan, (James). Edinburgh: 1840.
The Natural History of Bees.

Wighton, (J.). London. 1842. 12mo.
History and Management of Bees

Cotton, (W. C.) London. 1842. 8vo. Plates.
My Bee Book.

——— London: 1843. 12mo.
Two Letters on Bees.

Milton, (J.) 1843. 8vo.
Practical Bee Keeper

Dunbar, (W.). Edinburgh: 1843. 12mo.. Bees.

Allen, (Thomas R). Syracuse: 1846. pp. 57.
Bee Cultivator.

Taylor, (H). Third edition: 1846. 12mo.
Bee-Keeper's Manual.

Munn, (W. A.) 8vo.
Barr and Frame Beehive described.

Chalinski. 12mo.
Beekeeper's Manual.

Scudamore, (E.) Second edition. London: 1848. 12mo. pp. 53.
Artificial Swarming of Bees.

Townley, (Edw.). New York: 1848. 18mo. pp. 162.
Practical Treatise on Humanity to Honey Bees.

Anonymous. London: 1848. 24mo.
Handbook on the Honey Bee.

Miner, (T. B.) New-York: 1849. 12mo. pp. 349.
The American Bee-keeper's Manual. (Wood cuts.)

——— Clinton: 1851. 12mo. pp. 24.
An Essay on the Winter Management of Bees.

Anonymous. Philadelphia, 1851. 18mo. pp. 126.
The Hive and its Wonders. (Written for the American Sunday School Union.)

———. New-York: 1851. 12mo. pp. 119.
The Cottage Bee-keeper. By a Country Curate.

Richardson, (H. D.) New-York: 1852. 12mo. pp. 72.
The Hive and the Honey Bee. (With wood cuts.)

Anonymous. London: 1852. 8vo.
The Honey Bee: (reprint from the Quart. Review).

Langstroth, (Rev. L. L.) Northampton: 1853. 12mo. pp. 384. Second edition, with wood cuts, New-York: 1857. pp. 534).
The Hive and the Honey Bee.

Quinby, (M.) New York: 1853. 12mo. pp. 376.
Mysteries of Bee Keeping Explained; being a complete analysis of the whole subject.

Wood, (Rev. J. G.) London: 1853. 12mo. pp. 114.
Bees: Their Habits. Management and Treatment. (With illustrations).

Eddy, (Henry, M.D.) Boston: 1854. 12mo. pp. 60.
Eddy on Bee Culture, and the Protective Bee-hive.

Phelps, (E. W.) New-York: 1855. 12mo. pp. 96.
The Bee-Keeper's Chart.

Lardner, (Dionysius, D. C. L.) London: 1856. 12mo. 112 pages on Bees.
The Bee and White Ants; their manners and habits: with illustrations of animal instinct and intelligence. [From the Museum of Science and Art, with 135 illustrations.]

Two Blades of Grass vs. One.

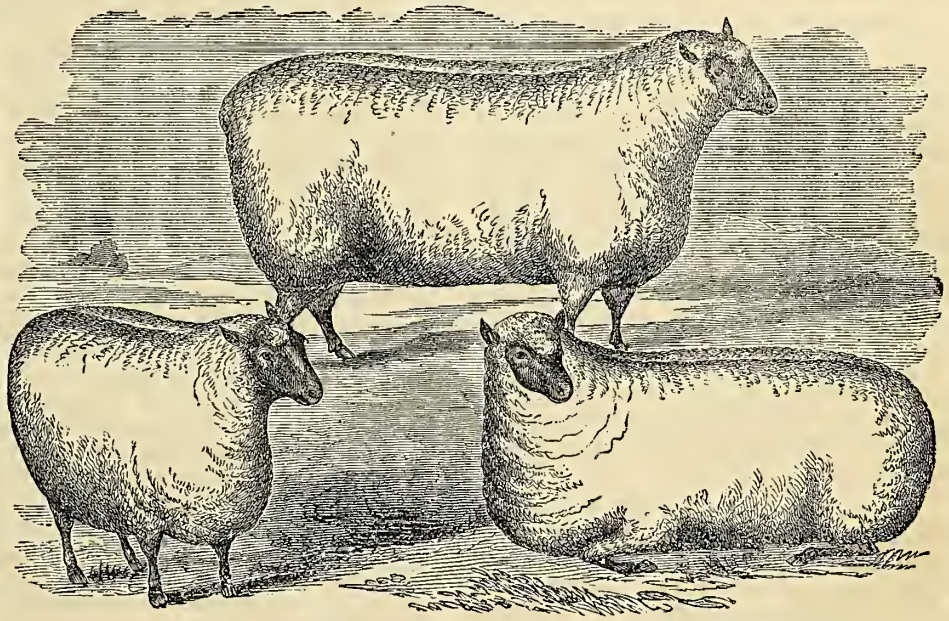
We are not able to say how many addresses, reports, and communications we have had sent to us during the year, which contain the proposition, that that man is said to be a benefactor, who causes two blades of grass to grow where one grew before. We are safe in saying that it is some scores at least. As a rule, we stop when we come to that sentence, and conclude, that the man who wrote it had not much to say. We do not doubt the sentiment any more than we doubt the historical fact, introduced into every school boy's composition upon intemperance, that Alexander killed his friend Clytus in a drunken spree. We concede the benevolence of the man who multiplies blades of grass, whether once, twice, or sixty fold for all time to come, and we wish to advertise all our friends, who write addresses for the Fall fairs, or articles for the papers, that we are not heretical on this point, and never mean to be. Our readers generally are sound in the faith, and are stirring themselves diligently to intensify the prolific qualities of grass. While all flesh is grass, there is little danger that the verdancy and the truth of this proposition will be forgotten. We beg for our own particular benefit, and that of our readers, that this sentiment may be laid upon the shelf among the fixed facts, and axioms of our agricultural literature. He is a benefactor who makes the sun to shine. We believe this truth just as cordially, as if it was announced in every chapter of the Bible, and bored into us in every sermon on Sunday. The whole world has been convinced for at least two thousand years past, of the benevolence of the man who makes the grass reduplicate its blades. For a small sum we will warrant that the proposition shall not be doubted for the next two thousand years of the world's history, even if no writer alludes to it in any way, shape or manner.

The Southdown Sheep.

Many of our readers are already aware that of the improved breeds of mutton sheep which have been brought into this country from England, we have esteemed the Southdowns as among the very best. Their compact, well-knitted frames, their hardihood, their capacity of taking on flesh at an early age, and their fair fleece of middle-quality wool give them a value to the smaller farmers. They are so available for flesh and ready market, that they are rapidly spreading throughout the country wherever feeding mutton, or rearing market lambs is an object, and railroad transportation is accessible. Thoroughbred Southdowns are, as yet, too valuable as breeders, to sacrifice in mutton; and there is not a likely thoroughbred ram reared, but is worth at least fifty dollars as a lamb-getter, among a flock of common or cross-bred ewes, kept mainly for mutton purposes. As a proof of this fact, one need only stand at our sheep and lamb markets on sale days, to witness the wide range in price which our butchers make in their purchases of good Southdown and long wooled grades, over the common scrubby things so framed that they cannot take on a fair carcase of mutton under almost any given amount of feeding. On the same food, the improved sheep is fat, and plump; the other is lean and scraggy. One brings a profitable return to the breeder, and a fair profit to the purchaser; the other, no profitable return to the breeder, and if the buyer or butcher makes a profit on the carcase, *his* profit comes out of the *consumer*, who is surely a loser in the use of such inferior meats.

We are led to these remarks by receiving from Mr. J. C. Taylor, of Holmdel, Monmouth Co., New Jersey, a sketch of three of his beautiful imported Southdown ewes, bred by Mr. Webb, the celebrated Southdown breeder, at Babraham, Cambridgeshire, Eng. In these cuts are exhibited the fine rotund shape, and beautiful symmetry of the animal as now perfected by their best breeders, both in England and America. Mr. Taylor has taken eminent pains, and been at great expense, to get up a flock of the choicest variety, and from his success in making sales, both at home and abroad, he is doing signal service to the country. A late sale of eight rams, and two ewes to go to California, at an average price of $110 each, fully justifies his enterprize, while it repays the extraordinary outlay in stocking his farm with such valuable sheep. From $300, for some of the choicest, down to $50, for others of equally good blood, but younger, were among the prices; and we have no doubt that the discriminating sheep-breeders of our country will continue to buy, at fair prices, all the good Southdowns which our breeders can rear for years to come. Mr. Taylor recently imported, at the cost in England of $500 paid to Mr. Webb, a fine Southdown ram, "Frank," the highest price ever before paid, except by our friend Samuel Thorne for his celebrated prize ram, No. 112, three or four years ago, also from Mr. Webb, which cost in England, $650, the price at about which he had been *let* at for a single season, at the time, but bought off by Mr. Thorne from the bidder. There are probably at this moment no better Southdowns in England than those now in the possession of Mr. Thorne, and Mr. Taylor, and we congratulate the country that we have amongst us two gentlemen who have exhibited the sagacity and enterprise to thus introduce and establish at once, without regard to cost, the highest standards of quality in this race of sheep.

We are surprised and mortified that the stock farmers of our great feeding districts in the West have hitherto paid so little attention to these valuable sheep. It would cost them but twenty-five per cent. more to bring a sheep to New York worth six to ten dollars at the Bull's Head, than the scraggy thing which only brings three or four dollars; and yet they do it, while the *tools* to revolutionize the whole mutton trade of the country can be obtained for a small percentage on the difference in price of the mutton, when reared. In addition to the extraordinary sheep of Messrs. Taylor and Thorne, some fine flocks of Southdowns exist in the western part of New York, in Ohio, and some other States, from which they can obtain rams to improve their flocks of mutton.



SOUTHDOWN EWES—IMPORTED FROM THE FLOCK OF JONAS WEBB, ENGLAND.

ENGRAVED FOR THE AGRICULTURIST, AND DEDICATED TO THE MANAGERS OF CERTAIN SO-CALLED "AGRICULTURAL FAIRS."

Horse Races at Fairs.

We have heretofore borne our testimony against horse-racing at Agricultural Exhibitions, and urged all sensible farmers to stay away entirely from any so-called agricultural fairs, where horse-racing is directly or indirectly encouraged or allowed; and we have, likewise, been so ungallant as to advise the ladies to make no display of equestrian skill on such occasions. Let Agricultural Exhibitions be such, and such only, and let those who delight specially in fast horses get up their own shows or races. If, however, the advocates of racing insist on showing off their fast horses at the Fairs, we commend to their consideration the following hints from the Springfield Republican :

At every Show there are a class of beautiful horses, of moderate abilities. Like some handsome humans we have read of, they are pretty but not smart. We have a plan to display these at the coming Fair, of course with the consent of the owners. It is said that the inhabitants of Minorca have the following amusement on their list, viz., *a donkey race*, in which there may be from twelve to twenty competitors. The rules of the race are, that no owner shall ride his own animal; that no one who starts shall turn back, or stop; and that the last one at the goal shall be considered the winner. Of course, it is for the interest of every aspirant for the prize to urge on the donkey on which he rides, so as to keep ahead of his own, ridden by another. It must be a very comical and ludicrous sport, and being a very unusual thing, we throw it out as worthy the attention of the horse-committees at the approaching Fairs.

Laurels and Rhododendrons.

Can anything be more beautiful than these native evergreen shrubs? Whether *we* prize them or not, our cousins across the water do, esteeming a collection of "American plants" among the choicest embellishments of their lawns. American taste runs too much after foreign trees, shrubs and plants. Anything from England or Scotland, is very fine; whatever comes from Austria is a little better; from northern Asia, or from China, or Japan, it is superb; and if it is tender, difficult to manage, and withal quite costly, it is unsurpassable!

Would it not be better for us to be more eclectic?—first, collect whatever is truly valuable at home, then obtain those of real worth elsewhere; despising nothing because it is native and familiar, and running after nothing simply because it is foreign and strange.

Many persons refrain from attempting to cultivate the laurel, holly, and rhododendron, because they suppose that great pains must be taken in selecting a suitable aspect for them, in making an artificial soil, in watering and mulching in Summer, and in protecting them in Winter. And they have been told that many persons who try to cultivate them, soon lose them, and that in no case do they thrive as well as in their native habitats. Let nature, they say, raise her own laurels and hollies, and we'll raise hollyhocks and lilacs.

We have read of an amateur, who, having failed with these plants in the common soil of his garden, tried a peaty earth from the side of a ravine, with perfect success. He considered the lime which is found in most soils, to be poisonous to the roots of these shrubs. The earth on the sides of ravines, he thought, was leached pure of all lime, by the rain which had filtered through it for many years. Though his theory was probably incorrect, his practice was eminently successful. We throw out the hint here for the benefit of any who may have been discouraged in their first attempts with this tribe of plants.

From our own experiments, we are satisfied that these plants may be grown well, if the following rules are attended to, viz:

For the laurel and rhododendron, prepare a bed by excavating the soil eighteen inches or two feet deep. Then fill up the cavity with a mixture in about equal parts of good garden soil, muck from the woods, and sand. This *depth* of soil is needful, because these plants require constant moisture at the roots; and this can be obtained better by having underneath them a deep, finely pulverized soil, than by constant watering. This *quality* of soil is needful, because it better suits the constitution of the plants, than does stiff clay or rich loam.

In planting them, do not bury the roots deep, but rather set them near the top of the soil, spreading out the fibrous roots, and covering them with an inch or too of earth. After planting, give them a good sprinkling with rain water, and then mulch the whole surface of the bed with forest-leaves, two or three inches in thickness, fastening them down with small flat stones. In preparing the bed—we should have added before—do not fill up the excavation quite to the surface. but leave a depression below the surrounding ground, of two or three inches. This is important, to catch the rains from the neighboring surface, and to allow of a good thick deposit of leaves for mulching. This mulching is very useful in Summer to retain moisture, useful in Winter as protection to the roots from hard frosts, and useful all the year round, in affording nutriment to the plants.

But there is another thing as important as the above: and that is, *shelter from the sun*. Those plants are found wild mostly in the shade; they succeed best in such situations. For a single row of plants, it may answer to make a bed on the north side of a high, board fence. But for an oval or circular bed, containing a good collection, some wider spreading shade will be necessary. The north side of a house will answer, if the bed is

also sheltered from harsh north and west winds. Or a bed shielded by evergreens on all sides will do well. The shade of deciduous trees is not sufficient, because it is so meager in Winter. A bed in our own grounds, so prepared and sheltered by evergreens, has succeeded the past year, as well as could have been desired. Our little collection of laurels and rhododendrons is helped out by a few azaleas, mahonias, boxwood, prinos glabra (Inkberry), &c.

Raising Chestnuts.

When ornament and utility combine in a shade-tree, it deserves universal recommendation. This is the case with the chestnut. Its fruit is desirable, its timber is valuable, and its form and foliage are pleasing to the eye. The tree is also of rapid growth.

Many persons, however, fail in their attempts to germinate the seed. Their failure is owing, doubtless, to their allowing the nuts to become dry before planting. A few days' exposure to the sun and air, is sufficient to shrivel the germ beyond recovery. The only sure way of growing them, is to plant them as soon as they are gathered from the tree, or at least to cover them with moist sand until the ground is prepared for planting. In planting, cover them an inch and a-half deep, if the soil is heavy; or two inches if it is sandy. Some recommend to follow nature a little more closely, and to bury the seed only about an inch, and then to spread over the surface a coat of rotten leaves, to keep the ground moist and soft.

Degeneration in Cultivated Plants.

To the Editor of the American Agriculturist:

It is a well-known fact that some varieties of seeds, when raised for a long time upon the same soil, fail in their productive properties, or as the farmer says, "have run out," and need changing. Hence the recommendation frequently given, to obtain new seed from a distance. Let us examine the theory for a moment.

Plants, in regard to their procreative qualities, are of two kinds, one containing generative virtues within itself, and the other requiring to be fertilized or impregnated with a substance from another plant of its kind. It is easily shown that a plant of the latter class, when grown by itself, or guarded against any connection with another of its species, loses its reproducing powers.

The analogy between the vegetable and animal kingdom is here sought to be established, where a violation of the laws of physiology, or of Nature, is as ruinous to one as to the other. Every man engaged in stock raising knows the ill effects of breeding in, and I think every one interested in vegetable culture should equally guard against violating the same laws. By constantly sowing the same seed we generate from kindred relations, which it is but natural to suppose will tend to degeneracy. I think the proper plan is to procure a portion of the seed from abroad, and mix with the home grown, or better still, procure it from two distant and opposite localities, mixing before it is sown, or planted. D. M. N.

Caledonia, N. Y.

Somebody says: He who marries for beauty only, is like a buyer of cheap furniture—the varnish that caught the eye will not endure the fireside blaze

The Orchard....IX.

THE QUINCE.

This is a valuable and much esteemed fruit throughout all the United States. Like the pear, however, it is capricious in its choice of soils, climate, and position. In places suitable to its habits and growth, it thrives, and yields its fruit in regularity and profusion. In places unsuitable, it is refractory, and, if growing at all, is short lived at the best, and yields, fitfully, but imperfect and inferior fruit. Much, however, in this last respect, may depend on cultivation, and deficiencies of soil, climate, and position, and may be partially overcome by extraordinary care, in which no specific directions can always be given, but only thoroughly ascertained by the cultivator through a course of experimental treatment to a successful result.

SOIL CLIMATE AND POSITION.

A warm, rich, deep, gravelly loam, or a heavy, rich, clayey loam, resting on a *dry* bottom, are, perhaps, equally congenial to the perfect growth of the wood, and the perfection of its fruit — in either case, the soil having a good drainage. The best cultivation should be given by keeping the earth free, mellow, and rich with ordinary manures, and occasional lime, ashes, salt, and bone earth, when such elements are absent in the natural soil.

As to climate, probably 40° North to 43°, is its favorite locality in the United States, although various localities, both north and south of the degrees named may be found quite as congenial.

In position, the quince delights in a warm, sheltered spot. It loves the sunny nook of a garden, or a place near the kitchen door where it can receive a portion of the wash of the house, or a sunny declivity passing off from the barn-yard. We have known wonderful trees, both in growth and bearing, so situated, showing, that although it may flourish in the open orchard, it loves to nestle in a rich corner, and puts forth its greatest feats of production in the most favored localities. It delights in the bank of a small, quiet stream, high above its floods, dry shod, yet attainable of moisture when needed. Still it is not imperative in its demands of all these. It will thrive, when it thrives at all, in any ordinary soil, and on any good fruit site, with fair cultivation. Its root is closely fibrous, as its top is compact, and therefore it draws heavily on the nutritious quality of the soil around it, requiring frequent applications of manure, and occasional trimming, or thinning of its top. Its *natural* growth is shrubby, or that of pushing several branches from near the ground, which can only be counteracted by close pruning in giving it but a single stem — the best form, on the whole — but with a low head, not reaching more than twelve or fifteen feet in height to its topmost branches.

PLANTING.

Sixteen to twenty feet apart, according to soil and position is the proper distance at which to set them in the orchard, or, if in a single row they may be twelve feet distant only. In any case, separate trees should never intermingle their branches as they require abundance of sun and air to develop their wood and fruit. Large holes, well mixed earth, thorough planting, and good cultivation, as in other choice fruits, are the only treatment under which a *profitable* quince tree, or orchard can be obtained; and with these, and a genial locality, under otherwise favorable circumstances, the culture of the quince can usually be successful.

VARIETIES.

Although several different varieties are named in the nursery catalogues, the orange, or apple is the only one which we can recommend for a sure crop, and a profitable yield. It is, too, the best for preserves, and marmalades, the chief uses to which its fruit is devoted. There are larger, and perhaps more vigorous growths of wood in some varieties, as the Pear quince, Portugal, and Angers; but the fruit is harsh and unflavored, compared with the orange, and we would not recommend them for household, and market purposes. The orange is, withal, a constant bearer, and reliable in all ordinary fruit seasons, and being the latest of all *tree* fruits to bloom in Spring, rarely fails in a crop.

ITS DIFFICULTIES

These arise chiefly from the borer — that pestilent, persevering insect which infests our apple trees. We have seen trees, which gave an annual yield for the past twenty years paying an interest on fifty dollars each, which in three years were cut down with the borer. Many people suppose, and so write it in the books and papers. that a wire, or knitting needle pushed in after it has commenced its ravages will kill it; or that cutting into its sinuous course beneath the bark, and into the vigorous sap wood just beneath where its ravages chiefly lie will do the business; but an examination of its tortuous course after having entered through the bark will show that the wire often punches at nothing but unoccupied wood, and leaves the worm untouched, while the knife, in cutting after its prey, destroys nearly as much more, bark and wood, as the wretch itself has done in its work of destruction.

In short, we have no sovereign specific for this terrible pest, although very good suggestions are made in the July and August *Agriculturist*. We do not say the creature cannot be extirpated, but we have thus far been so unfortunate as to find no sure and infallible preventive of its ravages.

Another formidable, but altogether different enemy, within the last three years, has been the absolute killing of the quince, body and branch, by the severity of the Winters, particularly those of 1855-'6, and 1856-'7 in northern latitudes. Thousands of the finest old trees, for many previous years in full bearing, fell martyrs, apparently to the severe frosts of those extraordinary Winters. These, however, may be considered only as casualties, and should not deter our pomologists from their efforts at quince cultivation, and such severe action of the elements may not again occur in a lifetime. We have, however, witnessed a successful effort in quince culture, so successful in itself, that, without recommending it on so frail an experiment as the single trial which has come under our notice, we will proceed to mention it for what it may be worth, and recommend its trial by others who from defects in either soil, climate, locality, or the ravages of insects, may have been unsuccessful in their efforts. It is

GRAFTING THE QUINCE ON THE NATIVE THORN.

There is now living, and in successful bearing, an orchard of some scores of quinces, which more than thirty years ago were grafted into the branches, three, four, or five feet above the ground, of native thorn trees growing on a piece of rocky limestone soil, near the shores of Lake Erie. On those branches, young and vigorous, growing up wild and promiscuous as nature planted them, the grafts were inserted, and without any particular cultivation beyond what was given to the various grain and grass crops annually taken from the land on which they stood, we

have seen beautiful crops of fruit of the orange variety, The thorn, as we all know, is a small, compact grained wood, about the size of the quince at full maturity. It is wonderfully hardy, growing pertinaciously against the roughest treatment, and oftentimes an obstinate pest in pasture grounds. Yet, it takes kindly to the quince, and we have rarely seen finer crops of the quince than have grown on these scattered, and much neglected thorns.

In trying this plan we would take wild and thrifty young trees from the outskirts of woods, or pastures, in the Fall or early Spring, with as large balls of earth around them as we could obtain and plant them properly in rich, mellow earth, pruning them down in due proportion with their roots, and having given them a growth of one or two years as their thrift should govern, insert the quince grafts, which, growing, we would take off all the thorn wood and give the whole growth thereafter to the quince. The root of the thorn is widely different from that of the quince, being spreading, and stretching far out in the soil, while that of the quince is close, and fibrous. Otherwise, in wood and top, they grow much alike. Few insects injure either the root, or wood of the thorn, and so far as our observation occurs, no extreme of either cold or heat has affected it.

Our readers will receive the above opinion, based upon *one* successful experiment only, as suggestive, and not in any way as recommending it for *extensive* trial, or the outlay of any considerable capital, or labor in its execution, until successfully proved. We know the quince to be a valuable household and market fruit; and wherever it succeeds is exceedingly profitable to the orchardist, and, consequently, worthy of some pains in its cultivation.

Cider Making—Treatment of the Pomace.

The cider season — what there is of it for this year — will soon be round, and we have a word to say about its manufacture. We are not particular as to what kind of cider mill our friends may prefer to use, whether it be the old fashioned cog, or grooved wooden mill; the grater, of different varieties; or the Hickok, and other recent patents. Any mill which will thoroughly *mash* the apples into a fine, pulpy pomace, is good; but to make good cider, having the full, well matured juice of the fruit in it, giving it *body*, and keeping quality, it is indispensable to have a vat sufficiently large to hold the pulp as it comes from the mill, and keep it for *at least* forty-eight hours.

Pomace fresh from the mill is green in color, and crude, weak, and watery in consistence. To give it the proper quality for *good* cider, after grinding let it lie in the open vat in the *pure* open air turning it over with a wooden shovel thoroughly twice a day for two days, any way, and three, or four, if cool weather, that every part of it may be well exposed to the atmosphere, and imbibe its oxygen, which sweetens, ripens, and colors it. Then lay it up, leisurely, and before the screw is applied to the cheese, let it run all that it will. Apply the screw, gently at first, so that only a small stream will run, increasing the pressure as the running diminishes. By this process you obtain a heavy *must*, rich in its saccharine, and vinous qualities, and when properly strained off a *perfect* article for boiling down with sauces, for the table, and for vinegar. One gallon is worth two of the crude apple-juice — not cider — run rapidly through the mill, and then pressed out in a hurry an hour afterwards. We gave full directions for keeping cider, for selecting apples, &c., in our January number, on page 22 of the present volume, and refer to that for further instruction.

How to Make Good Cider.

To the Editor of the American Agriculturist:

There is hardly a tithe of cider made now as compared with forty years ago. Many of the old orchards have died out, and the temperance reform has prevented their renewal. The market for fine fruits has greatly expanded, and nearly all the trees now planted are for the production of market apples. It took eight bushels of apples to make a barrel of cider, and the barrel sold for only a dollar. Apples now bring every year from fifty cents to a dollar a bushel. Fruit growers can hardly be expected to lament the change that is so much for their pecuniary interest.

Yet cider is still made all over the country in small quantities, some for the apple butter, some for vinegar, and still more for a beverage. When bottled and properly handled, it is as palatable, and much more wholesome, than most of the wines of commerce. In affections of the kidneys it is an excellent remedy, and should have a place in every well appointed cellar. It is a matter of some importance, that what cider is made, should be made in the best manner.

The apples should be well ripened, but not in the least decayed. Every apple with the least speck of rot in it should be removed, if you wish a first rate beverage. The decayed and inferior apples may be reserved for making vinegar. Perfect cleanliness should be observed in the grinding process which should be performed two days before pressing, and the pomace be permitted to stand and mellow in the vat, until it assumes a deep red color. Clean dry straw should be used in forming the cheese. If the straw be musty, the flavor will be communicated to the juice. If water be added, it will make it hard and unpleasant to the taste. The casks, also, in which it is put for fermentation, should be thoroughly cleansed, and finished off with a fumigation of brimstone. This is done by burning inside the barrel a few strips of canvas, dipped in melted brimstone. The fumes will penetrate all the pores and destroy the must and correct the sourness. After the fermentation is over, draw off into clean barrels, and clarify it. This can be done by mixing a quart of clean white sand with the whites of half a dozen eggs, and a pint of mustard seed, and pouring it into the barrel. It may stand in the barrel, or, if a nice article is wanted, it should be put into quart bottles and corked.

This cider will be fit to drink in case of sickness, and will always bear a good price in market. It retails at twenty-five cents a bottle, and would bring at least two dollars a dozen, by the quantity. This is much better business than to make a poor article from decayed apples, in a slovenly manner, and sell it for two dollars a barrel.

NEW ENGLAND.

By forgetting injuries, we show ourselves superior to them; he who broods over them is their slave.

Inherited riches can not purchase ornaments for the mind; these must be acquired by each possessor.

Beauty without honesty is like poison in a box of gold.

Birds.

MR. AND MRS. ROBIN RED-BREAST.

Much as we love the birds, and unwilling as we are to shoot down the songsters which surround our homes, we must yet bear testimony to the real character of some of them, from whom we had hoped better things. First and chiefly, let the robin step forward and receive sentence. Dear red-breast, of whom we heard in our childhood, so tenderly covering with leaves the babes in the wood, and who, we have long been told, lives chiefly on insects, stopping only now and then to take a cherry for dessert—dear old bird we have a charge to bring against you.

As to your living upon insects it is not true. You have nested in our orchard the past Summer, and though the trees have been infested with worms, crawling even around your nest, you have left them unmolested, and robbed our cherry-trees. The worms you have been seen to eat, were the common angle-worms, which you might as well have let alone, for they pulverize the soil, and do little or no injury to plants. But our cherries, how you did steal them as fast as they ripened! You cared little for the rarity and expensiveness of our fruit, but you swept the board clean, daily, leaving none for manners' sake. Had you been a bird of proper sensibility, you would have noticed our old hats, old coats and pants, those flaring pieces of tin, and other striking things hung up in the trees to warn off intruders, but you stupidly paid no attention to them.

And having stript our cherry-trees, you came to our strawberry patch, just ripening its tempting clusters, as we supposed, for our own table And you brought along the younger members of your family—a hungry multitude. We soon found that you were good judges of the quality of fruit. Why don't the pomological societies call in a tasting committee of robins to decide about flavors? Surely, you know what good fruit is. Burr's New Pine and the Hooker Seedling, it is your unanimous opinion, stand first in deliciousness. They are good without cream and sugar. Albany Seedling, Early Scarlet, Hovey and such, are well enough "for market purposes;" but for something to please the palate, like nectar and ambrosia, you know where to find better.

You not only stole our berries yourself, but your example brought flocks of yellow-birds. What adroitness you all showed in accomplishing your purpose. Alighting some distance from the patch, as if engaged in lawful business, you soon approached it on all sides, running stealthily under the bushes and leaves, until at length you were in the midst of plenty.

As soon as the strawberries were gone, you were ready for our Antwerp and Orange Raspberries. Yes, you, so-called, "insect-devouring birds," left our cucumbers, melons and squashes close at hand, to be ravaged by bugs and worms, while you swallowed down our berries by the quart!

Nor is it a trifling charge that you devour the berries of ornamental shrubs and trees in the Autumn; such, for example, as the Tartarian Honeysuckle and the Mountain Ash. It is a nuisance to have these trees stript of ornament.

All things considered, we regard you a greater pest to the horticulturist than the hated cherry-bird. And yet, while truth compels us to bring these charges against you, we love you still, and will not harm you. No stalking Nimrod shall hunt you down, within our premises. At times, when your bad manners provoke our indignation, you may expect to hear a lump of dirt come whizzing about your ears, or Carlo may make you

quake with his barking; but beyond this, you have nothing to fear.

We love you for the bravery of your early advent amid the snows of Spring, heralding with your song the grand concert of the flowery season. We love you for the generous confidenee you repose in us, hovering about our dwellings, and building your nests even in our porches and doorways. Without the life and motion which you and other birds give to our landscapes, how dull the scene would be!

Yes, we think a great deal of you, and will treat you tenderly. Now, please reciprocate our affection, by treating us with better manners in the garden and fruit-yard! Please do!

Experience in Raising Melons.

We gave ample directions for growing melons, in the *Agriculturist* for May; but we wish now simply to make record of our experience the present Summer. In accordance with the directions in this paper, we told our gardener to dig out holes in the ground, eighteen inches deep and two feet square, to put a little fresh manure in the bottom of the pit, and then to fill up with a mixture of rotted turf, leaves, sand, common soil and old manure, in about equal proportions. We used this recipe, because the corner of the garden which we wished to devote to a melon-patch, was a cold stiff clay soil, and needed a good deal of amelioration.

The melon seeds of four choice varieties were planted, and came up finely. They grew well, too, for a week or ten days, and the gardener received all due praise for his skill in preparing melon soils. But alas! After a heavy rain, our vigorous plants began to die, as if smitten by a sudden plague. A little examination showed that they were eaten off below ground by worms. We now asked the gardener how he had prepared the soil for the melons. What was our surprise to learn that he had forgotten most of our directions, and had filled up the holes with fresh horse manure nearly to the top, and covered it with only two inches of good soil and sand! The plants prospered until their roots struck down into the fresh manure, where in rainy weather the worms abounded. The case was a desperate one, but we resolved to try and save the remainder of our plants. So, having thoroughly soaked the hills with water from a sprinkling pot, we took up the young melons with balls of earth attached and laid them in the shade. The mass of half-decomposed manure was then mostly thrown out of the holes, and its place supplied with the ingredients mentioned at the head of this article. The young plants were then carefully reset and covered to keep off the sun. By uncovering them every night and shading them for several days, they at length became re-established and began to grow again. The vines are now loaded with handsome fruit, and promise soon to reward all our labor.

We give this detail of our experience, to caution others against the too free use of fresh manure in making beds for melons. For clay soils, a mixture of sand and old manure is very important; and if rotted turfs and muck from the woods are added, it will be all the better.

Lima Beans six feet High.

Who that has once tasted this delicious esculent can wish to spare any needful pains in cultivating it successfully? Many persons plant it in the richest soil, and give it the full liberty of a twelve or fifteen feet pole. The consequence is, that in gardens at the North, the upper half of the vine is practically useless. The strength of the plant is wasted in making branches high up in the air, which cannot mature pods before frost sets in.

North of New York city, Lima beans should be pinched in as soon as they have reached six feet in hight. They will then throw out laterals, on which pods will form and ripen before cold weather begins. And the whole vine will be within easy reach and management of the cultivator.

Pœony.—*Pæonia.*

The genus *Pæonia* embraces an extensive class of herbaceous and woody plants. More than 200 distinct varieties have been cultivated by name, and new seedlings of more or less merit are being constantly brought forward. As a class they hold a high rank for beauty of appearance, while many of them are quite fragrant. In color they range from scarlet and red to pure white, with all the intermediate shades. Most of the herbaceous kinds, like the one shown above, have a very full double bloom, while some of the Moutan species have large single flowers.

The more common varieties have been cultivated for the past 200 years, and the oldest inhabitants all seem familiar with what almost universally found a place in their mother's flower bed, viz: the "*piny*" as they were wont to call it.

The *Moutan or tree* variety, on the contrary, is of recent introduction from China, by way of England. In its native country it is held in high esteem, and very extensively cultivated by all classes. Like the herbaceous species, it is perfectly hardy in this climate, and is a profuse bloomer, single plants sometimes producing from 50 to 100 large sized flowers at one time. Both species are perennial in *root*, and the tree variety partially so in its branches. Each is propagated by dividing the bulbous roots and resetting. The best time is in the Fall, say in October in this latitude, and in November at the South. They may also be put out early in the Spring. A few years ago when there was a great demand for the Chinese species, propagators divided the roots into very small portions, and making numerous short cuttings of the new succulent wood, engrafted them upon the roots and thus multiplied them very rapidly. They can now be obtained of most nurserymen and florists. The herbaceous varieties are sold at 25 cents to $2 each, according to newness or choiceness of variety. The Moutans or tree varieties, at 50c. to $3 each and upwards. Some of the best common herbaceous kinds are the *Peregrinum, Grevilli, Whitlejii, Odorata, Carolina, Humei*, &c.; of the Moutans, the *Phenicea, Rosea Odorata, Incarnata, Papaveracea*, &c., are well known and highly esteemed. Other fancy varieties are held as high as $10 to $12 each. These last will of course be sought after only by the amateur.

Rhubarb.

IMPROVEMENTS, CULTURE AND VALUE—BY A PRACTICAL GROWER.

To the Editor of the American Agriculturist:

Within the past few years, Rhubarb or pie-plant has become one of the heaviest and most profitable articles produced by the market gardeners of our cities. The quantity raised for the city of New York alone is immense — 50 or 60 wagon loads arriving daily at a single market, are disposed of freely at remunerating prices. We have reports of sales from several sources amounting to from $200 to $400 per acre, and in a few instances this amount has been largely exceeded. This increased consumption is owing no doubt to improvements in the quality of the article. There is as much difference between the best rhubarb of to-day, and that of a few years since, as between the Bartlett pear and the choke pear of our forefathers. Formerly rhubarb furnished us only a tough and stringy pulp, with a rank acidity very uninviting to the palate, while we now are in possession of varieties which, when well cultivated, are tender as an apple, with an inviting and lively flavor, more sprightly than from any of the apple genus. These kinds of rhubarb are especially valuable for being the first and only fresh fruit of early Spring.

We are indebted chiefly to England for the high perfection attained by this plant. American gardeners have succeeded in obtaining fair varieties of seedlings, but inferior to those grown by our transatlantic competitors who have devoted more time and attention to this plant. The Linnæus, Victoria, and Giant, are the best English sorts procurable in the United States; Downing's Colossal, and Cahoon's Seedling are the most noted American kinds. Cahoon's is enormous in size, but is too stringy and tough, and has too much of a disagreeable rank flavor to be highly recommended. Downing's Colossal is good; still Charles Downing, its propagator, himself classes it as second to the Linnæus, both in productiveness and flavor, and I entirely coincide with him in ranking the Linnæus as the best variety of all. It is entirely free from stringiness, has a very delicately flavored and tender pulp, and is unusually productive and the earliest and latest in the market.

The Victoria is also excellent, and in well cultivated ground quite tender, with a pleasant flavor, but it matures a week or ten days later than the Linnæus, does not continue good so long, and it is less profitable for marketing. The Giant, a large, green variety, is coarser and later than either the Linnæus or Victoria.

For the proper cultivation of rhubarb, the soil should be rich and deep — "high farming" with this plant is well repaid. The most inferior variety in the garden, if taken from its customary neglected corner, and supplied abundantly with manure, and allowed a good exposure to sun and air, will double its crop and improve in quality almost the first season.

For field planting, I would advise the soil to be plowed 15 to 18 inches deep, and well enriched with stable manure. I would plant in Fall or Spring, and set the crowns about three feet apart each way, and mulch them with stable manure or any convenient litter, though this is not absolutely essential. I think a loamy or somewhat moist soil is best. Rich soil generally insures a strong growth of weeds, but they need not be feared, as

the rapid growth and mammoth leaves effectually check all noxious vegetation, thus dispensing with much of the outlay generally necessary for weeding other plants.

The best time for planting out rhubarb is in Autumn, as soon as the leaves die out, say the last of October, since this secures an earlier and better supply for use the next season. It may be planted in Spring, however, and yield somewhat the same year. The whole *roots* give the best immediate results, but each root is usually divided into six or eight *crowns* or separate pieces, which are sold by the dozen or hundred.

POMARIUS.

REMARKS.—We will add to the above, that every family may and should have a few rhubarb plants. In the Spring of 1857, we put out eight *roots* of the Linnæus, and three *roots* of the Victoria, manuring well with bone sawings. They gave about a family supply the first season, and this year furnished abundance for ourselves and a neighbor, and we are still using the Linnæus, which we prefer to any other. We know of no better "fruit" for *early* sauce and pies. We repeat, let every family put out a few roots, or crowns this year. Read the article on a succeeding page respecting a succession of summer fruits —ED.

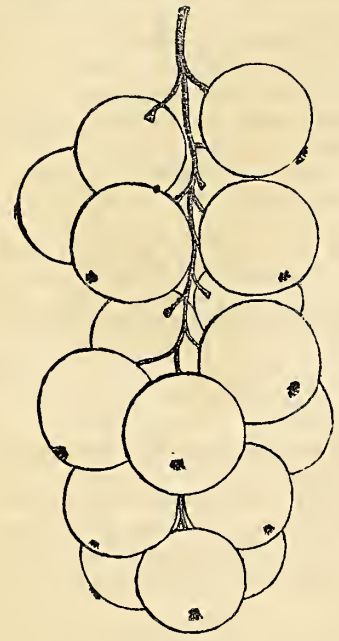


Fig. 1.

The Cherry Currant.

ABOVE we give a good representation of the Cherry Currant, which is of large size, although the bunches are not as long as some other varieties. The berries are of a deep red color, semi-transparent, a little more acid than the red Dutch and of nearly uniform size even to the end of the bunch. It is productive, and of such large size, when properly grown, that the fruit readily brings a high price in market, measuring one-half to five-eighths of an inch in diameter, as will be seen by the engraving which is an exact representation of a bunch of the fruit.

The very large size of this fruit in the hands of amateur gardeners is, in part, due to the treatment such persons are wont to give the currant, and which would produce a marked improvement in the size of the Red Dutch, or other kinds. The too common method of allowing the bushes to throw up numerous suckers, as seen in fig. 2, without ever cutting out or pruning the old wood, keeps the bushes unthrifty, and in poor condition to mature a crop of good sized berries. On the contrary, if trained to the *tree* form seen in fig. 3,

Fig. 2.

Fig. 3.

heading back and cutting out each year, as necessary, all the forces of the plant are thrown directly into fruit rather than superfluous suckers. To secure the last form, take cuttings of eighteen inches in length and, with a knife, pare out the buds from one foot of the lower end and insert six inches in the soil. This will give a *trunk* of six inches in hight, which is quite sufficient. Let no suckers shoot up, nor leave side branches below that distance. By cutting back, from time to time, next to buds upon the sides you wish it to extend, a shrub, or tree of any desired form may be produced

Fig. 4.

Fig. 4, sketched from a bush in our own grounds is, perhaps, as good a form as any, its open head admitting sufficient sun and air into the center to fully perfect all the fruit. The mode of treatment to produce this last was minutely given on page 112 of Vol. XVI.

Peabody's Strawberry Again.

Last month, page 246, we gave our own experience and impressions in regard to this variety, which has called out numerous responses both for and against it. From all these reports we conclude that in some localities and with some kinds of treatment it succeeds admirably and gives the highest satisfaction, while in other places, and with different treatment it fails to fruit well. What is the most suitable soil and treatment to produce the best results we are unable yet to gather. In our own case, the soil was somewhat stiff, but made pretty good by previous manuring, and a free application of bone sawings was added, as before stated. One neighbor succeeded equally well with ourselves, on a poorer soil, while another with a fair soil moderately manured with horse droppings, obtained but a limited amount of fruit, though this was large and of a very excellent flavor. Of its superior flavor, deep color, and solid, marketable character there is no room for doubt. We can but hope that by cultivating it in hills, and checking the growth of runners which it sends out in great numbers, it will be found abundantly productive. in which case we shall rank it in the first class.

Geo. W. Robinson, of Onondaga Co., N. Y., writes under date of Aug. 3: "....In the Spring of 1857, I received a dozen plants from Georgia, by mail, and with care saved eleven. They grew vigorously without fruiting, and when I uncovered them the past Spring they appeared more vigorous than any one of 13 other varieties I have under cultivation. From my bed 5 by 17 feet I picked 14½ quarts of large delicious berries. The measurement of some of the largest was as follows: 3.9, 4, 4.2, 4.3, 4.4, 4.6, 4.7, and 5 inches in circumference. With my experience thus far, were I to choose, for garden culture only, two varieties from such as I am acquainted with, they would be Peabody's Seedling and Wilson's Albany Seedling...."

One Little Strawberry Plot.

If any body is content to do without an abundance of luscious strawberries, or to depend upon gathering the little wild things that grow in the fields, we do not envy their contentment. Here is our report with one little bed, just six feet wide and sixteen feet long, that is, a little more than *one-third of a square rod.*

May, 1857, we set out upon it 36 plants, half a dozen each of Longworth's Prolific, Hovey's Seedling, McAvoy's Superior, Large Early Scarlet, Burr's New Pine and Gen'l Jaquemont—the last named about worthless. Cost of plants 87 cents. The soil, a light clay loam made rich by hog manure in previous years, was deeply spaded, and four quarts of bone sawings (costing 13 cents,) were mixed with the soil in which the plants were set. We intended to cut off all runners and keep the plants in hills, but by oversight they got mixed, and no further attention was given to them except to pull out all weeds, and cut off with a spade all runners striking out into the surrounding path.

This year that bed supplied a *measured bushel* of large berries, besides a considerable amount eaten directly from the plot. A dollar and a half will cover the entire expense of the bed, labor included. We are now cutting out the superfluous plants and shall look for another bushel of fruit next year. Don't this *pay?*

White Native Strawberries.

To the Editor of the American Agriculturist:

I wish to call your attention to what is, to me, a new variety of Native Strawberries. The berry is larger than the wild red, of a *white* or *cream color*, and of a delicious pine-apple flavor. The leaf is smaller than that of the red variety, and of a lighter green. I think it has several advantages over the native red, one of which is the facility with which it parts from the hull. In picking two quarts yesterday, I could not find a hull attached to a single berry. They are ready to be dished out upon the table as soon as gathered and sugared.

I am located in the woods, among pine and hemlock timber, and this strawberry is found interspersed among red ones, over a tract of about twelve acres, used as a pasture.

FREDERICK HUNT.

Cattaraugus Co., N. Y., July 2, 1858.

REMARKS—We have grown the White Wood and Alpine Strawberries of Europe, but we believe this is the first indication that a branch of the same family is a native of this country. They may prove worthy of cultivation.

The Fastolff Raspberry.

So far as our own experience goes, this is one of the best raspberries for *home use*. It is too tender for distant marketing. The berry is of large size and excellent flavor, and very prolific. We will give an example. Seven plants were set four feet apart against a board fence on the west side of the garden, late in the Spring of 1856. They grew fairly and produced some fruit. The thrifty new canes bore well in 1857. Only 14 new canes, two in a hill, were saved for this year. They were trained against the board fence by nailing strips of leather around them, and during last Summer they were shortened at the top to four feet in hight, which induced numerous short side shoots. Now for the result. This year, in four weeks, we picked from the fourteen canes over *twenty* quarts of superior large berries for the table, besides what was eaten in the garden. As these stood close to the fence and are trained against it, and no straggling branches were allowed, they occupy very little room. Indeed, radishes and lettuce were raised on the ground around the canes. Here, then, is over half a bushel of fine berries produced with almost no expense. One dollar will amply cover the entire outlay for the original plants and all the time spent upon them, and the entire yield has been over a bushel of fruit. Comment is unnecessary. It should be stated that the soil is a good one, was deeply trenched, and it has been well enriched, first by a little bone sawings in the hill, and afterwards by frequent waterings with sink slops.

Brinkle's Orange Raspberry.

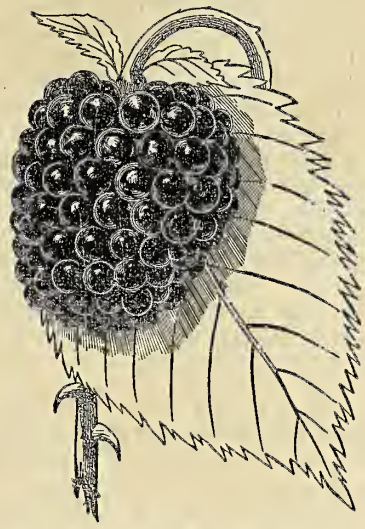
This is an American seedling originated by Dr. Brinkle of Philadelphia. The canes are strong and hardy, but require Winter protection. The fruit is of large size, conical, and varying from palish yellow to bright orange in color, and of firm flesh and fine flavor. It is a profuse bearer, holding and ripening its late berries better than most other varieties and is gaining popular favor, especially as a market fruit, on account of its fancy color and bearing transportation well.

The Allen Raspberry.

Of this we hear favorable reports from various quarters. Last Autumn we put out a quantity of the plants, side by side with the Red Antwerp. They were hastily put into the ground standing upright, the canes being cut down to about two feet high. They received no protection or attention of any kind during the Winter. In the Spring, every cane showed life to its very top, and considerable fruit was produced. So far as we could observe, the berries appeared nearly the size of the Antwerp growing near. Nor could we see much difference in the quality of the fruit, though the Allen variety was rather the sweetest. Taking into account its perfectly hardy character, we think it well worth cultivating.

Bagley's Ever-Bearing Raspberry.

We received a box of the fruit of this variety about the first of August. The berries are of moderate size, very good in flavor, and contain rather too large a cavity to bear transportation well. They are similar to wild varieties we have seen. The chief recommendation claimed by those who are familiar with them, is their hardy character, and continuous bearing. We cannot speak further from personal experience or observation.



The New Rochelle Blackberry.

The great value of this plant is now so well established, and has been so frequently set forth in the columns of this journal, where its merits were first brought before the public, that it would seem superfluous for us to add much more. Our own canes have borne luxuriantly the present year, and so have those of our neighbors, and every one we have talked with speaks of it in the highest terms. We have not seen or heard of any serious injury from winter-kill in this latitude. A few of the new canes starting from the ground this season, which were not shortened in, are 8 to 12 feet high, and an inch in diameter at the base. We advise keeping down the canes to about five feet in hight by clipping the tops, which developes a large growth of side fruit spurs for next year's bearing. The berries are of great size, well flavored, and the melting pulp contains very few seeds.

We present above an engraving giving the exact size of a berry. This is a large specimen, but not exaggerated, for we have handled hundreds as large. The average size of the fruit is not far from an inch in diameter.

The yield is so large that a candid statement would hardly be credited. Aug. 2d, we made our fifth annual call upon Messrs. Geo. Seymour & Co., of South Norwalk, Conn., and examined a half acre on which the canes are kept in hills 6 feet asunder, in rows 8 feet apart. Several gentlemen experimented by picking and measuring hills of average production, and the amount then actually growing upon the half acre was estimated at between sixty and seventy bushels, or over 130 bushels per acre, and this too, where the canes were kept so widely apart for the convenience of visitors. They have between four and five acres more where the canes grow more thickly, and the product of berries is, of course, much greater. The same parties have established a plantation of several acres in New Jersey, not only for raising plants for sale, but also to raise berries for market, and they will find their money in it, and so will others who go early into the culture. This year there is in this city a demand for the berries at twenty-five cents a quart at wholesale, very greatly in excess of the supply, and this will continue for some years at least. Indeed, parties make a standing offer of 25 cents per quart for all the fruit they can get, to make into blackberry wine. We have examined a very fine wine made last year by putting the juice of 80 quarts (2½ bushels) of the New Rochelle Blackberries with 86 lbs. of sugar into a barrel of 31½ gallons and filling up with water. As 80 quarts of berries give about 50 quarts of juice, and the barrel contains 126 quarts, the water and sugar together amounted to 76 quarts, or 1½ times the bulk of the blackberry juice.

Calling the berries 25c. per quart, and the sugar 12c. per lb., as it is now very high, we have $20 for berries, and $10 for the sugar, or $30 for 30 gallons of wine; or $1,00 per gallon, which is much below the wholesale market value — enough so to cover the labor of making—and a *profit*.

But 25 cents per quart will pay splendidly for growing these berries; they can be profitably raised for 6 cents a quart. We give these particulars because we believe that there is here a good field open for profitable investment, for those who have the requisite facilities of soil, etc., for going into the culture.

Newman's Thornless Blackberry.

The above engraving of this fruit has been prepared for the *Agriculturist* by Mr. A. A. Bensel, agent for Mrs. Newman, widow of the late Jonas Newman, of Ulster Co., N. Y., who discovered this variety in the town of Milton, in that county. The canes have comparatively few spines which led to the name *thornless*. The vines are not so vigorous in growth as the New Rochelle and Dorchester, and commence bearing late. Our own, planted in the Spring of 1857, are growing thriftily but have not fruited yet. The fruit we have seen is sweet and of good flavor. We are unprepared by experience to say anything definite respecting the fruit. Persons wishing to give it a trial will find the plants advertised in this paper.

Fruits—Everybody may have an abundance in a Year or Two.

This is a broad proposition, but strictly true. We do not of course mean a variety of large fruits such as apples, peaches, pears, plums, etc., but something equally good. Let us see how this is.

1*st. Rhubarb*—This is so good a substitute for apples, etc., that we may for convenience, class it among fruits. Eight to a dozen Linnæus Rhubarb (pie-plant) roots, set out the last of October, will furnish an excellent material for stewed

sauce and pies, from the latter part of May, until the end of August next year. There are many ways of cooking this plant. We have frequently had it so prepared in pies, that inexperienced persons could not distinguish them from those made of new apples, and we like them better. A dozen *crowns* of the Linnæus Rhubarb costs about two dollars now. The price of the larger undivided roots depends upon the size. For further items see article on page 275.

2nd. Strawberries.—By the time the Rhubarb begins to lose its novelty, the fore part of June, the earlier varieties of Strawberries will begin to ripen. Strong plants set out in September will yield considerable fruit the next season. We have gathered a small crop from plants set October 15th. A very trifling outlay will put a family in possession of any desired quantity of luscious Strawberries, from the middle of June to the tenth of July or later. Read what is said in another column of "One Little Strawberry Plot." If you have not done so, secure a dozen plants of each of say four varieties and put them out this month (Sept.), 12 to 18 inches apart, on a soil spaded one-and-a-half feet deep, with a good coat of bone-sawings, or well rotted manure. For four varieties we would say: Hovey's Seedling, Longworth's Prolific, Wilson's Albany, and Peabody's Seedling, if you can get it—if not, take Hooker or Walker's Seedling, or Boston Pine. Four varieties are enough for common use, though it costs little to add a few other varieties, say the Hooker, Walker, and Boston Pine just named, and the Crimson Cone, Burr's New Pine, Genesee, etc.

3. *Raspberries.*—The Strawberries will not be gone before Raspberries will come on. Where they are not growing now, a full crop can scarcely be obtained next year, but put out plants next month (Oct.), or even in November, and they will send up abundant shoots next season ready for bearing the following year. The Raspberry and Blackberry send up new canes one Summer to produce fruit and die out the next. Canes two or three feet or more in hight, if set out in Autumn, usually bear the next year. Provided you will take care enough of them to simply bend them down in Autumn and cover with a little earth and uncover early in the Spring, we advise for *home use* to get the Fastolff variety, and also some of the Brinkle's Orange and Red Antwerp. But where Winter protection by covering can not, or rather will not, be attended to, though it is but little trouble, we recommend getting hardy varieties, such as the Allen, Black Cap, and American Red. It may be well to have some of the Allen, and Black Cap, in addition to the Fastolff, Antwerp and Brinkle. None of these varieties are now expensive, except the Brinkle, and this will soon become more plentiful and cheaper. Twenty-five, fifty, or a hundred plants will cost but a few shillings, or dollars at most. They will grow on any naturally good soil, or one made so. Spade the ground deeply, and dig in plenty of any well-rotted manure. If the soil be heavy clay, mix with it a quantity of black mold or decayed leaves from the woods. We have found sink-slops an excellent fertilizer. The canes may be transplanted as soon as the leaves drop off—usually early in Oct. They bear packing and transportation well, and may therefore be obtained of any near or remote reliable dealer. Put out a few this Fall, no matter where you live, and when you enjoy the luxury of the fruit we shall have your thanks for urging you to do so.

4. *Blackberries.*—These will follow hard upon the Raspberries, and keep up a succession of fruit. For the bearing of Blackberries you will need to wait a year. Put out the plants in Autumn, any time before freezing up of the ground, the sooner after the leaves drop off the better. They will bear a poorer soil than the raspberry, but will repay generous manuring and tillage. We put the New-Rochelle variety at the top of the list. It is hardy, a great bearer, produces fruit unequaled in size. To this may be added the Dorchester. If it be impossible to obtain either of these varieties get Newman's Thornless, or failing to secure this, take up some canes of the best wild kinds growing near; manure and cultivate well, and improved fruit both in quality and quantity will be the result. But we advise every one who has a fourth of an acre or even less of ground, to set out this very Fall a dozen, twenty, or more of the improved sorts. They multiply rapidly after being once well established. Blackberries bear packing well and may be carried any distance.

SUMMING UP.

The above four kinds of fruits will form a succession of delicious fruit for a period of full three months; and, to say nothing of the comfort or luxury, there is profit in their culture. They repay their cost in the saving of other kinds of food. Thousands, yes millions of persons, especially those residing at the West, are longing for the time when their young orchards—perhaps not yet planted—shall produce the old staple fruits; but why wait? A little trouble, and a comparatively trifling expense, such as we have pointed out above, and in other separate articles in these pages, will put all these persons in possession of luxuries unsurpassed by the costly viands of the rich, in less than two years.

IN DOOR WORK.

About Soaps.

The *alkalies* are caustic (burning) substances that have the property of uniting with acids (sour substances) to form compounds which are usually inert. Thus: strong, caustic, newly burned lime and the powerfully corrosive acid, oil of vitriol (sulphuric acid) unite and form the tasteless compound known as plaster of Paris, or gypsum, used as a fertilizer. Pure soda, which is so caustic as to destroy the flesh, unites with the same acid, oil of vitriol, to form common Glauber salts (sulphate of soda.)

The alkalies have also the property of dissolving oils or oily substances, and on this account they are used in washing, to remove the oily materials that collect upon the garments from the skin or other sources. As explained on page 89, the principal alkalies generally known, are: *potash, soda, ammonia* (or hartshorn,) *lime, magnesia,* and they may be remembered by their initial letters forming the word *p s a l m*. Of these, potash, soda and lime are most common. Potash is washed out from wood ashes, the water being boiled away.

But the pure alkalies are too corrosive to the skin, and to garments, to be used alone in washing. On this account, both potash and soda are rendered mild, or less corrosive, by first uniting them with oil in the form of *soap*.

There are many kinds of soap. If potash, which is the alkali in ley obtained from wood ashes, be united with oil, it forms a semi-fluid or soft soap. Add to this some soda, or salt (which contains the metalic base of soda,) and the soda will expel the potash and take its place. We then get soda soap which is a *hard* soap, capable of being cut into cakes or bars. Hard soap may be produced directly by using a solution of soda with grease, and boiling it down sufficiently.

Common resin* may in part be substituted for oil. All brown and yellow soaps are soda, oil and resin combined. If the resin be somewhat less in quantity than the oil, the soap is very good for common purposes. We are not sure that the addition of a small quantity of resin does not improve the soap for extracting oily matters from garments. This much is certain, that a teaspoonful of spirits of turpentine added to a tub of soapsuds improves it for washing; and the turpentine is similar to resin. As brown soap is much lower in price than white soap, and if equally *dry* as effective pound for pound, if not more so, the brown kinds are the cheapest. Very brown, dark colored soaps contain too large a proportion of resin and should be avoided.

Castile soap is made of olive (sweet) oil and soda, some coloring matter being added to give it the mottled appearance. Genuine Castile soap is a rare commodity, however, as most of that sold under this name differs only from good common hard soda soap, in being colored.

Windsor Soap is made of soda united with a mixture of cheap olive oil and tallow.

The very white hard soap we frequently see is simply soda and tallow.

Walnut oil soap, cocoa-nut oil soap, palm oil soap, almond oil soap, etc., are made of soda combined with the various oils indicated by the name. Most of these articles, now-a-days, are no more than common white or colored hard soaps scented with a trifle of an extract or oil of the article from which the particular specimen is named. Take a piece of common hard soap, cut out a little plug, as if you were trying a water melon put in a few drops of any aromatic oil; return the plug and you will have a fancy or scented soap. This is a convenient method of "improving" a piece of Castile soap for the wash-stand. Any oil you chance to have, bergamot, cloves, various mints, etc., will answer for this purpose.

Transparent soap, often called walnut oil soap, military soap, erasive soap, and several other names, is made by dissolving white soap in alcohol. It is of course more costly, but the alcohol remaining combined with it, assists its solvent properties without rendering it injurious to the skin or clothes, and hence it is valuable for removing "grease spots," or washing delicate fabrics, and the face and hands.

NOTE.—**Resin* is often spelled and most commonly pronounced *rosin*. It is in some parts of the country vulgarly called "*rosum*." The correct spelling and pronunciation is *res-in*, accenting the first syllable and giving e the short sound of e in met

Blackberry Wine.

There are several processes recommended. The following is perhaps as good as any one of them: Put the berries into a coarse cloth—linen is preferable, though cotton or woolen will answer—and press out the clear juice. Add one quart of water to from three to four quarts of the juice, and also add about three pounds of good sugar. White sugar is preferable, but light brown may be used. Stir until the sugar is well dissolved and then put in a clean keg, setting in a cool place. Leave the bung open, covering it with millinet or gauze to keep out flies and other insects. Let the fermentation go on for several weeks. When the lees have all settled and the liquid become clear, draw it off and cork in bottles. It may be kept, without bottling, in casks, or in jugs. It should always be placed to ferment at first, in some convenient vessel for drawing it off without disturbing the lees. A cask with an end faucet is best for this.

The preceeding was put in type Aug. 2, in order to send proof slips to several inquirers desiring immediate information. We have since examined the results of our own experiments, and also conversed with others on the subject. Aug. 1857, we expressed the juice from a quantity of New Rochelle Blackberries, and put it up in three methods. Each kind was kept in glass bottles and stone jugs, and left uncorked and undisturbed to this date. A piece of millinet was tied over the mouth of each vessel to keep out insects. The vessels were set on a shelf in the cellar. The juice was obtained by mashing the berries and straining through a linen cloth.

No. 1.—One quart of blackberry juice, two quarts of water, and three lbs. of white sugar. This is now nearly a good *vinegar* with a beautiful reddish color, and strong wine flavor.

No. 2.—One quart of juice, one quart of water, and two lbs. of white sugar. This is now a beautiful wine Several gentlemen have tested it and all say it could hardly be improved.

No. 3.—One quart of juice and 2 pounds of sugar. This is now a heavy wine, of excellent quality, though rather strongly flavored by the fruit. It will doubtless improve by age.

We think all the above should have been drawn off from the lees after standing six or eight months, and kept closely corked in a cool place, though Mr. Seymour, who recently presented us with a fine blackberry wine, thinks the flavor improved, if anything, by letting the lees remain in the bottom of the cask. No. 2 we think the best recipe, and by referring to the article on "New Rochelle Blackberry," on page 277, it will be seen that this agrees nearly with Seymour's mode of manufacture on a large scale.

Blackberry Marmalade, of quite acceptable quality was made by adding a pound of sugar to a pound of the material left in the cloth after pressing out the blackberry juice.

Elderberry Wine.

S. M. Luther, of Portage Co., O., gives us the following recipe, which he uses, and he states that the wine he now has, which was made three years ago, is pronounced by competent judges quite superior, in point of flavor, to the domestic wine in use. He directs: Mash and press the fully ripe berries, and to one quart of the juice add 3 qts. of water and 4 lbs. of sugar. After the sugar is dissolved, strain and add two table spoonfuls of yeast to each gallon of the liquid, allowing it to stand in an open vessel from ten to fifteen days, according as the weather is cool or warm, when it should be carefully drawn off and bottled for use. Keep it in a cool place.

Remarks.—We would use a much less quantity of water with equal juice, and add 3½ lbs. of sugar with — say ¼ oz. of either allspice or cloves. and ¼ oz. ginger root to a gallon of the liquid.

Tomato Catsup.

Mrs. Vorce, McHenry Co., Ill., contributes the following to the *Agriculturist:* Boil half a bushel of tomatoes 15 or 20 minutes in a kettle, with just sufficient water to cover the bottom. Mash and rub them through a sieve, add a tea cupfull each of ground pepper and allspice, ½ of a tea cup of ground cloves, and the same amount of salt, 3 red peppers and 3 garlics. Scald together and put in a stone pot, taking off the scum until it is done rising when scald again, and having added one gill of brandy, bottle for use. The same proportion may be adopted for a smaller quantity. Mrs. V. says this is excellent.

Preserving Fruits for Winter.

GLASS BETTER AND CHEAPER THAN TIN.

To the Editor of the American Agriculturist:

Your frequent chapters under this head lead me to give my experience, as I believe there can scarcely be too much said in favor of putting away an abundant supply of the Summer and Autumn fruits, in a *fresh* state to relieve the monotony of "salt junk," that too prevalent diet of the farmer during the winter season. I am glad to see you set your face — and pen — against the use of so much *candied* fruit, in which a pound of fruit is cooked up with its pound of fine sugar, thus destroying the flavor and producing an indigestible compound.

I have used both tin and glass, for keeping fruit fresh, but greatly prefer the glass. I know the can men tell us that nothing injurious comes from tin, even with acid fruit, so long as air is entirely excluded from the cans. I will not discuss this question with them, but am *certain* that no deleterious substance can come from glass under any circumstances. Besides, there is a real satisfaction in looking at a transparent jar of peaches, plums or berries, requiring no label to designate its contents. Again, if perchance the sealing should be imperfect and the fruit give indications of not keeping, it can readily be seen and be used at once. But the most important consideration with me is *expense.* Most of the patent cans cost $2,50 per dozen, for quart sizes, while the glass jars I use, of about the same size, cost but 75c. per dozen. As we intend to put up near 100 quarts of various kinds of fruit, we shall save about $14 by using the glass, which will certainly allow for a trifling breakage, though we have found no trouble in that respect.

The jars we use are common glass with a trifling green shade, but still quite transparent. They are eight inches high, the main body being about 4 inches in diameter. The neck is wide, being full 2 inches inside diameter, which allows the smaller fruits to be put in whole if desired. We adopt two methods. So long as we have large corks we insert these over the fruit, covering them with waxed cloth. We sometimes put over simply waxed cloth. We set the bottles around the stove door to heat gently at first, and have them hot when pouring in the hot fruit. The corks are kept in a dish of warm water to soak soft and pliable. A basin of wax, made by melting and stirring together one pound of resin and one ounce of tallow, is kept melted on the stove ready for use.

The *Fruit* is put into a *porcelain* kettle with just sugar enough to sweeten it for use. It is then heated to the boiling point, but not cooked above two or three minutes, except tomatoes, and some of the larger fruits, and vegetables, which may boil ten minutes. With a long handled dipper, and a fruit funnel having a large orifice just fitting the mouth of the jar, I fill them very rapidly, while an assistant follows, pressing in the corks ½ to ¼ of an inch below the surface and pouring on melted wax to fill it. She immediately ties over a piece of cotton cloth previously coated on both sides with the same wax. This seals them perfectly.

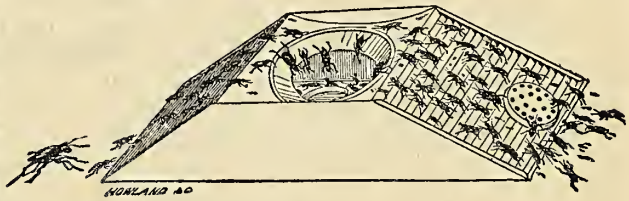
Having secured a large quantity in this manner with entire success, I shall pursue the plan, mainly, as the corks make neater work, and give additional security, though we put up some without the corks, as your Ohio correspondent suggested in the August *Agriculturist.*

In addition to the smaller fruits already prepared, I intend to put up largely of tomatoes, peaches, plums, pears, quinces, late rhubarb, and that Yankee luxury, *pumpkin*, that I may have pies in Winter and Spring of better flavor than made from dried pumpkins.

Long Island Housekeeper.

Parsnep Sweetmeats.

The following contributed for the *Agriculturist,* by Miss Sarah M. Taylor, of Saratoga County, N. Y., may be useful for those who use preserved sweet-meats—we eschew them altogether since we have learned the art of keeping fruit fresh. The recipe is perhaps more appropriate to Spring. Miss T., gives the following directions: "Take the largest part of the parsnep; and if wilted soak in water until swelled out plump. Cut across into round pieces an inch thick; scrape the skin off and weigh. Put them into a brass kettle, cover with hot water, laying a plate over to keep them down. Boil until a broom splint will go through the pieces, and lift them out separately with a fork, laying on plates to cool and toughen. For each pound of fruit use ¾ lb. of white sugar dissolving it in the water in which the parsneps were cooked, and boil, removing the scum. Add the fruit, covered with a plate as before, and boil until the whole looks clear. Then take the pieces out upon plates, and boil down the syrup until it becomes ropy, and cool it in an earthen or tin vessel. For each pound of the parsneps take one lemon, grate the outer yellow peel, rejecting the inside rind which is bitter, and also pick out the seeds from the pulp which is to be used whole. Put the syrup, pieces of parsnep, grated lemon peel and pulp, all into earthen pots, adding a stick or two of cinnamon bark, and a tablespoonful of cloves, and of ground cinnamon for each pound."



A Cockroach Trap.

Cockroaches are not very troublesome in inland towns, we believe, but along the sea-board they are a decided nuisance. A hundred plans have been proposed for getting rid of them, but they abound as much as ever. We give herewith an engraving of a simple trap presented to us a month since. It was invented by I. S. Clough, of this city. Our own dwelling being comparatively new, is fortunately free from these pests, so far, and we handed the trap to an associate, who reports that it operates finely until the cockroaches "pile in so thickly as to raise a mound for the next comers to crawl out on." The trap is simply a tin box of the form here shown. The inclined ends are roughed with a firm coating of sand to make the ascent easy. A little molasses is put into the shallow cup within, and the insects in attempting to get at it slide down the beveled opening, and are unable to crawl out, if the inside upper surface he kept bright and clean. The dotted circle on the right is a movable punctured cover, which serves the double purpose of an opening to clean out the trap, and to attract the insects by giving them a sight of the molasses and what is going on within

Fig. 1

Another Washing Machine.

We have had frequent chapters upon "Washing Day," "Washing Machines" and "Washing Recipes," but we have no fear of tiring our readers with this subject, so long as there is a hint to be given which will tend to lighten the labors of that "worst day of all days in the week," as a lady correspondent fitly terms the "second day." Sometime since we described "our new wash-tub." We liked it then, we like it still, for in *principle* it is right. But we have since got another new wash-tub, or *machine*, which we think very valuable. To say nothing else, it has shortened the washing-day, at least two hours, and by so much at least, *we* consider it an acquisition. After six weeks trial we esteem it highly enough to give it our unqualified approval as a useful implement, and we have therefore got up for the *American Agriculturist* the accompanying original engravings, and will present a brief

DESCRIPTION.

Fig. 1 shows the implement set up and in operation. *a*, is the tub, 26 inches high, and 24 inches in diameter at the top and 21 inches at the bottom. The tub stands upon the base-board *b*. The pounder *c*, is made up of a series of 16 smaller pounders or pestles, *p*. One of them is shown enlarged at *P*. These pass loosely through *c*, being held from dropping out by small brass pins. A strong spiral brass spring, *w*, keeps them down as far as the pin across the top will permit. It will readily be seen that when brought down forcibly upon clothing in the tub, the small pestles or pounders will yield, by compressing the springs *w*. This effectually prevents tearing the fabrics washed, breaking buttons, etc. A lady correspondent tells a pretty tough story of it: she asserts that a small thick cologne bottle left in a dress was not broken, though the dress was pounded clean. We cannot doubt her word, but we would advise clearing the pockets of such fragile articles as glass bottles, even when using the "Metropolitan Washing Machine." We tried ictting the mass of pestles strike down upon the foot, with considerable force, and it scarcely produced a painful sensation. We can say this much, that there is certainly a great saving of buttons and in the wear of garments, when they are washed with a series of yielding spring pestles like those here shown. This separate arrangement of independent pestles divides the force so that the inequalities upon a mass of clothing in the tub are fitted by the yielding springs. Again, the surface of the water is so broken up that there is none of that splashing which occurs when a broad single pestle is struck down. In several trials we found it next to impossible to splash the water over the sides of the tub.

Fig. 2.

Fig. 3.

The pestle or combination of pestles is hung at *d*, (fig. 1,) on a double cord *r*, which can be shortened by simply twisting it. This cord is stretched between the upper ends of two wooden *springs*, *s*, *s*. These springs are thin strips of tough wood set loosely into mortices in the baseboard, *b* so that they can be taken out when not in use. In order to show its construction we have elevated the pounder above the surface of the tub, though in ordinary use it is not raised so high. It may be worked with one hand as in fig. 1, or with two hands upon the cross piece, *h*, as in fig 2, where the pestle is down upon the clothing and just being thrown up by the springs.

Fig. 3 shows the springs, base-board and pestle packed into the tub and the whole set aside. It occupies no more space than the width of the tub 2¼ feet, and the hight of the springs (6 feet).

The whole operation is simple and effective. The batch for washing is 25 to 30 yards of cloth or say eight or ten shirts, or their equivalent in other garments. Our first trial was upon a lot of bed quilts being washed and put away for Summer, and these at once brought out the capabilities of the machine for heavy work. The springs throw up the pestle well, and it works so easily that a woman of only moderate strength is able to give it the requisite motion and forcible blow, and still stand in an *erect* position. We hope some ingenious mechanic will next bring out a *wringing* machine.

The price of the machine, $10, we thought rather high, and in behalf of our readers we wrote several expostulating letters to the manufacturers; but they gave us the items of cost which can not be well reduced without making a poorer article, and on the whole we suppose that without enormous sales these tubs can not he offered at a lower rate. They are certainly worth the money to *purchasers*, and though our own was presented unsolicited and even against our wishes, we should now be loth to part with it for twice $10 if it could not be replaced. It came from David Lyman of Middlefield, Conn., and judging from this and others we have seen of his manufacture, we can recommend them as of first quality of materials, &c. Particulars as to sale, etc., must be looked for in the advertising columns.

To Dye Black.

"Kentucky Housewife" sends us the following which she says has saved her several dollars: Dissolve 1 lb extract of logwood in 5 galls. soft water, boiling it for a few minutes in an iron vessel, and add a tablespoonful of copperas. Dissolve 1 oz. of blue vitriol in 5 galls. of soft water Scald the materials to be colored, first in the vitriol water, then boil them for two hours in the logwood, stirring often. To set the color, wash in a strong lather of home-made soap and dip in salt water. Sweet skimmed milk is also good to set the color. To give a luster to old silk, or that just colored as above, strain some cold coffee, and add a little gum arabic, into which, when dissolved, dip the silk; wring out and iron on the wrong side.

To Dye Cochineal.

Also, from "Kentucky Housewife": Boil 3 lbs. of yarn 10 minutes, in a liquor made of 3 oz. cochineal dissolved in 3 galls. water; then add 2 oz. cream of tartar, 3 oz. muriate of tin, and boil 10 minutes longer, after which wring out and rinse in soap suds.

To keep Flies from Ceilings.

Hang in the room several sprigs of asparagus foliage, which can be gathered in a few weeks after cutting for the table is over. These, neatly arranged in festoons around the room, are rather ornamental than otherwise, and the flies will always collect upon them in preference to the walls or ceilings. Any kind of shrubbery, or slips of paper, will answer a similar purpose. A little trouble of this kind will keep the plaster or wall-paper looking neatly; and if a room be not otherwise soiled by exposure to smoke, or dust, at least one-half of the annual or semi-annual whitewashings may be saved.

Clough's Fly Trap, noticed and illustrated on page 247, has worked admirably with us the past month, catching flies by the handful daily; though for every fly caught it would seem as if a dozen came to attend its burial. Such of the mourners as would not pay their respects to the trap, have been furnished with roosts in the asparagus branches.

Boys' and Girls' Own Columns.

Telegraphing Familiarly Explained.*

Everybody is now talking about the telegraph, and we think our younger readers will be interested in some plain, simple explanations of *how* news is sent along wires, not only across the country, but even under the ocean. We will therefore endeavor to illustrate this subject in a more simple, elementary manner than is usually done in books and papers. So come right around us, boys and girls, and listen to, and carefully study and understand every sentence as we go along, and we think you will then have a pretty clear idea of the matter.

I. *What is Electricity?* We cannot exactly tell, but we know that it appears to be an *invisible* fluid, filling all space, and penetrating all substances, like air, for example, which is everywhere, but cannot be seen.

If we take two tight tin cans, or bottles, and connect them with a hollow tube, and then collect all the air from both the cans into one of them, it would rush back into the empty one, if the connecting tube be unstopped.

Suppose we take two tight cider barrels, half full of water, and set them ten feet apart, and run a hollow tube from the bottom of one to the bottom of the other. In one end of this tube put a force pump. By working this pump, all the water would be forced from one barrel into the other, so that one would be full of water and the other empty. But now take a lead pipe, half a mile in length or more, and bend the two ends near enough together to have them enter the barrels, one into each. If we continue to work the pump in the bottom tube, the water will be forced into the full barrel and it will also be forced through the long lead pipe *back* into the empty barrel, and so long as we keep the pump going, a steady stream of water would run through the long pipe. If our lead pipe was a thousand or two thousand miles long, the current would still run through it *if we worked the pump strongly enough.*

II. Suppose now we could have these barrels filled with the invisible electric fluid, of which we have spoken. Since this fluid does not require a hollow tube to pass through, but it travels best through a *solid* metal wire, passing between the particles, or from particle to particle, we could join the bottom of our barrels with a wire; and also put a wire in the place of our lead pipe. Then put an electric pump (electric battery) on the wire, and it would force the electric fluid all into one barrel, but it would go back through the long wire. If we cut the long wire in two, the current of electric fluid would stop, but go on again as soon as we brought the two ends of the wire together where they had been cut apart.

III. We will now examine an electric pump (battery.) Fill a tumbler half or two-thirds with water, and put into it some vinegar or other acid (sour) substance. Next set in the tumbler upon one side a slip of zinc, and upon the other, a similar slip of copper, as seen at *z* and *c* in fig. 1.

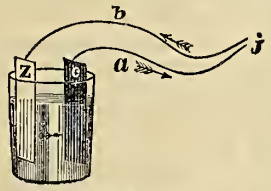


Fig. 1.

Fasten two long wires *a* and *b*, to the top of each slip.

The acid will rust or eat away the zinc, and it has been found that this rusting process acts like a force pump, that is, it seems to extract electricity from the rusting zinc, and drive it through the water to the copper, upon which it collects in superabundant quantities. But join the two wires *a* and *b*, at *j*, and the electricity will run around the wires back to the zinc, just as the water through the long pipe, and just as the lightning runs down a lightning rod from a cloud to the earth. Sometimes in a strong battery (the whole of fig. 1 is called a *battery*.) so much electricity will collect upon the copper, that it will jump from *a* to *b* before they are brought quite together, and we see a little bright spark. This is a miniature shock of artificial lightning. So long as the wires *a* and *b* are joined into one, a constant stream of invisible electricity will flow from the zinc *z*, through the water to the copper *c*, around through *a* and *b* and back to *z*, and so on round and round. Remember that the instant you separate the wires at *j*, the current is stopped By constantly joining and separating these wires at *j*, or at any other place, you can have the current of electricity *flow* or *stop*, just when you desire. This fact is to be carefully noted, for upon it depends the communication of thought by a telegraphic wire. *Remark*—These wires, *a* and *b*, may be but an inch or two in length, or they may be thousands of miles long, and still allow the electric fluid to pass through their whole length, if the force-pumping (or rusting) at *z* be powerful enough to drive the current through so long a wire.

IV. It is a remarkable discovery, that the ground may be substituted for one of these wires; thus

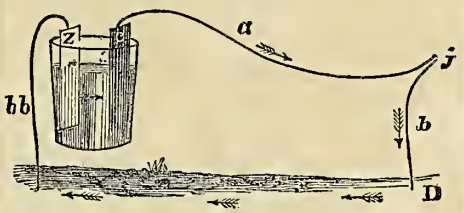


Fig. 2.

If the wire *a* be carried on poles, or in a glass or gutta percha tube to a distant point *D;* and *bb* simply carried down into the moist ground, and *b*, a short wire, be taken from the ground at *D* and joined to *a* at *j*, then the current of electricity will be forced through *a*, down into the ground through *b*, back through the earth to *bb*, up through *bb* to *z*, and so on round, in a continuous flow. *Remark*—The current can at any time be stopped and started again by opening and closing the break at *j*, or a similar break anywhere on *either* of the wires.

V. A current of electricity flowing through a wire produces some wonderful effects, but we can only describe one which is important to our purpose. If the needle of a mariner's compass be held near the wire while the current of electricity is flowing through it, the needle, if free to move, will turn round and stand across the wire (at right angles to it.) *Remark*—It is believed that there are great currents of electricity constantly flowing round the earth's surface from West to East, and that these cause the compass or magnetic needle to stand across them and point North and South.

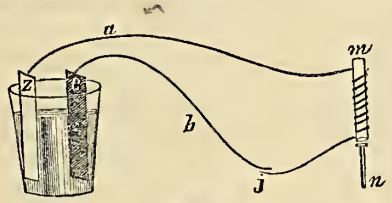


Fig. 3.

Let the wire, *a*, pass across a piece of hardened steel, a knife blade for example, and, strange to say, the current of electricity, flowing near but *not touching the steel*, will change it to a magnet, so that it will pull up other bits of steel or iron and hold them precisely like a lodestone. If the wire be wound several times around a steel bar *m*, as in fig. 3, it will make a still stronger magnet so that it will hold up a heavy weight. And this hard steel rod will afterwards remain a permanent magnet. *Remark*—By a process like this our steel magnets, and magnetic needles are now made, instead of rubbing them upon a lodestone, as was formerly done.

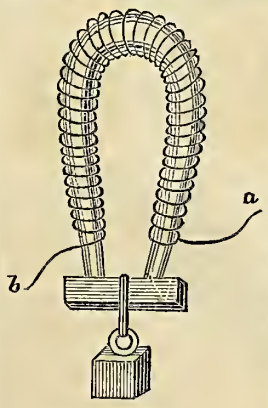


Fig. 4.

Fig. 4 shows a *soft* iron electro-magnet, which may be made to hold up a weight many hundreds of times greater than itself, simply by connecting the wire *a*, *b*, with a battery like fig, 1. But the moment the wire is cut or disjoined, the weight will drop off, and the magnet will not hold the smallest nail.

VI. Now mark an important point in our explanation. If we lay a piece of *soft* iron upon a lode-stone, it will become a magnet and attract other pieces of iron, *but only so long as it is in contact with the lode-stone*, for the instant it ceases to touch the stone, that instant it ceases to be a magnet. Just so in fig. 3. Let *m* be soft iron, and while the current of electricity flows through *a* and *b*, so long *m* will be a magnet and hold up the bit of iron, say a cut-nail *n*. But separate *a* and *b*, at *j*, (or at any other point,) and that instant *m* will *cease to be a magnet*, and *n* will drop off. Join the wires again to allow the electricity to flow and *m* will again be a magnet and draw up *n* to itself. *If we separate and join* a *and* b *a thousand times in a minute, then* m *will be a magnet and not a magnet a thousand times; and the nail* n *will rise up and fall down just as often as this change takes place.*

If *j* (fig.3) be a thousand miles from *m*, and a person at *j* break and join the wire once, then another person at *m* would see *n* drop down once and rise up again. If the wire be separated at *j* twice, then *n* would drop off and rise up again twice. This is one way, you see, by which *signals* can be made by one person to another a great distance away, that is, he sets in motion or breaks a current of electricity coming along a wire from that point, and makes or unmakes an iron magnet (called an *electro-magnet.*) [Now read over the preceeding sections and especially this last one, No. VI. until you perfectly understand it.]

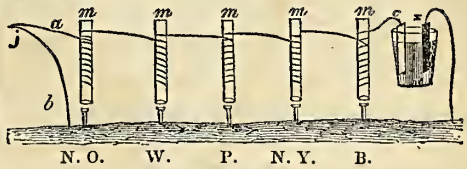


Fig. 5.

VII. In fig. 5, we see how the same wire passes around several pieces of iron, say at *B., N. Y., P., W.*, and *N. O.*, which stand for Boston, New York, Philadelphia, Washington and New Orleans. (Only one wire goes through the air, the current of electricity comes back through *b*, and the ground.) What we would explain particularly is. that the same current of electricity flows instantaneously around *all* the magnets, *m, m, m, m, m, m*, affecting them all alike. The nails under them will *all* be drawn up, the instant *a* and *b* are joined at *j*. When the wires are separated, to stop the current, all the nails will drop off because all the iron bars *m, m, m,*....cease to be magnets. In this way a person at *j* can give signals at all the distant places at the same time. And the same is the case of each of a thousand other places along the line, wherever the wire is bent out of its course and wound around a bar of soft iron.

Note still further: If the wires be *joined* at *j*, then *a* may be broken and joined at any other point—it matters not where on the line; the stopping of the current at one point, stops its flow through the whole length, forward and backward. Thus a person may stand at *P*, (Philadelphia.) and give signals at *B*, (Boston,) and *N. O.*, (New Orleans,) and all intermediate places at the same time, by simply opening and closing the current on the wire where he stands, that is, alternately joining and separating the wire at his point. [In making telegraphic signals, convenient springs and keys are arranged for opening and closing the currents.]

We trust you now understand the principle of Morse's Telegraph. Suppose John to be at Boston, and James at New Orleans. James unites the wire at his end with the ground wire *b*, and all the nails jump up to the magnets. John separates the wire at his end, and they all drop off. James knows that this means E, in their agreed *signal* alphabet. Then John joins and separates the wire twice very quickly. The nails jump up and fall back twice, because the iron bars *m, m, m,*....have been made magnets twice and unmade, in quick succession. This is the signal for the letter I. Three currents stand for S. Closing the wire and holding the nails up for an instant, stands for T. Closing it for a moment, then breaking it, and closing and breaking it suddenly again, stands for N, — - ; and thus by a succession and continuation of signals, long and short ones, all the letters of the alphabet are indicated. You will note that it matters not whether John or James, or any one else at any other point, opens and closes the wire, the same effect is produced at each and every station on the whole line. We will here give you the combination of marks and dots indicating the long or short currents, which stand for the letters in

Morse's Telegraphic Alphabet.

LETTERS, NUMERALS AND PUNCUTATION.

A - —	O - -	1 - — — -
B — - - -	P - - - - -	2 - - — - -
C - - -	Q - - — -	3 - - - — -
D — - -	R - - -	4 - - - - —
E -	S - - -	5 — — —
F - - — -	T —	6 - - - - - -
G — — -	U - - —	7 — — - -
H - - - -	V - - - —	8 — - - - -
I - -	W - — —	9 — - - —
J — - - — -	X - — - -	0 ———
K — - —	Y - - - —	(.) - - — - — -
L — —	Z — - - -	(?) - - - — -
M — —	& - - - -	(!) — — — —
N — -	&c - - - - - - -	

So far we have made no provision for writing down these signals by machinery. Indeed, this is not strictly necessary. If you stood near one of these magnets, and

* Entered according to Act of Congress in the year 1858, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York.

saw the nail *n* hop up and instantly drop, you would mark down a - to represent E. If it touched the magnet and dropped, and then instantly touched it again, and remained in eontaet for a moment before dropping, you would mark - — to represent A. If it jumped up and dropped twice quickly, you would mark - - for the letter I. If it next touched the magnet instantaneously, then fell off, waited an instant and touched the magnet again, and afterwards remained off, you would put down two dots with a space between them, thus - - to indicate O. If it touched the magnet only once, but remained *sometime in contact* before falling off, you would put down a long mark, thus —— for the letter L. In this manner, you would soon understand how to read all the letters of the alphabet, and the figures also. Practice would enable you to read a hundred words a minute. When all the words to be communicated to you are thus spelled out, a signal is given, and the other end of the wire can be closed and you open your end, and by alternately closing and separating the ends of the wire, you will make whatever letters at the other end you desire.

Morse's Telegraphic Recording Instrument.

There are various kinds of instruments for recording upon paper the several marks indicating letters. We can only explain one of them in the space we have.

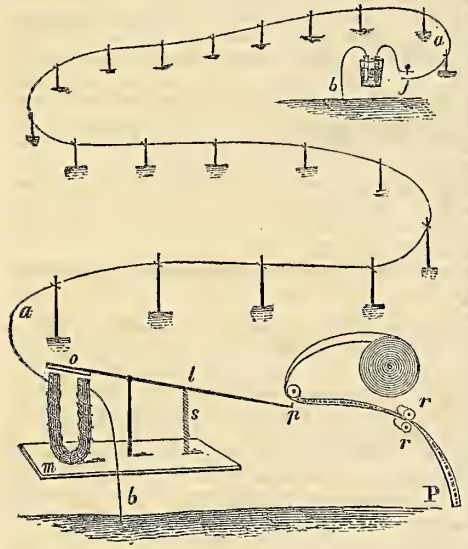


Fig. 6.

In fig. 6, the wire, coming from a distant battery, passes around a piece of soft iron *m* bent upward like a horse-shoe, and called a *horse-shoe magnet*. Above the upper end of this is a bit of iron, *o*, upon the end of an arm or lever, which turns upon a pivot, with a light spring *s* to draw down the right end. Upon the right end of this lever is an upturned point *p*. Now when the wire *a* is closed at *j* to send a current from the battery, *m* will become a magnet and draw down the iron bar *o*, upon *m*, and cause the point *p* to fly up, and puncture the paper *p*, which is moved steadily along by clock-work acting upon the rollers, *r*, *r*. If a short current only is sent, by simply touching the wire at *j* for an instant, a single dot will be punctured in the paper by the point *p*. If a long current be sent by holding the wires together at *j*, the point *p* will be held against the paper, and mark it as it is drawn along by the rollers, *r*, *r*, thus ———. In this manner, just the desired succession of dots and marks will be made by the person working the wire at *j*, though he may be hundreds of miles distant. A series of recording instruments, dispersed along a wire, will all be worked simultaneously by breaking and closing the current at *j*, or at any other place.

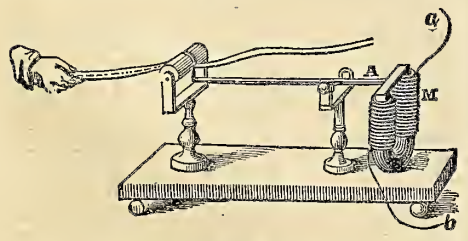


Fig. 7.

Fig. 7 shows the recording instrument on a larger scale with the clock work for moving the paper omitted. Through the wire *a* coming from a distance, and *b* entering the ground, the current of electricity passes around *M*, making a magnet of it for the instant. This draws down the lever *A* and punctures or marks the paper, here moved along by hand.

Telegraphic Wires.

These most of you have seen. In land telegraphs, they are usually carried along on high poles. They are fastened to these by glass, for the electricity will not pass off to the ground through glass. It travels a long way on a copper or an iron wire, rather than attempt to go through glass, or dry wood even; but if there were no glass insulators, it would run down the poles when wet with rain or dew, and hasten back through the earth, to the other side of the battery.

Sometimes it is desirable to carry wires under ground. If this is done, it is necessary to cover them with glass tubes, or what is more convenient, gutta percha, a kind of gum which prevents the escape of the electricity to the soil. And this brings us to the

Fig. 8.

Atlantic Telegraph.

You have doubtless read, ere this, of the long wire (1950 miles), or rather bundle of wires, which is now stretched along the bottom of the Atlantic Ocean, all the way from Newfoundland to Ireland; and of the fact that two men stand on the opposite shores of the wide and mighty deep, and hold instantaneous converse with each other. You have heard that, quick as thought, a message is sent from New Orleans, or St. Louis, to Newfoundland, thence as quickly to Ireland, thence across an arm of the sea and over England, next across or under the English Channel to France, and away over Europe. But on this wonderful feat, and the grand results to grow out of it, we must not dwell — at least, not now. We will barely stop to show you a cut or two, and describe the Cable that now lies way down on the bottom of the sea, far below the abodes of the fishes, (which, like ourselves, must have access to the air). There, where no living animal has ever gone, or will probably ever go, lies that little cable, through which pulsates the thoughts of two hemispheres.

Figs. 8 and 10 show the full size of the cable with the several different parts of which it is made up. It is scarcely larger than a man's little finger. We laid a five cent piece upon the end of a part of the cable, and it nearly covered it.

Fig. 9.

Fig. 9 shows the end of the cable, and you can measure its size yourself. You will see that it is less than ¾ of an inch in diameter.

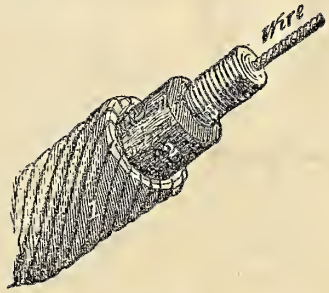


Fig. 10.

Looking in the center of fig. 9, you will see the ends of *seven* little copper wires, *no larger than a small pin*. The same bundle of wires is shown in fig. 10. Seven are used to give greater security against any flaw in a single wire. These are twisted together like the strands of a rope, which fits them for stretching when overstrained. The whole seven conducting wires, put together, are about the size of a large knitting-needle, and through these the entire current of electricity must pass — the rest of the cable being only for protection and insulation.

Fig. 11.

Is it not wonderful, that these can be so covered that the current of electricity will follow out their whole length in either direction and return through the earth, instead of striking out at once through the thin coating — not three-eighths of an inch in thickness? But so it is, and the little battery at either end will send its lightning current through the whole 1950 miles in perhaps less than a second of time, and magnetize the iron signal bar at the other end.

Around the conducting copper wire is placed three separate thin coatings of *gutta percha*, forming the core (3) which is only ⅜ of an inch in diameter. The gutta percha is put on in three coatings instead of one, to avoid flaws or air holes, as no three of these would be likely to occur at the same point. So perfect is the covering, that a current of electricity was sent through 2500 miles of it with a battery made by taking a 22 cent piece, (English Shilling), cutting a slip of zinc of the same size, and putting between them a bit of paper simply moistened with the tongue! One end of the wire touched the shilling and the other the zinc, and a delicate instrument showed that the current went through the whole 2500 miles of wire!

Tarred rope is wound around the core as shown at (2) in fig. 10. Outside of this, *eighteen* strands of iron wire rope are wound spirally. Each of these wire ropes is made up of seven wires, each of them *one-twenty-second* part of an inch in diameter.

We then have 7 conducting copper wires within, and 126 (7 times 18) iron wires as an outer protection, or 133 wires in all; and these run around spirally. If all these wires were straightened out, and joined end to end, they would reach nearly half a million of miles — or nearly twenty times around the earth!

Fig. 11. In this we present a profile of the bed of the Atlantic ocean, along which the cable is laid. The figures along the side, show the depth of the ocean at these points. Thus you will see that near the mid ocean, the water is 12,420 feet deep. As 5,280 feet make a mile, it is here a little over 2¼ miles to the bottom. You can get an idea of this depth by imagining a rope stretched out to a point 2¼ miles from your feet, and then thinking of this rope as let down from a ship. The head almost swims at the thought of the deep body of water it would pass through. But down below this lies the Atlantic Cable.

Get your maps out now, and study the position of the cable which extends from Trinity Bay, Newfoundland, to Valentia Bay on the west coast of Ireland.

Note to Boys and Girls.

In order to make room for the Telegraph, we have left over sundry other interesting things, designed for this department. ☞ We are happy to announce to our young readers, also, that we expect hereafter to have in these columns, the assistance of the renowned "Uncle Frank," known the world over for his scores of interesting books such as "Uncle Frank's Home Stories" "Uncle Frank's Boy's and Girl's Library," "Theodore Thinker's Tales for Little Folks," "The World as It Is," "Stories about Animals," and we know not how many more. With all the previous help, and now "Uncle Frank," and others yet to come in all departments of the paper, will not the *Agriculturist* soon be "a whole team and a horse to let,"

to say nothing of "the little dog running under the wagon?" So bring along all the boys and girls in the land into the Agriculturist Family. The big tent will cover them all, and there will be on the long tables plenty of cakes, sweetmeats, nuts, raisins, and oranges, to supply them all.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE, }
NEW YORK, Aug. 23, 1858 }

During a month past, the wholesale Produce Markets have been more active, with an improvement in prices of leading articles, owing to moderate arrivals. The general impression has been that, taking the whole country together, the wheat crop has fallen short of an average yield, and that the oat crop has partially failed. Holders of wheat are, therefore, in no hurry to sell, and speculators are looking out for a further rise. The foreign demand, however, is small. The Flour Inspectors adopted more rigid rules on Aug. 2, which cut off a large amount sent forward as good, and produced a considerable rise in the regularly inspected and branded article....Sound, prime lots of wheat are sparingly offered with an upward tendency, and prices favoring sellers....Corn closes irregularly, with a less plentiful supply of unsound and inferior lots. Good prime lots are in slack demand at languid price. The prospect of the incoming crop is generally very good...Rye is not abundant, with light demand, and prices steady....Barley, very little doing....Oats, sound and sweet, are scarce and much wanted; prices favoring sellers....Cotton, firmer rates recently. The first new bale, received from Texas, Aug. 14, sold at 16½c. per lb. Our available supply is 33,754 bales against 32,584 same time last year. Total receipts at all shipping ports to latest dates, 3,066,549 bales against 2,905,189 bales to same date last year. Exports so far this year 2,554,869 bales; last year, 2,233,986 bales....Hay, in fair supply and demand at uniform prices....Hemp, quiet at nominal prices....Hops, under recent unfavorable reports from growing districts, have been more sought after by speculators....Rice, in good request for export....Seeds, very lightly dealt in....Tobacco, offered more freely at easier rates, which has attracted attention....Wool has been actively inquired for at firm quotations. ....Provisions have been unsettled. Hog products close heavily; other articles, firmly....Sugars were actively sought after early in the month, at higher rates, but closed quietly....Coffee, Teas, and Molasses lightly dealt in.

CURRENT WHOLESALE PRICES.

	July 23.	Aug 23.
FLOUR—Superf to Extra State	$4 10 @ 4 40	$4 85 @ 5 30
Common to Fancy Western..	4 05 @ 4 35	4 85 @ 5 30
Extra Western..	4 20 @ 7 00	5 20 @ 8 00
Fancy to Extra Genesee	4 40 @ 6 50	5 40 @ 7 75
Mixed to Extra Southern	4 65 @ 7 50	5 50 @ 8 50
RYE FLOUR—Fine and Super.	3 00 @ 3 60	3 50 @ 4 35
CORN MEAL	3 65 @ 4 25	4 25 @ 4 75
WHEAT—Canada White	1 05 @ 1 18	1 19 @ 1 37½
Western White	1 03 @ 1 30	1 18 @ 1 52
Southern White	1 15 @ 1 43	1 28 @ 1 62½
All kinds of Red	80 @ 1 30	96 @ 1 35
CORN—Yellow	89 @ 95	90 @ 93
White	92 @ 95	85 @ 88
Mixed	67 @ 85	76 @ 88
OATS—Western	46½ @ 47½	51 @ 53
State	45½ @ 46½	50 @ 52
Southern	32 @ 40	33 @ 41
RYE	69 @ 70	81 @ 83
BARLEY	55 @ 62½	60 @ 65
White Beans	90 @ 1 15	1 00 @ 1 15
Black-eyed Peas, per 2 bush	3 37½ @ 3 50	none selling
HAY, in bales, per 100 lbs	40 @ 65	40 @ 70
COTTON—Middlings, per lb	12¾ @ 12⅝	12¾ @ 13
RICE, per 100 lbs	3 00 @ 3 75	2 87½ @ 3 75
HOPS, per lb	5 @ 7	5½ @ 8
PORK—Mess, per bbl	17 12½ @17 25	@17 00
Prime, per bbl	13 95 @14 00	14 80 @14 85
BEEF—Repacked Mess	11 50 @13 50	14 00 @14 50
Country mess	10 75 @11 50	11 75 @12 00
HOGS, Dressed, per lb	5¾ @ 7	5¾ @ 6¾
Lard, in bbls. per lb	11 @ 11¾	11½ @ 11¾
BUTTER—Western, per lb	11 @ 17	12 @ 18
State, per lb	12 @ 22	14 @ 23
CHEESE, per lb	4 @ 8	4 @ 8
EGGS—Fresh, per dozen	16 @ 17	11½ @ 12½
FEATHERS, Live Geese per lb	44 @ 50	44 @ 50
SEED—Clover, per lb	7½ @ 8	7¾ @ 9
Timothy, per bushel	1 75 @ 2 00	2 25 @ 2 62½
SUGAR, Brown, per lb	5¾ @ 8½	6½ @ 9¾
MOLASSES, New-Orleans, prgl	40 @	50 @ 52
COFFEE, Rio, per lb	9¾ @ 11¾	9¾ @ 11½
TOBACCO—Kentucky, &c. pr lb	6½ @ 15	6½ @ 14
Seed Leaf, per lb	9 @ 35	6 @ 25
WOOL-Domestic fleece, per lb	27 @ 46	27 @ 46
Domestic, pulled, per lb	25 @ 38	25 @ 38
HEMP—Undr'd Amer'n pr ton	110 @125	105 @125
Dressed American, per ton	170 @185	180 @195
TALLOW, per lb	9½ @	10 @
OIL CAKE, per ton	30 00 @37 50	33 50 @38 00
POTATOES—Mercers, per bbl		2 00 @ 2 25
Long Island per bush	75 @ 1 00	62 @ 75
Sweet Virginia, per bbl		4 50 @ 5 00
TURNIPS—Rutabagas, per bbl	1 25 @	1 00 @ 1 25
BEETS, per 100 bunches	2 50 @ 3 00	2 00 @ 3 00
ONIONS, per bbl	2 25 @ 2 50	2 25 @ 2 50
CABBAGES, per 100	2 00 @ 5 00	2 00 @ 5 00
LIMA BEANS, per bushel		62 @ 75
CUCUMBERS, per 100		25 @ 50
CORN, per 100 ears		20 @ 40
SQUASHES, Marrow, per bbl		75 @ 1 00
TOMATOES, per bush		25 @ 37
WATERMELONS, per 100		14 00 @16 00
NUTMEG-MELONS, per bbl		2 50 @ 3 00
APPLES—Per bbl	4 00 @ 4 50	2 50 @ 4 50
PEACHES per basket		1 50 @ 2 50
PLUMS, per bushel		2 00 @ 3 00
BLACKBERRIES, per bush	5 00 @	3 00 @ 3 50
HUCKLEBERRIES, per bush	4 00 @	2 00 @ 2 50
POULTRY—Fowls, per lb	15 @	15 @
Chickens, Spring, per pair	37 @ 63	37 @ 63
Ducks, per pair	62 @ 1 00	62 @ 1 00
Turkeys, per lb	15 @	14 @ 16
Geese, each		1 25 @ 1 50

N. Y. LIVE STOCK MARKET—BEEVES—Receipts for four weeks, ending Aug. 17, 15,758, viz: week ending July 27, (4,950), ¼c. lower; August 3, (3,167), ¼c. higher; Aug. 10, (4,311), ¼c. lower; Aug. 17, (3,350)½c, higher. Present prices per lb net weight. First quality, 9c.—9¼c. Medium, 8¼c.—9c; Poor, 6½c—8c Average price, 8¼c. @ 8½c.

SHEEP AND LAMBS—Receipts large, footing up 51,400 for the four weeks just ended. They are now worth 3½c @ 4c. per lb, live weight, for Sheep, and $2,00 @ $4,00 per head for average lambs.

HOGS—Arrivals have been heavy, amounting to 29,684 for the past month. Prices have declined to 4¾c. @ 5¼c. per lb, live weight, for prime corn feed hogs.

THE WEATHER, for the past four weeks, has been much cooler than the preceding month, but on the whole pleasant, and favorable to growing crops. *Our Weather Notes*, condensed, read: July 24 to 29, clear and fine, (somewhat cool on 25, 26, 27); 30, clear A. M., heavy shower, P. M.; 31, clear and warm. August 1, fine; 2, moderate rain during day; 3, cloudy, with heavy rain at night and next morning; 5, fog A. M., clear and warm P. M.; 6 to 11, clear, fine, and moderately warm; 12, clear A. M., rain P. M.; 18, clear and hot; 19 and 20, clear but quite cool; 21, 22, clear and warmer; 23, clear and cool.

Agricultural Exhibitions for 1858.

[The following list of fairs is *in addition* to those published last month. We intended to give the whole in this place, but our regular subscribers have the others on hand, and being unexpectedly crowded for room, we insert only those not before reported. Persons desiring all the fairs will need both the August and September numbers, or they will find the whole in the German edition for September, where we chanced to have room for them all.]

Place.	*Where held*	*Date*
STATE.		
Amer. Pomol. Soc	New-York	Sept. 14—16
Georgia, (S. Central)	Atlanta	Oct. 10—13
Tennessee	Nashville	" 11—16
Maryland	Baltimore	" 19—24
Mississippi	Jackson	Nov. 9—12
COUNTY FAIRS.		
CONNECTICUT.		
New-London	Norwich	Sept. 22—24
Fairfield	Danbury	" 21—24
Litchfield	Litchfield	" 22—23
Windham	Brooklyn	Sept. 24 Oct. 1
Middlesex	Middletown	Oct. 6— 8
INDIANA.		
Morgan	Centreton	Sept. 8—11
Shelby	Shelbyville	" 7—10
Kosciusko	Warsaw	" 13—15
Montgomery	Crawfordsville	" 15—17
Boone	Lebanon	" 16—17
Southwestern	Vincennes	" 19—22
Howard	Kokoma	" 21—22
Jefferson	Madison	" 22—23
Owen	Spencer	" 22—24
Henry	Newcastle	" 22—24
Wabash	Wabash	" 28—30
Ohio & Switzerland	Enterprize	" 28—30
Scott	Lexington	" 28—30
Sullivan	Carlisle	" 30 Oct. 1
Greene	Bloomfield	Oct. 13—15
Blackford	Hartford City	" 14—16
Fulton	Rochester	" 15—16
Southwestern	Vincennes	" 19—22
Howard	Kokoma	" 21—22
ILLINOIS		
McLean	Bloomington	Sept. 2— 4
Macon	Decatur	" 7—10
Henry	Cambridge	" 8— 9
Rock Island	Rock Island	" 8— 9
Union	Jonesboro	" 10—11
Lee	Amboy	" 14—17
Champaign	Urbana	" 21—
Peoria	Peoria	" 21—24
Scott	Winchester	" 22—24
Winnebago	Rockford	" 21—24
Kane	Geneva	" 23—24
Hancock	Carthage	" 23—25
La Salle	Ottawa	" 28—30
Mercer	Millersburg	" 28—30
Du Page	Wheaton	" 28—30
Will	Joliett	" 28—30
Carroll	Mount Carroll	Sept. 29 Oct. 1
Mason	Havana	" 29 " 1
Warsaw	Warsaw	" 29 " 1
Lake	Libertyville	Oct. 5— 6
Livingston	Pontiac	" 6— 7
Kankakee	Kankakee	" 6— 8
Stephenson	Freeport	" 6— 8
MAINE.		
Somerset	Skowhegan	Sept. 28—30
East Somerset	Hartland	Oct. 6— 7
Hancock	Ellsworth	" 12—13
Kennebec	Readfield	" 12—14
South Kennebec	Gardiner	" 12—14
Lincoln	Jefferson	" 12—14
MICHIGAN.		
Northern Lenawee	Tecumseh	Sept. —16
Ottoway	Eastmanville	" 22—23
Kalamazoo	Kalamazoo	" 22—24
Eaton	Charlotte	" 28—3
St. Joseph	Centreville	" 29—30
Rent	Grand Rapids	Oct. 5— 7
Calhoun	Marshall	" 5— 7
Berian	Niles	" 6— 7
Lenawee	Adrian	" 6— 7
Genessee	Flint	" 6— 7
Jackson	Jackson	" 6— 8
Oakland	Pontiac	" 6— 8
Barry	Hastings	" 13—14
Clinton	St. Johns	" 13—14
NEW-YORK.		
Jefferson (Union)	Adams	Sept. 15—16
St. Lawrence	Canton	" 15—17
Lodi	Lodi	" 15—17
Lewis	Turin	" 16—17
Albany	Albany	" 21—24
Chautauque	Fredonia	" 21—23
Dutchess	Washington Hollow	" 21—23
Delaware	Franklin	" 22—23
Tonawanda Valley	Attica	" 22—23
Yates	Penn Yann	" 23—24
Yates	Yates Centre	" 24—25
Brookfield	Clarksville	" 27—28
Schuyler	Watkins	" 28—29
Wyoming	Warsaw	" 28—30
Niagara	Lockport	" 28—30
Orleans	Albion	" 29—30
Dryden	Dryden	" 30 Oct. 1
OHIO.		
Clinton	Wilmington	Sept. 22—24
Darke	Greenville	" 22—24
Hocking	Logan	" 29—30
Montgomery	Dayton	" 29 Oct. 1
Muskingum	Zanesville	" 29 " — 1
Miami	Troy	" 29 " — 1
Wayne	Wooster	" 29 " —1
Logan	Bellefontaine	Oct. 5— 8
Holmes	Millersburg	" 12—14
VIRGINIA.		
Lowdoun	Leesburg	Oct 19—20
Valley	Winchester	" 19—22

For other Fairs see page 288.

☞ **The actual circulation of the Agriculturist to regular subscribers, is believed to be much larger than that of any other Agricultural or Horticultural Journal in the world.**

GREEN-HOUSE DEPARTMENT CONTINUED.

there may be no error in the varities which they cultivate in pots.

No. 2.—Is devoted exclusively to Camellias, which are cultivated in large quantities.

No. 3.—Is devoted partly to Camellias, and partly to Azaleas and other Greenhouse plants.

No. 4 —To Heaths and other plants.

No. 5 —To Orchideous and Stove plants.

No. 6.—To large specimen plants.

No. 7.—To propagation.

No. 8.—To Roses and bedding plants.

No. 9.—To general stock.

EXOTIC GRAPES.

The following are the best sorts for culture under glass :—

1 year old, 50 cents each; 2 do., 75 cents each; extra strong, $1.

Black Hamburg.
Black Prince.
Golden Chasselas.
Grizzly Frontignan.
Royal Muscadine.
Muscat of Alexandria.
Flamed Tokay.
White Sweetwater.
Constantia of Zante.
Red Chasselas.
Xeres.
Zimfindel.

GREENHOUSE PLANTS.

Below will be found a selection of some of the best varieties, some of which are suitable for window culture, some for cheap houses, and others for stores and conservatories.

Abutilon Van Houttii	.25 to 1.00	Echites picta	1.00
" insigne	0.50	" nutans	1.00
Acacia armata	.0.25 to 1 00	" Russellianum elegans	1.00
" intermedia	.0.20 to 1.00	" truncatum spectabile	1.00
" cultriformis	1.00	Erythrina caffrii	0.50
" longinima	0.60	Euphorbia sanguinea	0.50
" grandis	0.50	Francisca gracilis	0.50
" Roi Leopold	1.00	" confertiflora	0.50
" squarrosa citrina	0.50	" angusta	0.75
Andisia crenulata	.0.50 to 3.00	Fuchsia Duchesse of Lan-	
Azalea lateritia	.0.38 to 3.00	" caster	0.50
" nibso plena	.0.50 to 3.00	" Honeybell	0.50
" Gledstanerii	1.00	" Commodore	0.50
" wirzana	1.00	" Mrs. Taite	0.50
" amœne	1.00	" Psyche	0.50
" vittata	1.00	" Ajax	0.50
" Beauty of Europe	1.00	" Empress	0.50
" Narcissæflora	1.00	" Joan of Arc	0.50
" Staulyana	1 00	" Glory	0.50
" rameutaceæ	1 00	" Lady Franklin	0.50
Bouvardya longiflora	0.50	" Incomparable (Mayle,)	0.50
Brunsvigea Josephina	1.00	" Queen Victoria	1.00
Camellia alba plena	0.75	Gardenia Devoniensis	0.50
" candidissima	0.75	" Whitfieldii	1.00
" Chandlerii	1.00	" Fortunii	0.50
" Duchess of Orleans	1.00	Genista fragrans	0.50
" Florida	1.00	Gloxinia Imperialis	1.00
" Feastii	1.00	" Wilsonii	1.00
" Hempsteadi	0.75	" Nobilis	1.00
" Henri Favre	1.00	" Leonie Van Houtte	1.00
" Jeffersonii	1.00	" Grand Sultan	1.00
" Mrs. Abby Wilder	1.00	Grevillea Tillermanii	0.50
" Princesse Bahchiochi	1.00	" Sternbergii	0.50
" Wilderii	1.00	" sulphurea	0.50
Campylobotrys discolor	0.50	" lavendulacea	0.50
Cineraria Lady Hume Camp-		Hoya imperialis	2.00
" bell	0.50	" picta	3.00
" Rosy morn	0.75	Hydrangea Japonica	0.38
" Resplendant	0.50	Ixora coccinea superba	1.00
" Advancer	0.50	" erocata	0.50
" Lady Camoys	0.50	" Javanica	1.00
" Estella	0 50	Lilium longiflorum	0.50
Cissus discolor	0.50	" lancifolium album	1.00
Clerodendron fallax	0.50	" punctatum	1.00
" Bungeii	0 50	" rubrum	1.00
" Clethra arborea	0.50	" speciosum	1.00
Clivia nobilis	1.00	Medinella, erythrophylla	0.50
Correa Cavendishii	0.75	" speciosa	0.50
" speciosa	0.50	Musa Cavendishii	2.00
" Lindleyana	1.50	" dacca	2.00
" brilliant	1.00	Pimelia spectabile	1.00
" delicata	0.50	Rhopala elegans	0.50
Oroton pictum	0.75	Rojiera amœna	0.50
Cyclamen Persicum	0.25	" cordata	0.75
Daphne odora	0.50	Rondolet a speciosa	0.50
" rubra	1.00	Stephanotus floribundus	1.00
Dielytra spectabilis	0.50	Thyrsacanthus lilacina	0.75
Diplacus grandiflorus	1.00	" rutilans	0 50
Diplodenia crassimoda	1.00	Tremandra verticillata	0.75
Dracena terminalis	1.00	Viburnum odoratissimum	1.00
" nobilis	1 00	" suspensum	0.50

Our collection embraces the finest new Pelargoniums and all the choicest bedding plants, such as Geraniums, Chrysanthemums, Verbenas, Phloxes, Gladiolus, Amaryllis, Petunias, Heliotropes, Salvias, &c. No lawn is at all, complete which has not its surface variegated with some of the many brilliant bedding plants now cultivated.

It is scarcely proper for the Proprietors to speak of their mode of dealing; they leave that to those who know them. They will simply say, that they do not trust their sales to irresponsible men, whose only object is to make large commissions, irrespective of the interest of the purchaser or the reputation of the proprietors. Reputation and character are of more value in their eyes than money. The first two they wish to secure by air and liberal dealing—the last must take care of itself.

TRANSPLANTING

Is carefully done at the Nursery, but as the planting is often improperly done by the purchaser, and the trees consequently die, it is expressly understood that the proprietors do not ensure the living of any trees. Directions for transplanting will be found on the cover of their catalogue.

It will be born in mind that the varieties given above are but a small part of the catalogue, which can be obtained on application, as below.

Where very large quantities are wanted by dealers, or others, a liberal discount will be made.

SMALL TREES CAN BE FURNISHED AT HALF THE ABOVE PRICES.

TERMS CASH.

For packing, a charge will be made simply covering cost, and the trees will be delivered at Fulton Market (New York City) free of freight.

Priced and detailed catalogues will be furnished on the grounds, or at the office of the Bridgeport Insurance Company, 34 Wall street, New-York City.

FACILITIES OF COMMUNICATION WITH NEW-YORK.

Visitors can reach Flushing from Fulton Market slip, New-York, by boat and railroad six times per day. Time of transit, 50 minutes; leaving both New-York and Flushing at 8, 10, 1, 4, and 5½ o'clock

FRUIT TREES!

FOR AUTUMN OF 1858.

ELLWANGER & BARRY solicit the attention of Planters, Nurserymen and Dealers in Trees to their present stock which has never been equaled in extent, nor surpassed in vigor, health, and beauty of growth. In its propagation and culture the utmost care has been taken to insure accuracy.

APPLES on free stock for orchards, 2 to 4 yrs from bud and graft.
do on Paradise and Doucain stock for gardens, 2 to 3 yrs.
PEARS on Pear stock, 2 to 3 years from bud.
do. on Quince stock, 2 years from bud.
do. on Quince stock, 3 to 4 years, with fruit buds.
CHERRIES on Mazzard stocks, 2 years from bud.
do on Mahaleb stocks, 2 years from bud.
QUINCES, Orange, Portugal and Rea's Seedling, a superb new variety.
ENGLISH FILBERTS.
SPANISH CHESTNUTS.
GRAPES, Foreign for culture under glass, strong, well ripened plants in pots of all the best varieties.
BLACKBERRIES, New-Rochelle, or Lawton and Dorchester, (the largest stock in existence.)
RASPBERRIES, a general collection, including those fine new everbearing sorts, "*Belle de Fontenay*" and "*Merveille de quatre Saisons.*"
GOOSEBERRIES, the best English sorts, and an immense stock of the *American Seedling* that bears most profusely and never mildews
CURRANTS, White Grape, Cherry, Victoria, Black Naples, and many other old and new sorts.
RHUBARB, including Linnæus, Prince Albert, Giant, Victoria, and many others.

All who are interested are respectfully invited to examine the stock and prices. The following Catalogues are sent gratis, prepaid, to all who apply and inclose one stamp for each.

No. 1—Descriptive Catalogue of Fruits.
No. 2—Descriptive Catalogue of Ornamental Trees, &c.
No. 3—Descriptive Catalogue of Greenhouse & Bedding out plants.
No 4—Wholesale or Trade List.

☞ See advertisement of Ornamental Trees, Bulbs, &c.

ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

A FROST & CO.,

Genesee Valley Nurseries,

ROCHESTER, N. Y.,

Have published their Wholesale Catalogue, No. 4, of Fruit, Ornamental Trees, Plants, &c., containing prices for the Autumn of 1858.

All those parties who wish to purchase largely, will consult their interest by examining this Catalogue. It is sent *free* to all applicants, by inclosing a stamp.

Stephen Hoyt & Sons,

NEW-CANAAN, CT.

Offer for sale a large and choice stock of Fruit and Ornamental trees

Comprising 40,000 apple trees 3 and 4 years from the bud.
50,000 peach trees 1 year " "
Pear, Cherry, Plum, Apricot and Quince trees.
Currant, Gooseberry, Raspberry and Blackberry plants.
Horse Chestnut, Mountain Ash, Larch, Tulip, Black Walnut.
Silver, Sugar and Norway Maples.
20,000 Norway Spruce from 1 to 5 feet high.
20,000 American Arbor Vitæs from 1 to 6 feet high.
Balsam Fir, Pine, Hemlock, &c., &c.
100,000 Sugar Maples, seedlings one year old.
100,000 American Elm, &c.
August, 1858.

New-Brunswick, N. J., Nurseries.

EDWIN ALLEN, invites attention to his large stock of Trees and Plants now for sale—all of which are grown under his personal care and can be relied upon as genuine and true to name.

His stock of Apple, Pear, Cherry and Plum is large, and, being budded upon seedling stocks, possesses a beauty of growth seldom equaled, and comprises the best sorts in cultivation.

The Strawberries comprise Burr's New Pine, Hovey's Seedling, Scarlet Magnate, (Prince's,) McAvoy's Superior, Large Early Scarlet, Marylandica, Walker's Seedling, &c. Also Linnæus Rhubarb; Giant Asparagus; Grape Vines; &c., &c.

A descriptive *low priced* Catalogue will be mailed gratis by addressing as above.

Fruit and Ornamental Trees for Sale.

The subscriber would call attention the coming season to his large stock of Peach and other fruit trees, embracing Apple, Pear and Cherry, both Dwarf and Standard, of extra and medium sizes. Also Apricots, Almonds Plums, Quinces, &c., with a large stock of Evergreen and Deciduous trees suitable for ornamenting grounds, at reasonable prices; and 50,000 one year's growth Silver Maple seedlings, and other Nursery stock.

Catalogues or Trade List, with prices annexed, will be sent to all who inclose a one-cent stamp for each.

Address ISAAC PULLEN,
Sept. 1st, 1858. Hightstown, Mercer Co., N. J.

Cherry Stones, Tree Seeds, &c.

The subscriber's stock of mazzard pits, are now to hand in the best condition for germination. $7 per bushel. Preserved in sand from select trees, $10 per bushel. Dealers and Nurserymen ordering largely at reduced rates.

A Catalogue of 200 kinds tree seeds on application.

A very large stock of OSAGE ORANGE, ASPARAGUS ROOTS, &c., at low rates.

The Nursery contains one of the finest collections of trees in the Country. Catalogues gratis.

THOMAS MEEHAN,
Germantown Nurseries,
near Philadelphia, Pa.

To Nurserymen.

We beg to announce to the trade that we can supply the following stocks of healthy and vigorous growth:

PEAR SEEDLINGS 2 years. (1 year transplanted, fine.)
do do 1 year from seed bed.
MAZZARD CHERRY 1 year, very strong.
MAHALEB do 2 years, (1 year transplanted, fine.)
do do 1 year from seed bed.
QUINCE STOCKS, Angers and Fontenay. 1 year from cuttings.
MANETTI Rose stocks.
COMEWELL WILLOW for the Weeping sorts.

Priced Lists sent on application
See other advertisements.

ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

Genesee Valley Nurseries.

FRUIT TREES, ORNAMENTAL TREES, SHRUBS, ROSES, &c., &c.

THE Proprietors of these well known and extensive Nurseries have on hand a large and well-grown stock of

FRUIT TREES, ORNAMENTAL TREES, SHRUBS, ROSES, GREEN-HOUSE and BEDDING PLANTS, DAHLIAS, PHLOXES and other HARDY BORDER PLANTS.

The assortment of ROSES is very extensive, and embraces all varieties which could be obtained and which are considered worthy of cultivation. Our collection of HYBRID PERPETUALS is the most complete in the country.

The GREEN HOUSE DEPARTMENT receives particular attention, and the stock of Fuchsias, Geraniums, and other Green-House Plants, is large and varied. In the

FRUIT DEPARTMENT,

our stock consists of

APPLES, of the leading varieties, Dwarf and Standard.
PEARS, of all desirable varieties, on Quince and Pear stock.
PLUMS—A choice selection of well-grown trees of popular sorts.
CHERRIES—All the popular sorts, Dwarf and Standard.
PEACHES—A choice assortment.
NECTARINES, APRICOTS and QUINCES, in variety.
GRAPES—A complete assortment of both native and foreign sorts, including many of recent introduction.

SMALL FRUITS.

CURRANTS—Twenty-five choice sorts, including many new varieties
RASPBERRIES, GOOSEBERRIES, BLACKBERRIES and STRAWBERRIES of all new and approved varieties.

We have for the accommodation of NURSERYMEN, STOCKS and SEEDLINGS, including APPLE, PEAR, PLUM, CHERRY, QUINCE, &c., &c. Also, SEEDLINGS OF EVERGREEN TREES including Norway Spruce, Balsam Fir, Scotch Pine, Austrian Pine, Larch and Hedge Plants.

ORNAMENTAL DEPARTMENT.

The stock of Ornamental Trees and Shrubs, both Deciduous and Evergreen, will be found to embrace all that is desirable among LAWN and STREET TREES and SHRUBS. ROSES, consisting of Hybrid Perpetual and Summer Roses; Moss, Bourbon, Noisette, Tea, Bengal or China and Climbing or Prairie Roses.

HARDY HERBACEOUS or BORDER PLANTS and BULBOUS FLOWER ROOTS, an extensive assortment.

All the above will be disposed of at low rates, and on advantageous terms For further details we refer to our full set of Catalogues, which will be mailed to applicants who inclose a one cent stamp, for each.

No. 1. Descriptive Catalogue of Fruits, &c.
No. 2. do do Ornamental Trees, Shrubs, Roses, &c.
No. 3. do do Green-House and Bedding Plants, Dahlias, &c.
No. 4. Wholesale or Trade List for Nurserymen and Dealers.
No. 5. Catalogue of Bulbous flower roots.

☞ All communications to be addressed to

A. FROST & CO.,
Genesee Valley Nurseries,
Sept. 1858. Rochester, N. Y.

ANDRE LEROY'S NURSERIES AT ANGERS, FRANCE.

The proprietor of these Nurseries—the most extensive in Europe—has the honor to inform his numerous friends and the public that his Catalogue of fruit and ornamental trees, shrubs, roses, seedlings, fruit stocks, &c., for the present season, is now ready and at their disposition.

The experience which he has acquired in the last ten years by numerous and important invoices to the U. S., and the special cultures which he has established for that market upon an area of over 300 acres are for his customers a sure guarantee of the proper and faithful execution of their orders.

Apply as heretofore to F. A Bruguiere, 138 Pearl-St., New-York, his sole Agent in the U. S.

NOTE.—All advertisements or circulars bearing the name of Leroy Angers must not be considered as emanating from our house if they do not at the same time mention that Mr. F. A. Bruguiere is our Agent. Address

F. A. BRUGUIERE, New-York.
ANDRE LEROY, Angers, France.

To the Tree Trade.

100,000 PLUM TREES.

The attention of the Trade is particularly requested to our Plum Trees, of which we offer the present Autumn 100,000 Trees from one to four years old, grown on a vigorous and hardy Plum stock, of which we have the monopoly. These trees are from four to eight feet in hight, stocky, and perfect pictures of healthful condition.—The varieties are such, as our experience as Plum orchardists, has demonstrated to be eminently worthy of perpetuity.

	doz.	hun.	thous.
PLUMS—50,000 4 to 6 feet in hight, one year old	$3.50	25 00	225.00
PLUMS—10,000 3 to 4 feet in hight, one year old	3.00	20.00	180.00
PLUMS—30,000 4 to 6 feet in hight, two years old	4.50	30.00	250.00
PLUMS—10,000 6 to 8 feet in hight, four years old	6.00	45.00	400.00

C. REAGLES & SON,
UNION NURSERIES.
Schenectady, N. Y.

NURSERY TREES AND STOCKS. Seneca Lake Highland Nurseries, Havana, Schuyler Co., N. Y., having been established 17 years, can furnish a most valuable stock, at low rates, to any planting orchards, fruit yards or pleasure grounds, wishing stock to retail or plant in Nurseries, also seeds of the Pear and Apple, and Pits of the Peach, Plum and Cherry. Trees of the genuine "TOMPKINS CO. KING" Apple, the fruit of which sells in New-York, at $6 to $8 per barrel, can be furnished. Price and descriptive Catalogues furnished gratis on application by mail. E. C. FROST.

Catch The Tree Insects.

A NEW, SIMPLE and EFFECTIVE apparatus for catching all kinds of INSECTS, Canker Worms, Measure Worms, Aphides, &c., &c., has just been invented by Capt. Wm. W. Taylor, of South Dartmouth, Mass. The immediate home demand is now exhausting all that can be made, but arrangements will soon be completed to manufacture them fast enough to meet the wants of a wider demand. For further particulars address

WM. W. TAYLOR,
South Dartmouth, Mass.

Ornamental Trees, &c.

ELLWANGER & BARRY invite the attention of Nurserymen and Dealers and also gentlemen improving their grounds, Landscape gardeners, &c., to their great stock of Ornamental Trees, Shrubs and Plants, covering upwards of *Ninety Acres*, closely planted, all well grown and in the most perfect health and vigor.

DECIDUOUS TREES—Elms, Maples, Cypress, Catalpas, Horse Chestnuts, Larch, Laburnums, Lindens, Magnolias, Mountain Ash, Tulip Trees, Salisburia, Poplars, Thorns, &c., &c., of all sizes.

WEEPING TREES—Ash, Birch, Elm, Linden, Mountain Ash, Poplar, Thorn, Willow, including the American and Kilmarnock.

EVERGREEN TREES—Arbor Vitæs, (American, Siberian and Chinese.) Red Cedar, Common Juniper, Balsam Fir, European Silver Fir, Norway Spruce, Red American Spruce, African or Silver Cedar, Japan Cedar (Cryptomeria.) Pines (Austrian, Scotch, Benthouiana, &c.,) Yew (English and Irish.) Tree Box, Mahonia, Washington, or "Big Tree" of California, and many other California Evergreens.

FLOWERING SHRUBS, including all the finest new varieties of Althea, Calycanthus, Flowering Currant, Deutzia, Loniceras, Lilacs, Spiræa, Syringas, Viburnums, Wiegelas, &c., &c.

CLIMBING SHRUBS, such as Honeysuckles, Bignonias, Aristolochia, (Pine vine,) Clematis, Ivy, &c.

ROSES, Pæonies, Dahlias, Phloxes, and other hardy border perennial plants.

Parties interested are invited to examine the stock. To those who buy largely, prices will be made entirely satisfactory as the stock is very great and must be reduced.

The following Catalogues sent gratis, pre-paid, to all who inclose one stamp for each, viz.:

No. 1—Descriptive Catalogue of Fruits.

No. 2—Descriptive Catalogue of Ornamental Trees & Shrubs, &c.

No. 3—Descriptive Catalogue of Dahlias, Greenhouse Plants, &c.

No. 4—Wholesale Catalogue.

☞See advertisement of Fruit Trees, Stocks, Bulbs, &c.

ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

Bulbous Flower Roots.

ELLWANGER & BARRY offer a large stock of the finest Dutch Bulbs, including Hyacinths, Tulips, Crocus, Lilies, Jonquils, &c., at the lowest rates.

Orders promptly filled after 1st Sept. Priced Catalogues sent gratis.

See other advertisements.

MOUNT HOPE NURSERIES, Rochester, N. Y.

RUSSIA OR BASS MATS, selected expressly for budding and tying. GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit by D. W. MANWARING, Importer,
248 Front-street, New-York.

Rebecca Grape Vines for Sale

AT REDUCED PRICES.

2 years old vines, strong plants $20 per dozen, $150 per 100.
1 year old vines, good plants $12 per dozen, $80 per 100.
Diana, two year old vines, strong plants $9.00 per dozen.
1 year old vines, good plants, $6.00 "
Concord, 2 year old vines, strong plants. $9.00 "
1 year old vines, good plants, $6.00 "
Delaware, 1 year old vines, good plants, $3.00 each.
Isabella, 2 year old vines, strong plants, $18.00 per 100.
1 year old vines, good plants, $10.00 per 100.
Catawba, 2 year old vines, strong plants, $15.00 per 100.

STRAWBERRIES

of the most approved varieties, including Prince's Imperial Scarlet, Primate, Magnate the largest of all, price $2.00 per hundred, $10 per thousand.

LINNÆUS RHUBARB;

per dozen, $2.00; per hundred, $10.

Also a general assortment of Fruit Trees, Evergreens, &c. I beg leave to call the attention of those wishing to purchase Rebecca Vines, as I have the largest stock and strongest vines of any one.

☞ Terms positively Cash.

WILLIAM BROCKSBANK,
Prospect Hill Nursery, Hudson, Columbia Co., N. Y.

True Delaware Grape Vines.

From the original stock; also LOGAN, REBECCA, and DIANA VINES, strong, hardy plants, from the open ground, ready for delivery this Fall. GEO. W. CAMPBELL,
Sept. 1, 1853. Delaware, Ohio.

LINNÆUS RHUBARB ORANGE RASPBERRY, LAWTON BLACKBERRY.

Fine plants of the above best varieties for sale in quantity for field planting, &c., at low rates. Address
FREEMAN & KENDALL, Ravenswood Fruit Garden,
Ravenswood, L. I., near New-York.

WILSON'S ALBANY SEEDLING!

THE BEST AND MOST PROLIFIC STRAWBERRY!!

Yields 200 Bushels per Acre!!!

UNEQUALED for SIZE, COLOR, FLAVOR, FIRMNESS, FRUITFULNESS, and LONG CONTINUED RIPENING—is perfectly hardy. Can be transplanted safely during the whole of September and October at the North, and until end of November at the South. Circulars, with description of fruit, &c., sent to all applicants inclosing stamps. Price, packed and delivered in Albany, $10 per thousand, $1 50 per hundred, or $1 for fifty. Orders, with cash, promptly attended to. By

WM. RICHARDSON, 96 South Pearl St.
Albany, N. Y.

Strawberries.

ELLWANGER & BARRY are prepared to furnish all the best American and Foreign varieties, new and old, strong, well-rooted plants, at the lowest rates. All orders, whether for one dozen or 10,000 plants, promptly filled after 15th Aug., packed so as to go by Express safely to the most distant parts of the country.

Catalogues sent gratis.

MOUNT HOPE NURSERIES, Rochester, N. Y.

Peabody's Strawberries.

GENUINE PLANTS for sale, (after Sept. 20.) Delivered in New-York City, carefully packed, at $1 50 per dozen. or $10 per hundred. Address

ROBERT CUNNINGTON, 191 Water-st., New-York.

PEABODY'S STAWBERRY for sale at $2 per dozen, or $10 per hundred.

WILLIAM LAWTON,
New-Rochelle, N. Y.

The Great Strawberry.

Felten's Improved Albany Seedling Strawberry,

grown by A. L. FELTEN, of Philadelphia, is now offered for the first time to the public with the assurance, that in all the points which constitute a really desirable first class fruit, (whether for market or private use) it stands without a rival. It is not only of extraordinary size, but it is far more prolific than any other known variety. The yield has been satisfactorily proven to be fully double that of the most esteemed kinds. Its color is a deep, rich, glossy red; while in point of flavor, it is not excelled. THE FELTEN SEEDLING is remarkably solid and firm fleshed—which adapts it admirably for carrying to market, preserving, &e. Being a hermaphrodite, and a remarkably early and late bearer, it may justly be regarded as the most desirable strawberry in the market. Combining as it does the great essentials of extraordinary size, great productiveness, fine color and flavor, unusual firmness of flesh, and late and early bearing, it is offered to the public with the confident belief that it is destined to supersede all others.

Price of Plants, $3 per dozen, or $15 per hundred, securely packed, and delivered at any city Express or Depot, free of charge. A handsome illustration of the fruit, natural size, drawn from the growing plant, furnished on post-paid application.

As the supply of plants is limited, early orders are necessary to secure them. As the entire stock of plants are now in our possession, purchasers are cautioned against all attempts to supply them except through our house.

SPANGLER & GRAHAM,
No. 627 Market st. Philadelphia.

NEW-ROCHELLE (OR LAWTON)

BLACKBERRY PLANTS.

PRICES REDUCED!

The Subscribers announce to their friends and customers that they have now

OVER SIX ACRES
of the
GENUINE NEW-ROCHELLE (OR LAWTON)
BLACKBERRY PLANTS

under cultivation, and in good condition.

They are therefore prepared to fill large orders the coming FALL and the next SPRING, at the following reduced prices:

One Thousand Blackberry Plants	$80
Five Hundred Plants	41
One Hundred Plants	10
Fifty Plants	6
Two Dozen Plants	3
One Dozen Plants	2

N. B.—All Plants ordered of us will be TAKEN up and PACKED with the GREATEST CARE, and UNDER OUR OWN PERSONAL SUPERVISION.

Of the MANY THOUSANDS sent out by us last year, we have heard very few instances of failure, notwithstanding that they have been forwarded to

EVERY PART OF THE COUNTRY,

and the setting out has often been entrusted to unskillful hands.

Printed directions for setting and cultivating are sent with every package.

GEORGE SEYMOUR & CO.,
South Norwalk, Conn.

The Lawton Blackberry

Is unique, and not, as some have been led to believe, the common "NEW ROCHELLE BLACKBERRY," *improved by cultivation*. It differs in shape, size, and quality from all others. Is perfectly hardy, enduring the severest Winters without protection. The fruit is delicious, having small seeds in proportion to its size; in a prodigious bearer, and in any *good farming soil*, the stalk, leaf, flower and fruit, will grow of mammoth proportions.

This variety only is cultivated by the undersigned for sale, and for the convenience of Clubs, and those who take orders for plants. They will be safely packed in boxes, put up in clusters of one dozen, without charge for package, at the following rates: A box of 1 dozen, $2; a box of 3 dozen, $5; a box of 8 dozen, $10. To prevent imposition, *every package should be marked and branded*, and those who purchase will thus secure the genuine variety, without admixture, and may enjoy this delicious fruit the second Summer in perfection. The money should accompany the order, with name and address distinctly written. N. B.—*No itinerant plant sellers or traveling agents are employed to sell the plants from my grounds.* Address

WILLIAM LAWTON, No. 54 Wall-st., New-York.
Or New Rochelle, N. Y.

Orange's Crystal White Blackberry

Is offered for the first time to the public; its color is clear Crystal White, it is very prolific while the fruit is larger than the Lawton and of superior flavor, rendering it the most desirable Blackberry ever offered to the public. Price of plants, $5 per dozen securely packed and delivered at the Express Office free of charge. As this plant is quite new, the supply is very limited; early orders are necessary to secure them.

Address JOHN B. ORANGE,
Albion, Illinois.

NEWMAN'S THORNLESS BLACKBERRY is planted and cultivated like the Antwerp Raspberry, and will yield more marketable fruit per acre than any other cultivated Blackberry. It is a sweet, fine-flavored, large sized berry, and the plants are as free from thorns as the common black raspberry. Send for a circular. A. A. BENSEL,
Milton, Ulster Co., N. Y.

True H. R. Antwerp Raspberry plants in quantities.

PEARS! PEARS!!

FIELD'S PEAR CULTURE, Now Ready!

A COMPLETE MANUAL for the cultivation of the PEAR TREE.

The causes of failure pointed out, and the successful method given.

THREE HUNDRED PAGES, AND ONE HUNDRED AND FIFTEEN ENGRAVINGS.

PRICE 75 CENTS, sent by mail postage paid on receipt of price.

A Catalogue of more than one hundred Agricultural Books sent to all applicants.

A. O. MOORE,
Agricultural Book Publisher, 140 Fulton st.,
New-York.

Raspberries, Grape Vines, Rhubarb, &c.

A choice assortment of small fruits, including

Brinkle's Orange Raspberry,

a new variety unequaled in flavor and beauty, also very productive and considered by many as the very best, also Thunderer—and Vice Pres. French—and

Myatt's Linnæus Rhubarb,

an English sort particularly tender, fine flavored and productive, and recommended as the most profitable for marketing, and

Rebecca & Delaware Grape Vines,

strong and well rooted, also

BLACKBERRIES—New Rochelle or Lawton, and Newman's Thornless.

CHERRY CURRANTS.

STRAWBERRIES—Hovey's Seedling, Boston Pine, Large Early Scarlet.

PEABODY'S NEW SEEDLING.

DWARF PEAR TREES—of the most approved varieties.

The above plants are offered to the Trade, Market Gardeners and others, wholesale and retail. Catalogues furnished on application. FREEMAN & KENDALL,
Ravenswood Fruit Garden, Ravenswood, L. I., near N. Y.

Twelve Diplomas.

Two Premiums

and a Bronze Medal awarded.

Full directions for preserving accompany the cans.

PRICES.

Quart Cans, per dozen	$2 50
Three Pint Cans, per dozen	3 00
Half Gallon Cans, per dozen	3 75
Half Gallon Cans, (Extra Large Openings,) per dozen	4 25
One Gallon Cans, (Extra Large Openings,) per dozen	5 00
Wrenches, each	6
Funnels, each	10

A liberal discount to dealers.

WELLS & PROVOST, Sole Proprietors,
No. 215 Front-st., near Beekman, New-York.

SCHOOLEY'S PATENT PRESERVATORY.

FOR PRESERVING MEATS, FRUITS, VEGETABLES, the products of the Farm and Dairy, and all perishable articles, WITHOUT DAMAGE from heat and moisture in SUMMER, OR COLD IN WINTER.

Invaluable for Farmers, Grocers, Butchers, Candle and Oil Makers, Hotels, Restaurant Keepers, AND IS THE BEST DAIRY OR MILK HOUSE IN THE WORLD.

Milk can be kept sweet for weeks in Summer, and Butter made with equal facility the entire season.

A MILK HOUSE on this plan can be kept at 40° the entire season, causing a perfect yield of cream, and the purest butter known.

For rights, plans, or estimates, apply to the undersigned.

H. C. Getty, at John Gebney's, West Street, New-York, is acting in the City of New-York.

J. L. ALBERGER,
Buffalo, N. Y.

FRUIT CANS.

TAYLOR & HODGETT'S INFALLIBLE SELF-SEALING FRUIT CAN WITH BURNET'S ATTACHMENT.

PATENTED AUGUST 21st, 1855.

These cans are so simple in their construction that any one can close fifty cans an hour without the aid of a Tinner. They require neither Solder, Cement, nor Wax.

Manufactured and for Sale by

E. KETCHAM & CO.,
239 Pearl-Street,
New-York.

THERMOMETERS, BAROMETERS, &c., of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by D. EGGERT & SON, 239 Pearl st.

Mediterranean Wheat.---A Fresh Importation.

RED AND WHITE—Very superior, selected expressly for my retail trade, by my agent in the Mediterranean.

Also, all other choice varieties of Wheat.

WINTER BARLEY—A hardy and productive variety, worth 15 or 20 per cent more than Spring Barley for Brewer's use.

SEED RYE.

A large assortment of Grass and Clover, also Field and Garden Seeds.

PEABODY'S STRAWBERRIES, which I can furnish after the 15th of September. For sale by R. L. ALLEN,
191 Water-st.

SHORT HORNS.

I have several fine young Short Horns, male and female for sale, also my Stock bull Hiawatha, 1663.
Sennett, N. Y. JNO. R. PAGE.

CHINESE TARTAR SHEEP, for Sale.—My stock of the above breed of Sheep, being larger than I require, I offer a few of them for sale; the Mutton and breeding qualities are too well known, to need any criticism here.
Address R. WISTAR. Philadelphia, Pa.

CHINESE PIGS.—Also a few breeding Sows and Boars warranted of pure blood. for sale by
HORACE HUMPHREY.
Winchester Center, Conn.

THE MYSTERIES OF BEE KEEPING EXPLAINED will be sent to any address by mail *free* of postage for one dollar. Address M. QUINBY,
St. Johnsville, Montgomery Co., N. Y.

Farm Produce of all Kinds

Sold on *Commission*, such as Flour, Butter, Cheese, Lard, Provisions of all kinds Grain, Eggs, Poultry, Game, &c. &c.
HAIGHT & EMENS, 226 Front-st., New-York.
Refers to the Editor American Agriculturist.
" R. H. Haydock, Cashier Market Bank, New-York.

TO THE FARMERS, HAY DEALERS, AND PLANTERS OF THE UNITED STATES—INGERSOLL'S IMPROVED PORTABLE HAY and COTTON PRESS, combines greater power and portability, requires less labor, occupies less space, and costs less money than any other hand power machine for baling HAY OR COTTON ever offered to the public. It has recently been much improved, and is warranted to give satisfaction.

We have numerous letters from those who have seen and used these presses during the past season, similar to the following from Wm. Thompson. Esq., South Londondary, Vt., who writes Feb. 8, 1858, as follows:

GENTS: "I think your press, with the improvement you have made recently, will exceed anything of the kind yet got up, for it will press more in a day, with only two hands to work it, and do it easier, than any other press in New-England."

No. 1 Press—Weight of Bale 150 to 200 pounds.
No. 2 Press— " 250 to 300 "

Presses constantly on hand and other sizes and for other purposes made to order. For further information call or address the
FARMERS' MANUFACTURING CO.,
Greenpoint, opposite New-York.

N. B.—The Brooklyn and Williamsburg City Cars run up to Greenpoint, and the New-York Dry Dock stages go to the Greenpoint Ferry.

A new and Profitable use for Swamp growth and the trimmings of Trees.

DANIEL'S PATENT "GRANULAR FUEL" is the growth of swamp lands cut into lengths adapted for kindling purposes or Summer fuel (about four inches). This article is preferred to charcoal or split wood for kindling coal fires, no shavings being required. An inexhaustible supply of material can be found within convenient distance of all our cities and towns. It repeats its growth every three years. With Daniel's Patent Fuel Cutter and one horse power one man can cut 600 bushels per day. Seasoned hickory three inches in diameter is cut with it. Upward of 40 machines are now in successful operation in Massachusetts. GRANULAR FUEL BRINGS THE SAME PRICE AS CHARCOAL, AND COSTS BUT THREE CENTS A BUSHEL. A right with machine, costing $500, insures an income of $1,500 per annum. Send for Circulars containing references, &c., to
B. D. WASHBURN, Taunton, Mass.
General Agent for United States.

FAIRHAVEN, Mass., June 7th, 1858.

MR. B. D. WASHBURN:

Dear Sir—I improve a moment to fulfill my promise relative to my "Granular Fuel Business"—the right of which I purchased of you—and I am happy to say that it far exceeds my most sanguine expectations. We did not commence taking it into the market until this Spring, and I now find it difficult to supply the demand. So you know I am not doing *a very bad business*, as you are acquainted with the profits under such circumstances; and was it not that my health is poor, I would establish the business in some other localities, providing I could obtain the right. I thought that $500,00 was a great price to pay for New-Bedford and Fairhaven, but I would not dispose of it now for $2000,00, and from what I can learn, all that are in the business are doing a very good business. It is a cash business, which makes it a very agreeable employment. Please accept my most hearty thanks for your very good advice.
Respectfully yours,
ISAIAH WEST.

☞ The following is from a gentleman who has used heretofore the split wood, but residing in Taunton the past Winter used the Granular Fuel. He is now residing in Brooklyn:

NEW YORK, May, 18, 1858.

MR. B. D. WASHBURN, Taunton, Mass.:

Your favor asking my opinion of the Granular Fuel is at hand, and would say that my family used no other kind of kindling material the past Winter, for they found it not only cheaper than split wood, but far more convenient in kindling, as no papers or shavings are necessary—and it takes no time to arrange it for lighting, simply throw it in and apply the match.

As soon as it is for sale in Brooklyn shall dispense with the split wood. Respectfully, &c. A. S FISKE
141 Broadway, N. Y.

EXCELSIOR FAN MILL

Will clean 60 Bushels of Grain per hour.

COMBINED POTATO DIGGER AND DOUBLE MOLD BOARD PLOW, will turn out from 10 to 15 acres per day.

HORSE POWERS AND THRESHING MACHINES, the best and easiest working powers in use.
CLOVER HULLERS with SEPARATORS
SAW MILL AND SAW. DOG POWERS.
CIDER MILLS AND PRESSES. HAY PRESSES.
CORN SHELLERS, HAY AND STALK CUTTERS, &C.

At Wholesale and Retail at the
NORTH RIVER AGRICULTURAL WAREHOUSE
GRIFFING, BROTHER & CO.
60 Cortlandt Street,
New-York City.

"THE WONDERFUL PUMP."—This pump works by hand in all depths to 150 feet! Warranted. Prices from $16 to $60. Address
JAMES M. EDNEY, 147 Chambers-st., N. Y

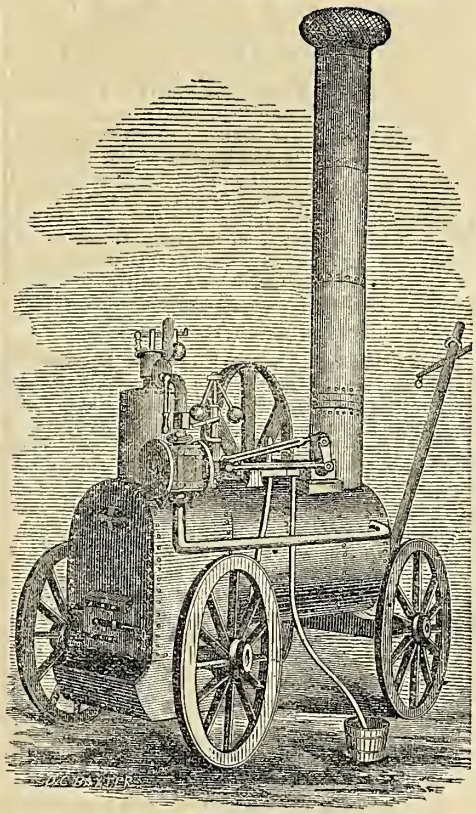
Agricultural Implements

of all kinds, for sale by J. B. RYAN, Importer of Hardware, 114 Yonge-st., Toronto, Canada West.
Manufacturers of above goods will send their lists.

Cane Mills and Distilleries.

GENERAL COPPER-SMITH WORK.
Distilleries of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills, syrup pans, skimmers, dippers, syrup guages and pumps, brewing apparatus, by steam or fire JOHN W. REID, 11 Old-slip.

Portable Steam Engines,



Built upon an improved plan, adapted to plantation work, Driving Threshers, Saw Mills, Pumps and agricultural purposes generally.

They are economical on fuel, very compact, and strong, easily managed, and readily moved from place to place. We build from 4 to 40 horse-power.

For prices and further information, address
HARLAN & HOLLINGSWORTH,
Wilmington. Del.

Bone Manure.

SAWINGS, TURNINGS AND CRUSHED BONES FOR Sale by the Manufacturers in large or small quantities.
A. LISTER & CO.,
Tarrytown,
Westchester Co., N. Y.

To Practical Farmers and Dealers in Fertilizers.

The ***NATIONAL FERTILIZER***, a modern compost, is prepared under the direct superintendence of L. HARPER, LL.D., formerly Professor of Analytical Chemistry and Agriculture in the State University of Mississippi, as also State Geologist. Its ***basis*** is the GREEN SAND MARL OF NEW-JERSEY, which is chemically combined with ***fish and pure animal bone.*** Letters Patent for this and foreign countries have been granted. It is unhesitatingly accredited ***superior*** to Peruvian Guano, strengthening the soil, and beyond the possibility of exhausting land where applied. ***The increase in the yield of plants and all cereals is largely augmented;*** while it supplies a ***continuous*** source of fertility. ***For sandy, barren and abandoned lands, and where other manures*** have failed, we ask but ***one trial,*** trusting ***solely*** upon the ***rare*** constituents which this Fertilizer abundantly possesses, and which are ***so wholly and peculiarly essential*** in an article of Fertility, such as is here ***reliably*** represented. We would beg the attention of Farmers to its use the coming Autumn for Winter grain, and to the fact that it has arrested ***the rot*** in potatoes ***after*** decay has commenced. Price per ton of 2000 lbs., $35. For all detailed particulars, analyses, directions and recommendations, apply or send to the office of ***The National Fertilizing Co., 37 Fulton-Street.***

JOS. C. CANNING, Agent, New-York.

We would distinctly give notice (as abortive imitations and attempted infringements upon our Patent have already been made) that we have ***no connection whatever*** with other Fertilizing Companies of ***any character or name.***

ELIDE ISLAND GUANO

at $40 per ton of 2000 lbs. Farmers will find it to their advantage to try this valuable fertilizer. Send your orders early.
GRIFFING, BROTHER & CO.,
60 Cortlandt Street, New-York

Lawrence B. Valk, Architect.

627 BROADWAY, NEW-YORK.

Tenders his professional services to gentlemen who intend to build, and desire plans, designs, &c., in any style of Architecture. Especial attention paid to Farm residences, and out-buildings. He would call attention and examination of his new style for the same, including Villas and Cottages, as being entirely different from what is generally seen.

Charges for complete drawings with specification, 3½ per cent, 1½ per cent for superintendance if desired, sketches at a lower rate. Persons writing from the country wishing designs, &c., will please give full requirements and cost, when plan will be furnished and sent to any part of the country.

JOHN MILNE,
Grapery & Green-House Builder,
YONKERS, N. Y.

Frames and Sashes for Hot-Houses. Green and Hot-Houses and Conservatories erected, and warranted.

Inventors--Patents--Patentees.

Persons desiring to secure patents in the United States for Europe can receive full instructions, free of charge, by addressing MUNN & CO., Editors of the SCIENTIFIC AMERICAN, New-York City.

WHEELER & WILSON'S SEWING MACHINES.

NEW AND VALUABLE IMPROVEMENTS.
SEND FOR A CIRCULAR.
Office 343 Broadway, New-York.

DIAGRAM OF THE LOCK STITCH.

This is the only stitch that can not be ravelled and that presents the same appearance upon each side of the seam. It is made with two threads, one upon each side of the fabric, and interlocked in the center of it.

To the Western Trade.

HEAD QUARTERS FOR APPLE PARERS, SLICERS AND CORERS, No. 231 PEARL-ST., NEW-YORK.

FOSTER & SARGENTS. The best Parer.
WHITTEMORE & BROTHERS Parer, Corer and Slicer.
PRATT'S Automaton Slicer, for drying fruit. These improvements are for sale to the trade at lowest cash prices.
I. S. CLOUGH, Manufacturer's Agent.

"METROPOLITAN WASHING MACHINE."

This is a perfect Washing Machine. It saves more than one half the time, labor, and expense of washing, breaks no buttons, and does not wear the clothes. It keeps the clothes constantly turning so that all parts are equally and thoroughly washed.

It is guaranteed to do all this if the directions, which are simple, are followed.

Price $10. Orders promptly filled. Full directions accompany the Machine

☞ Send for a Circular.
LE ROY & CO., Hartford, Conn.
DAVID LYMAN, Middlefield, Conn.

Patent Alarm Whistles and Speaking Pipes Manufactured and for Sale by

W. OSTRANDER,
Sole Patentee and Maker
No. 57 Ann-St., N. Y. City.

The PATENT WHISTLE is acknowledged by every one to be the best arrangement for Speaking Pipe Alarms in use. It is far superior to the Bell, and less liable to get out of order. The Pipe is made by a Patent Machine and is a superior article, and Warranted in every particular.

Sold by all the principal Hardware Stores in the States.

CARRYING FRUITS TO MARKET SAFELY.

PATENT TRANSPORTATION PROTECTOR.

The bruised and unwholesome state, and consequent unsaleableness of tender fruits from want of sufficient care in their transportation is well known.

The Protector is designed for the safe conveyance of peaches, plums, strawberries, blackberries, eggs, or anything that requires more than ordinary care. Specimens may be seen at
R. L. ALLEN'S, No. 191 Water-st, New-York.

Orders for Protectors of larger size than the specimens will be executed, but the heavier the package the more rigid must be the springs. Orders left with R. L. ALLEN, as above will be promptly executed. HENRY B. OSGOOD, Inventor and Manufacturer. Whitinsville, Worcester Co., Mass.

Potato Digger.

This is a new and highly improved Implement, got up by myself, after *long experience of working it in the field.* It is by far the best thing of the kind in use. One man and a pair of horses will dig faster than twenty men can pick up. It throws all the potatoes, (even the smallest), clean out of the ground, and leaves them clear of dirt on the surface. R. L. ALLEN.
191 Water-st, New-York.

PITKINS' Potato Diggers—Keystone Cider Mills—Horse Powers, &c. For sale at Agricultural Depot, 100 Murray-st., N. Y. HENRY F DIBBLEE

See Here! See Here!

We have been in the habit of offering annually, to *new subscribers* for any year, what we have termed the **Baker's Dozen;** that is, the *last* two numbers of the preceding year, making 14 instead of 12 copies. This has involved some confusion, considerable correspondence, and the printing of several extra editions. For these and other reasons, we have concluded to vary the practice. We propose, however, to make an offer still better for those who accept it in time. Our main dependence for an increase in circulation is upon the kind influence of those subscribers who are already acquainted with this journal, and it is, of course, for our interest to form the acquaintance of as many new persons as possible *before* the beginning of a new volume (in January.) To accomplish this end, we make the following

PROPOSITION.

Every *new subscriber*, sending in one dollar for Volume Eighteen (1859), will receive *without charge* such numbers of *this* volume as are published after the date of his or her subscription. Thus:

I. *New Subscribers* for 1859 (Vol. XVIII), sending in their names and subscriptions *before* October 1st, will receive three valuable numbers (October, November and December) without charge.

II. *New Subscribers* for 1859, who send their subscriptions *after* October 1st and *before* November 1st, will receive the November and December numbers without charge.

III *New Subscribers* for 1859, who send in their subscriptions *after* November 1st and *before* December 20th, will receive the December number free.

In accordance with this proposal, the names of all *new* subscribers received after this date, (Sept. 1st,) will be entered at once on our mail books to the close of 1859, and they will thenceforth receive their papers regularly with old subscribers on the first of each month.

We shall adhere strictly to the above terms respecting extra numbers, except in the case of new subscribers on the Pacific coast, and at other remote points where there is no opportunity to respond at once to this invitation. Enough extra copies of the ensuing three numbers will be printed to supply premium copies to such as are prevented from applying for them in season on account of their distant location.

The offers thus made, apply to both the English and German editions.

A FAVOR ASKED. Will all our present readers, who have tried and approved the *Agriculturist*, do us the favor to mention the above proposition to their friends and neighbors? After telling them what the *Agriculturist* has been and *is*, you may on our part promise that the next volume will *not* be like the present one, *but even still further greatly improved*. We are confident it will be such a volume as has never yet been issued, in point of comprehensive, plain, practical information of great value to every family in the country. Please give us your aid, one and all, and let us save a large proportion of the expense of advertising, and invest it in valuable improvements in the paper itself. We have, so far, expended every dollar received, upon the paper itself, and yet our ambition is by no means satisfied. Give us the wherewithal, and we will return you such a paper as you have not yet dreamed of.

Seed Reports wanted.

During the present year we have distributed among our subscribers not far from 140,000 parcels of seed, including seventy-one varieties. The season has badly interfered with experiments upon these in many instances, often preventing their germination. That all the seeds were in good order we were sure of beforehand, and have since proved, as we now have growing all of the seventy-one varieties, our parcels being taking at random from among those distributed to subscribers. As before noted, however, some varieties required a second planting, owing to their being literally drowned out.

Next winter we purpose to make a still more liberal distribution of seeds, a catalogue of which will be given before the close of this year. *All* subscribers will share alike in this distribution, the seeds being supplied *without charge* in all cases, our design being to disseminate as widely as possible in the country the germs of valuable Field and Kitchen and Flower garden productions.

In making out our next list, we shall be in part guided by the results of this year. Some less valuable kinds will be dropped from this year's catalogue, and a number of new ones added.

We now would request our readers as they have occasion to write to us, to inclose *brief* notes upon the particular kinds they have tried this year. Please make the notes upon each kind, on a *separate* slip of paper, giving the number, if possible, (if not, give the name,) then add your name and location, and next brief notes of the result. In this way we can conveniently file the remarks on each variety by themselves, and make up a summary of the results. Much valuable information will thus be gathered for future use in these columns.

Convention of Agricultural Editors.

It is to be hoped that so far as at all practicable, the Editors of Agricultural and Horticultural Journals, throughout the country, will make their arrangements to be present at the *opening* of the Annual Meeting of the American Pomological Society, in New-York city, on Tuesday, September 14th. The society will convene at 10 o'clock A.M. at Mozart Hall, No. 663 Broadway.

A room for the use of the proposed editorial gathering will be provided in the same building, and the members of the Press duly notified of a convenient hour for the first assembling, after which all further proceedings will be subject to the direction of those in attendance. We trust this will be the germ of an important Association, one productive of great good, not only to the fraternity, but to the agricultural and horticultural interests of our country.

The Advertisements

Crowd us this month, and we have had to shut down the gates upon the last comers. We are almost surprised at this rush of business notices, as we use none of the usual methods of, soliciting agents, circulars, etc., to draw in advertisements. We suppose business men are of their own accord finding out that the *Agriculturist* circulates mainly among intelligent, enterprising readers, and that it is one of the cheapest mediums in the country—the present cost of advertising being much less than one cent a line for each thousand readers. We have refused hundreds of dollars' worth of patent medicine, and humbug advertisements, though offered very high prices for their insertion, and we congratulate our readers upon the fact that they will find our advertisers generally a class of high-minded, honorable business men. These business pages, taken as a whole, will be valuable for reference.

American Agriculturist.

(ISSUED IN BOTH ENGLISH AND GERMAN.)

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS &c. &c.

☞ The matter of each number will be prepared mainly with reference to the month of issue and the paper will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month.

Over SIX HUNDRED PLAIN, PRACTICAL, instructive articles will be given every year.

The Editors and Contributors are all PRACTICAL, WORKING MEN.

The teachings of the AGRICULTURIST *are confined to no State or Territory, but are adapted to the wants of all sections of the country—it is, as its name indicates, truly* AMERICAN IN ITS CHARACTER.

The German edition is of the same size and price as the English, and contains all of its reading matter, and its numerous illustrative engravings.

TERMS—INVARIABLY IN ADVANCE.

One copy one year.....$1 00
Six copies one year.....5 00
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ORANGE JUDD,
No. 189 Water st, New-York.

Contents for September, 1858.

COUNTY FAIRS *continued from page 283.*

PENNSYLVANIA.

Bowling-Green	Bentleyville	Sept.	8—9
Fiorence	Florence	"	16—17
Armstrong	Kittaning	"	21—24
Washington	Washington	"	23—24
Berks	Reading	" 29	Oct. 2
Union	Burgettstown	Oct.	5—6
Montgomery	Springtown	"	5—7
Lancaster		"	5—8
Northumberland	Milton	"	6—8
Monongahela	Monongahela	"	7—8

WISCONSIN.

Lafayette	Darlington	Sept.	21—22
Grant	Lancaster	"	22—23
Waushura	Wautoma	"	22—23
Rock	Janesville	"	28—30
Walworth	Elkhorn	Sept. 29	Oct. 1
Portage	Portage	"	15—16

IOWA.

Sioux	Sioux City	Oct.	—4
Washington	Washington	"	6—8

TENNESSEE.

Marshall	Lewisburg	Sept.	21—24
Giles	Pulaski	"	21—24
Middle District	Columbia	Sept. 27	Oct. 9
Smith	Rome	" 29	" 9

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

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☞For Contents, Terms, &c. see page 320.

American Agriculturist in German.

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October.

"Where once we dwelt our name is heard no more,
Children not thine have trod my nursery floor;
And where the gardener, Robin, day by day,
Drew me to school along the public way,
Delighted with my bauble coach, and wrapped
In scarlet mantle warm, and velvet cap;
'Tis now become a history little known,
That once we called the pastoral house our own.
Short lived possession! but the record fair
That memory keeps of all thy kindness there,
Still outlives many a storm, that has effaced
A thousand other themes less deeply traced."

COWPER.

This sketch of his early home, and his childish days, which the poet gives us in his "Lines to his Mother's Picture" is far more true of American than of English rural homes. What is there the exception, is here the general rule. Probably not one farm home in a hundred is occupied by the same family that dwelt there a hundred years ago. There the homestead descends from father to son for many generations. Here the owner of a rural home sells out to the first good purchaser that offers, even though he may have inherited it from his father. His children have no strong local attachments, and turn to new regions and new occupations with few regrets.

In our examination of the causes which underlie the depopulation of the farm, we adverted to the glorification of muscle over mind and heart, to the neglect of all esthetic cultivation upon the farm, and in the home. To these, we must add the treatment of wives and mothers upon the farm.

We do not hesitate to say, that under the old style farming, a style still dominant in most parts of our country, woman's lot is a hard one, much harder than in other departments of human industry. As a rule, there is no just appreciation of the dignity of the office of maternity, and of its holy cares. There is not that tender treatment, that kindly consideration, that belongs to the child-bearing and the child-training woman. The farmer, too often, falls below his own standard of indulgence allowed to the females of his flocks and herds. These are replenished by animals dismissed from labor for weeks or months, or even kept solely for no other than breeding and rearing purposes. They are fed, and handled with extra care. How often does all the care, feed, and milk of a thoroughbred Durham or Devon, with the extra milk of a second mother, go to the nourishment of a single calf. It is reward enough for the services of the mother, if he can get what he desires in her offspring. He knows that it is only by this careful attention that he can keep up the stock of his domestic animals to their highest excellence. He makes any sacrifice of immediate profit necessary to accomplish this purpose.

But he does not show the same good sense and tenderness, in his domestic arrangements. The toils of a house-keeper, and often those of a servant in addition, are borne by the expectant mother, up to the period of confinement, and are often resumed, long before the system has time to recover its full strength. There is no careful consideration of the tax laid upon her system before and after she becomes a mother, or of the still greater care that comes upon her, as the educator of immortal beings. There is too often a penurious planning to make the most of her services in the household, and her muscles are almost literally coined into gold.

She occupies a more laborious position than that of the wives of mechanics, and merchants, of the same social standing. The carpenter does not expect his wife to have any share in his business toils, or to contribute directly to the income that supports the family. It is enough that she is the mother of his children, and that she has the general oversight of the affairs of the household. But the farmer's wife is expected to contribute in many ways to the income of the establishment. She must see to the cheese and the butter, the poultry and the garden, and not infrequently, to the marketing. She is overborne with these multiplied labors, and life becomes a scene of incessant drudging.

The daughters, coming up to womanhood under these influences, cannot fail to be repelled from farm life. They have been to school, it may be, and mingled somewhat in society. They have visited in the neighboring village, or city, and appreciate the blessings which their city cousins enjoy. They cannot fail to draw unfavorable contrasts, between their own homes and those of the mechanic and the merchant. When the young farmer comes wooing, they remember their toil worn mother, her hands hardened by menial labor, and her form prematurely bent by life's burdens, and do not favor his addresses. They know that the vow, that binds them to a farmer's home, is a very serious affair. Love dies under such contemplations, and it is only as a last resort, and with the perils of a single lot in life before them, that they will continue in the lot to which they have been born and bred.

Another of the repulsive features of the farmer's life is its solitariness. Man is essentially a social being, and the frequent interchange of thought and feeling with his fellows is essential to the healthful development of his faculties, and to his happiness. Those settlements in New-England, and at the West, that were originally made in large bodies are to this day the most advanced in social culture, and in all the conveniences and embellishments of civilized life But these were the exceptions in the mode of settlement in this country. As a rule, the first emigrant went out alone, or, at most, with but a few companions, to separate at the journey's end, and to build each one his lonely log cabin in the wilderness. He was often miles from mill, from church, or school. Years passed by, without his feeling the attractions of any social center, or knowing other companionship than his own family, or the occasional stranger that lodged for a night in his cabin.

Now a man living thus, whatever may have been his antecedents, becomes almost necessarily a coarse man, and his children grow up boorish and uncultivated. There is little opportunity for social enjoyment, and no chance for the cultivation of those graces, which are the charm of our social life. The fact is notorious, that farmers are the most unsocial men, in the community. They become habituated to solitary labor, and thinking. They have little delight in the company of friends and neighbors, and the very idea of a dinner or tea party, got up for the purpose of social enjoyment, is burdensome. They do not love to go even with their wives and daughters to such a gathering, and they think the most that can be expected of them is to furnish their teams for the occasion. This has its influence upon the young folks, whose social instincts have not yet been crucified. They rebel against the isolation of the farm, and push for the village and the city.

Then if we look into the settled routine of farm life we shall find another cause of this depopulation of the rural districts. If we go into a neighborhood, where the influence of our agricultural societies and journals is not yet felt, we find substantially the same implements, and the same methods of husbandry, that prevailed a century ago. The farmer's ways are as fixed as the deep worn ruts in the road to mill. There is no corn or potatoes equal to the varieties cultivated by his father before him. The old Dutch plow, with its wooden mold-board, is better than any new fangled concern made of cast iron. The native breed of cattle, hogs and hens, is better than any thing imported. Mowers and reapers are humbugs, and the scythe and the sickle are the perfection of tools for gathering the harvest of hay and grain. He sows, plants and tills the same crops, and in the same manner, as his forefathers, and appre-

ciates no other reason for it, than the fact of their example.

The young abhor this routine, as everything else does that is full of life. God is constantly working in Nature to destroy it, and to compel man to forecast, and a constant use of his reasoning faculties. The young farmer wants to follow nature, to plant ornamental trees and orchards, to try new crops, and new stock, to plow deep and manure high, without any reference to the ways of the fathers. He wants to use his reason, and study the phenomena around him, and when he finds his ways crossed and his inquiries mocked, he turns his back upon a business that he thinks must keep him forever stupid and clownish.

Such are some of the causes that repel the young from rural life. It is hardly necessary to say that the power of these influences is already waning, and the good time coming for the farmer is near at hand.

Calendar of Operations for Oct. 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, earlier for the North, later for the South.

EXPLANATIONS.—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated; thus, work marked *fm* indicates that it is to be attended to from the first to the middle of the month.]

Farm.

In this month the thrifty farmer finds much to claim his attention. Most of the remaining crops are ready for harvesting, a stock of manure is wanted for next season's crops, and now is the time to procure a large quantity of absorbent materials for use through the Winter. Stock will soon need a warm shelter from sleet and frost, and the humane farmer, next to his own dwellings, will look to the protection of his animals. Some permanent improvements may also very properly now be taken in hand, such as draining and clearing up waste land, building stone fences or walls, digging cisterns, wells, &c.

Agricultural Exhibitions are still being held in many localities. Strive by your presence, wholesome counsel and contributions to make them worthy of an enlightened and improving community.

Barns and Hovels—Make these early as per directions elsewhere given.

Beeves lay on flesh much faster during mild than cold weather. Prepare them early for the shambles.

Buildings of all kinds—Look to early, and repair the leaky roof, glaze broken windows, nail on the started siding, renew the broken hinges, and fit the tie-ups and stables for their Winter tenants. Have everything in readiness against the cold and storms of next Winter, remembering that the subtle snow finds its way through small chinks and crevices.

Cabbages, Beets and Carrots—See Kitchen Garden.

Cattle—Give extra feed now that the pastures afford but little grass. Allow no animal to begin a cold Winter in thin flesh. Milch cows should have all the refuse of the garden, with small roots, pumpkins, cornstalks, &c. Young stock, especially, should be well fed the first Winter.

Cellars—Cleanse thoroughly and make rat proof, before putting in the vegetables and fruit. Ventilate well until cold weather, and bank up about them, if necessary, to keep out frost.

Corn—Select seed, f, if not already done, and trace it up as directed elsewhere. Cut and shock any fields still standing. See implement for shocking and binding on a following page. Husk early and save the fodder in good condition for feeding. Avoid putting the corn up in a green or wet condition into large bins or cribs, with poor ventilation.

Draining—October is a good month for this operation, and the sooner it is now done the better, before Fall rains set in.

Grain Stacks—Thresh out any remaining, ff, and put the grain beyond the reach of vermin, fowls and birds, saving the straw for feed and bedding.

Hemp—Complete harvesting, ff m

Hogs—Commence, ff, giving full feed to fattening hogs. Cook food where practicable, using unripened corn, pumpkins, apples, tomatoes, carrots, &c., stirring in a quantity of Indian meal. Do not neglect their yards, as abundance of the best of manure should be made while the fattening is going on.

Indoor Work—While butter making is going on by day, the lengthened evenings allow of a systematic course of reading, or the younger members of the family may take up a series of studies, to very good advantage. Give your wife a sewing machine, now that the Winter clothing is to be made up, and dispense with the annual services of the seamstress, who has usually been employed for weeks at least, at this season.

Manures—Manufacture all that is possible, drawing upon the muck deposit, pond or canal sediment, collecting saw dust, spent tan and forest leaves as absorbents. Turf from the road sides or headlands may also be added, especially to the compound in the hog yards, throwing in a little shelled corn to induce rooting or turning over of the mass. See article on "Value of Muck."

Muck—Have a large quantity in readiness to use about the cow and horse stables, hog pens and privies. Besides being a good deodorizer, it will make a valuable absorbent and fertilizer.

Paint buildings and fences, m, ll, as it strikes in more gradually and lasts longer than when put on in Spring, besides avoiding flies and dust.

Plow stiff or clayey soils, turning them up to the action of air and Winter frosts.

Potatoes—Complete digging, f, m, and when convenient put in lime barrels, or dust a little dry lime among those for Winter keeping where rot is feared. Try the potato digger where several acres on smooth ground are to be harvested.

Poultry require a greater supply of meat or fish as their insect food diminishes. Cleanse their roosts often, and barrel the contents for a home guano. Pack away a quantity of eggs in salt, or pickle in lime water for Winter use and market.

Pumpkins—Gather and house before heavy frosts. Expose in a cool place under cover to as much wind and air as possible, and only remove to a cool dry cellar when in actual danger of freezing.

Sheep—Supply with salt, and see that their feed is sufficient. Keep the buck from them at present, except at the south. Lambs should not come in until warm settled weather in Spring.

Stone Fences or Walls—Build along roads and on lines between neighbors where changes are not required. Besides making substantial fences you are clearing lands for the plow, mowing machine and horse-rake.

Sugar Cane—Cut and manufacture the remainder as fast as the boiling process will permit. See article on page 259 of the September number.

Timber if omitted till now, should be cut, ff, rather than leaving it till Winter.

Tools—Put away in a dry place under cover any which are no longer wanted, first cleaning and oiling, or coating steel and iron surfaces with lard and resin.

Trees—Plant for ornament and shade about the dwellings, along the avenues, and in the pastures, as directed elsewhere.

Winter grain should all be growing finely now. Keep animals of all kinds from feeding it off.

Orchard and Nursery.

Gathering fruit and cider making, marketing or storing it away for Winter will constitute an important part of the Orchardists' labors for the present month. Where Fall planting is to be done, early in October is the best time.

The Nurseryman will be very busy now, as his semi-annual harvest usually commences with the fall of the leaves in the fore-part of this month. To facilitate the rapid filling of orders, as soon as it will do to take up trees, collect from various parts of the nursery those of a kind and set them loosely and thickly in rows, near the house or office so as to be convenient for selecting when hurried. Have labels with wire or string attached to mark the kinds as sent from the nursery.

Apples—Pick Winter varieties with care, mm, and lay them in the fruit room or barrels at once, leaving the heads off until the sweating process is completed. Keep cool and dry. Late keeping sorts do better when left on the trees until pretty hard frosts occur, when ice begins to form. Gather only in dry weather.

Evergreens *may* be removed, f, m, if done with care—but, as often stated, Spring is preferable.

Grapes—See "Kitchen and Fruit Garden."

Hoe nursery rows still, and also about the trunks of orchard trees to prevent grass or weeds from forming a harbor for mice.

Labels—Examine those on standard or orchard trees to see that they are plainly written and sufficiently fastened to remain over Winter. Prepare, ff, a sufficient supply to mark all trees sent out of the nursery, and do not allow them to be taken away without having the name attached.

Lands for Orchard or Nursery planting—Manure thoroughly, plow and subsoil or trench well drained land and prepare it for early Fall or Spring planting.

Mice—Use early precautions to prevent their girdling either the trunks or roots of trees. Clean tillage is one of the requisites, and in the vicinity of stone walls, or other shelter, birch bark, oil cloth, or thin lead coverings may be placed around the trunks of standard trees to good advantage.

Orchard Trees—Go over these and destroy borers; scrape off rough bark and thus dislodge the cocoons of insects; and place around the roots a coating of lime and muck, or muck and ashes to render them fruitful another year.

Planting—As soon as the frost has killed the foliage, set out apple, pear, quince and the hardy varieties of cherries with the different kinds of deciduous ornamental shade trees. Most of the stone fruits and tender shade trees are better planted in early Spring.

Pruning *may* still be done, though as formerly stated we prefer July and August.

Seeds and Stones of Fruit—Sow early or put in boxes of earth, the seeds of apples, pears, plums, cherries, peaches, walnuts, chestnuts, butternuts, filberts, thorns, acorns, holly, beech, ash, maple, &c. Allow none of them to become thoroughly dry before planting.

Kitchen and Fruit Garden.

October is a busy month with the market gardener, who has his remaining crops to harvest and store, or dispose of; and that he may commence his operations as early as possible next Spring, he now prepares cold frames and fills them with the more hardy plants sown last month; he looks after his compost, drains wet lands, ridges up clayey soils, and carts muck or sand to add next Spring and spreads straw or salt hay over crops which are to remain out during the Winter.

Asparagus—Prepare the ground, f, m, by thorough drainage, heavy manuring and deep trenching, and set out new beds, ll. Salt old beds and cover them with manure or stable litter. Where hot-bed forcing is intended in the Spring, take up some good strong roots before the ground freezes up and bury in the cellar.

Bean Poles, Raspberry and Blackberry Stakes—Collect, ll, and put away in Winter quarters under cover.

Beets—Harvest, m, or before hard freezing. In removing the tops do not wound the crown to cause bleeding, and consequent decay.

Blackberries—Plant, mm, l, on deep good soil.

Cabbages and Cauliflowers—Late plantings are now growing and heading finely. They will mostly need harvesting, ll. Set those sown last month in frames, m, l, for Winter protection. Cauliflowers that have not headed in the garden will sometimes form heads during the Winter by transplanting to the cellar, at this season.

Carrots—Dig and store for Winter, m, l.

Celery—Continue to earth up, ff, in dry weather. Avoid covering the crown of the plant. Pull, ll, and put in Winter quarters.

Clayey and heavy soils—Plow or dig heavy loams or clay in ridges, so that the freezing and thawing of Winter will render them fine and friable. Underdraining will prepare them for much earlier working in the Spring.

Cold Frames—If not in readiness, prepare them, m, ll, to receive lettuce, cabbage, cauliflower, spinach, &c., for protection during the Winter.

Currants and Gooseberries—Set out, f, m. Cuttings may be put in, m, l.

Fruit Trees—Plant, m. l, as directed under Orchard

Garlic, Shallots and Chives—Plant, m, ll.

Grapes—Gather the crop with care, m, ll, or when hard frosts occur, if for keeping. See page 307. For wine, gather and manufacture as soon as they are fully ripe. Set out roots, m, ll, and lay down tender varieties at the same time and cover with earth.

Lettuce—Plant, f, m, in cold frames for Winter protection.

Manures—Look out for and collect, f, m, i, for another year.

Mushrooms—Beds may be made any time during this month. Protect with a covering of straw, any exposed beds upon the approach of heavy frosts. New beds better be made under cover at this season. For full directions to make beds use last volume, page 262 (Nov. No.).

Onions—Cover those sown last month with litter, straw or brush, ll.

Parsneps—Take up, m, ll, or early next month, what are wanted for Winter use, and bury in sand in the cellar or put in barrels, sifting sand among them. Leave those for Spring use in the ground during Winter.

Radishes—Scatter seed among the contents of the cold frame, ff, m.

Raspberries—Plant, ff, m, on rich, deeply worked, rather dry soil. Cover tender varieties with earth, ll or

before the ground freezes for the Winter, as directed elsewhere.

Refuse of the garden, such as tops and trimmings of turnips, cabbages, beets, and carrots, also tomatoes, cucumbers, pumpkins, squashes, &c., should all be gathered and fed to cattle and swine rather than waste upon the ground, unpleasant both to sight and smell.

Rhubarb—Plant roots or crowns of the Linnæus, mm, l. A few may be set in the cellar, ll, or next month, for early forcing in the Spring.

Salsify—Treat as parsneps.

Seeds—Continue to collect the late varieties for planting another season.

Spinach—Cover, ll, the sowings of last month and sow seed, f, m, in cold frames. Weed and thin former sowings, cooking the surplus plants.

Squashes—Take in before they freeze, and keep in a cool dry place as long as may be, previous to putting in the cellar, or other Winter quarters.

Strawberries may still be set out, ff, to m, although last month was the preferable season. Hoe and weed those previously planted as well as old beds. Cover with leaves or give a thin coating of manure, ll, for a partial Winter protection.

Tomatoes—Continue to put away in cans or bottles for Winter use; they will be very acceptable next Winter.

Turnips are still increasing in size. Harvest Winter keeping varieties only when severe weather is threatening.

Weeds should decay in the hog pens, rather than in the garden.

Winter Cherries—Collect as they drop upon the ground and put away as directed last month, or use in jellies, sauces or pies.

Flower Garden and Lawn.

These have not lost their attractions, if a choice selection of late blooming annuals and perennials are tastefully interspersed. The ground should not be neglected at this season, when decaying flower stalks, growing weeds and uncared for walks are too often observable during this month. Some of the early blooming shrubs, herbaceous plants, and especially flowering bulbs will need planting during the latter part of this month to make a fine show of bloom next Spring.

Bedded Plants—Lift before heavy frosts, and pot for Winter or early Spring bloom, Geraniums, Verbenas, Fuchsias, Petunias, &c. Cuttings may now be taken to form new plants of each of the above. Place them in pots at once.

Bulbs—Plant crown imperial, hyacinth, tulip, crocus, lilies, polyanthus, ranunculus, anemone, oxalis, tuberose, snow drop, &c., f, m, in preference to leaving them until November. No flower garden is complete without a good collection of bulbs. See full directions on page 230 of last volume.

Carnations, Pinks and Picotees—Pot the layers which are now rooted, and remove them inside, ll, or pack in frames or pits

Chrysanthemums now make a fine show of bloom, and are the more prized as annuals and other plants are mostly out of flower. Keep neatly tied up and only cut away when actually killed by frost.

Dahlias and Gladiolus—Mark the different varieties before the blooms disappear, and take up, ll, and put in boxes of earth or sand in a cool dry cellar.

Dielytra Spectabilis—Plant, mm, l, dividing the roots.

Frames and Pits—Prepare, ff, for tender plants requiring a protection.

Grass and Gravel—Keep both in good order, raking off the leaves and keeping free from weeds.

Hedges—Plant deciduous, m, l, on dry ground.

Lilies—Plant, m, l, instead of leaving them until next Spring, if a free bloom is wanted the first year.

Pæonies—Transplant or plant out both the herbaceous and tree varieties, mm, l.

Perennial flowers and shrubs are best divided and reset in the Fall, especially early blooming kinds.

Seeds—Some of the late varieties of flowers are still ripening. Save seeds, ff, m.

Shrubs—Plant Pyrus Japonica, Dwarf Almond, Hardy Azalias, Sweet Scented Shrubs, Scotch Broom, Mezereon, Deutzias, Honeysuckles, Euonymus, Altheas, Hydrangeas, Jasmine, Privet, Mahonias, Syringos, Flowering Currants, Purple Fringe, Spiræas, Snowberry, Lilacs, Viburnums, Roses and Chinese Weigelia. These are desirable hardy shrubs, many of them blooming quite early in the season, and on this account do best with Fall planting.

Stocks and Wall Flowers—Take up and pot, ff, carrying to the Green House or pits.

Tender Plants either planted in borders or set out in pots will all need removing to the houses, m, ll.

Trees—Plant shade in the lawn, along the avenues, walks and about the yards, m, l. Combine utility with beauty and let a few of them be cherry or pear, which may be trained to an ornamental form.

Green and Hot Houses.

Having thoroughly cleansed and repaired these as directed last month, the flues, furnaces and water pipes being in readiness to start fires at any moment, examine those plants still out, and bring them in as they require it. The more tender ones will need housing, ff, while some may remain in the borders or pots, m, l. Cleanse from moss and remove all decayed leaves while bringing in. Unless there are several houses of different temperatures the plants must be arranged with reference to the heat of one room, placing some near and others at a distance from the furnace. Group them according to their kinds, by placing succulents together, bulbs and orchids by themselves, and woody plants in another collection.

Air should be admitted very freely, especially when plants are first brought in, else the sudden transition to a warm room will prove injurious.

Bulbs—Pot a quantity, m, ll, and set in the Green House for Winter blooming.

Fires will need starting in Hot Houses, f, m. Avoid too great a heat at the commencement. The particular temperature of each room must be regulated by the collection it contains.

Fuchsias—Lift and pot, ff, m, those now growing in borders, taking to the houses for Winter bloom, or if only to preserve till Spring, set them in a dry cellar or flower pit. Young plants may be placed near the flue for early flowering.

Grapes—To preserve the ripe fruit as long as possible upon the vines, give no water and keep the rooms well ventilated. Expel moisture during stormy weather by a gentle artificial heat. Bring in potted vines which have been exposed during the Summer. Shorten in late growth.

Insects—Do not allow them to get a footing. A determined resistance with oil soap, tobacco fumes and the syringe will keep them in check. Houses are presumed to be free from them now, and it is much better to keep them so.

Pots within the houses should be tastefully arranged with the taller growing varieties on the upper back shelves and the lower kinds in front.

Water—Give moderately inside the houses, syringing overhead occasionally.

Apiary for October.

BY M. QUINBY.

St. Johnsville, N. Y.

Bees will add nothing more to their stores now, and all surplus boxes should be removed, and all that are not suitable for stocks, should be taken care of. The stores for wintering a stock, should not be much less than twenty-five pounds; and a good sized colony is as important as the amount of honey. When both bees and honey are wanting, it will seldom pay to try to make a good stock. If bees are wanting only, they should be obtained if possible, from some neighbor who has a colony doomed to the pit. If you have *such* a colony at home, put them upon the stand of those transfered. The trouble of introducing, or transfering a *small* colony, will not pay at this season—in Spring, it will do better to nurse a small family. If it be honey that is wanting, and there are combs enough to hold it, the bees may be fed advantageously. Boxes only part full can be set on the top of the hive till the honey is removed, and then set them away with the combs undisturbed for use another year. Honey taken from a hive will not do to feed if there is any foul brood in it, without first straining and scalding. West India honey will do to feed, and is cheaper, but is not safe without scalding. Add water to prevent burning, then scald and skim it thoroughly. To prevent other bees from stealing it, put it on the top of the hive to be fed, open the holes for communication, and cover with a close box. The dish containing it should be a shallow one, and have some shavings or other floating material laid on the honey to keep the bees from drowning. Take some cool morning to examine the strength of the families, and raise the hive carefully till a good view of the interior is obtained. The best ones will now occupy all the spaces between the combs. If the combs are well stored with honey, the cluster of the bees will be near the bottom, if not, further up. It is quite common to be deceived; the bees make a show in proportion to the honey. The best guarantee of good luck in Winter, is to avoid endeavoring to keep a large lot of poor stocks.

Changing Bees to new Hives.—I. L., North Easton, Mass., asks some questions about bees to which he can find answers in successive numbers of the paper. In respect to changing bees from one hive to a "new and more commodious" one, we should not advise an inexperienced bee-keeper to attempt it. Let them stay in the old box, and rely on new swarms to fill up the new hives. We do *not* think that tobacco smoke blown in at the basement would lead them "to peaceably leave their old home and quietly cluster in some obscure place until a new hive is placed over them." G.

Agricultural Editorial Convention.

One of the most pleasing events of the past month has been the privilege we have enjoyed of meeting in this city, during a single week, some seventeen or eighteen of our brethren of the Agricultural Press, several of them for the first time. Scattered, as we are, over a wide territory, we had hardly hoped to greet in a year even, so many to whom we hold the peculiar relationship of fellow laborers in the same enterprise, that of promoting the elevation and improvement of agricultural labor.

It was the hope of many of us that the occasion of the biennial convention of the American Pomological Society, on Sept. 14, 15 and 16, would furnish an appropriate season for meeting in council, not only to become better acquainted individually, but also to discuss the best means of advancing our peculiar profession. The former end was in a measure accomplished, though the latter was partly interfered with, by the programme of the Pomological Society, as the meetings of that body commenced at 9 A. M., and lasted until 10 P. M., with only a short recess at 1 and 5 o'clock for a hasty repast. Furthermore, our fraternity seemed to be in so great demand as *workers* that a large number of those present, were kept constantly occupied on various fruit committees all the time the Pomological Society was not in session. However, two meetings were held, at which considerable interest was manifested, and several suggestions were made by different gentlemen, as to the importance, and the power of the agricultural press, especially if there could be any degree of concert of action; also the best means of bringing about that end. There was a general desire that arrangements should be made for a future gathering of all persons connected Editorially with Agricultural and Horticultural Journals.

After due consultation and interchange of opinions it was unanimously resolved to appoint a President and Secretary and a Joint Committee, who should consult together and select the best time and place next season, and issue a call for a general convention. The time and place were left unsettled, as it was thought that these might best be fixed in connection with some other prominent agricultural or horticultural gathering. The following officers were chosen:

President—H. P. Byram, Editor *Valley Farmer*, Louisville, Ky.

Secretary—Orange Judd, Editor *American Agriculturist*, New-York City.

General Committee—Hon. Simon Brown, Editor *N. E. Farmer*, Boston; Mason C. Weld, Editor *Homestead*, Hartford, Conn.; Joseph Harris, Editor *Genesee Farmer*, Rochester, N. Y; Thomas Brown, Editor *Ohio Farmer*, Cleveland, O.; J. W. Hoyt, Editor *Wisconsin Farmer*, Madison, Wis.

A paper was received and read from J. W. Hoyt, Editor Wisconsin Farmer, regretting his unavoidable absence, heartily sympathizing with the objects of the convention, and proposing united action with reference to various important enterprises, such as the donation of public lands, by Congress for the establishment of Agricultural Schools and Colleges, etc. Other gentlemen, who were detained at home, as many were, by distance, and especially by the numerous local Exhibitions occurring at this season, sent in their regrets at being absent, and their best wishes for the success of the enterprise.

There are now *thirty-eight* journals in this country, including two in California and one in Oregon, which are in the main, devoted to agriculture and horticulture, and so wide is the field that there is abundant room for as many more, with a ten-fold circulation for each of those already in existence. We heartily respond to the sentiments expressed at the meeting by Mr. Redmond, of the Southern Cultivator, that there should be no jealousies, or bickerings, or contests between the individual members of the fraternity.

Our calling is a noble, an important one; let us labor, each in his own way and sphere, but with a united purpose to elevate our profession, and promote to the highest degree, the growth and development of the fruits of the soil.

Fife Wheat in Wisconsin.—"Young Man" sends us a well written letter (his first for the press), respecting crops in Turtle Rock Co., Wis., but which we have not room for. He enclosed a sample of the Fife, or Golden Drop Spring Wheat, which shows well. The wheat crop in that section has turned out fair, with the exception of the "Canada Club" wheat, which was sown exclusively by many farmers, and turned out badly, while the "Fife" produced a good crop. The sample enclosed was from a 3-acre field, yielding over 100 bushels. He adds: "Wherever the *Agriculturist* has found its way, a decided improvement may be seen in the system of farming.

Look after the young Colts, Calves and Lambs.

These young animals, being weaned, and getting a good, healthy growth on the fresh grass of the Summer pastures, are apt to get pinched by the sharp frosts of October and November, if exposed to them, and the occasional cold rains of the season. With plenty of food, a frosty night, in *dry* weather, does not hurt them. But, if possible, we would prefer to bring all the young things to the shed at night, where they can rest under a warm, dry covering, and go out when the sun is well up in the morning. No animal, particularly a young one, likes frosted grass, while frozen; therefore, they do not eat it until the frost melts away, and they are quite as well in the stable, with a little sweet hay before them, which they will readily eat at this time of the year—and all the better, as a change of diet.

We have seen a fine lot of calves, lambs, and colts, in nice condition, from being left out through a series of frosty nights, and October and November storms, with plenty of grass about them, run down their flesh wretchedly, from exposure alone; and when it is so easy to prevent it, care should be taken to do so. A well Summered animal, young or old, should go into Winter quarters thriving; then if well fed on Winter fodder, it will keep thriving. Otherwise, it stunts, and it takes extra food to start it again; and, perhaps, loses half a season's growth, just for the want of a little painstaking at the proper season.

Now is a capital time, too, to domesticate the young things, if they have been any way shy before. Carry them good little odds and ends of your garden stuff, vegetable tops—such as beets, carrots, turnips, parsneps, cabbage leaves and pumpkins. Feed them from the hand; give them a trifle of salt; let them become familiar with, and love you. A tame animal will Winter twice as easy as a wild one, and the pleasure and profit of your stock is increased wonderfully over the kick and cuff, "get out of the way," and "stuboy" fashion of some barbarians that we could mention.

The Poultry Yard.

Now is the time to push along the poultry. Don't wait till a week or two before Thanksgiving or Christmas to *begin* to feed the turkeys, geese, ducks and chickens, but treat them generously *now*, when they are making growth, and they will double their weight by the holidays. Grasshoppers, of which the North-American world has been full the past season, are now about done with. The turkies and chickens have had a good time with them, and grasshopper bone and muscle have been turned into those of the poultry with decided advantage to them, and saving to the grain bins. If there be no hurry to eat the fowls, or take them to market, *boiled* potatoes, beets and carrots, may be given to them with any sort of grain meal you happen to have, or can make—the mere bran of any grain, is good for nothing, only scouring them. This gives them *growth*, but not so much *fat* as if the grain, or meal be given them mostly.

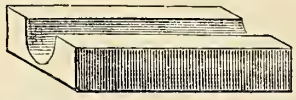
We do not believe in confining poultry at this season of the year. When Winter sets in, and heavy storms come on, it will do, provided they be kept clean, and have plenty of good air, and wholesome food. If they have the habit of roosting on trees—which they oftentimes get in warm weather, and which is very wholesome for them—they should now come under shelter. It does no good, but positive injury for a turkey, or chicken to get wet in a cold rain, and they should not be exposed to it. In addition to generous feeding now promoting their growth, it shoots out their second growth of feathers to maturity—for no, old bird is good to eat while moulting, or a young one palatable while pushing out its second growth of feathers, which all young ones do in the Fall of the year. The young cock turkeys gobble and strut, and the pullets pipe plaintively, and walk by themselves with their mothers. The chicken cocks get their full plumage, crow lustily, and show their virility, while the pullets sing away their cheerful notes with the old hens, and take a turn at an occasional cackle.

The geese and ducks, if you have not picked them to death, through the Summer, are now in full feather, plump, noisy and quarrelsome. Give them *boiled* vegetables of any kind you have to spare, and some meal mixed with it. Occasionally a little grain, and with their accustomed water exercise, they will go on rejoicing. Keep the dirty, waddling ducks out of filth, if possible—they are filthy things, if they can get at filthy food—for it is sure to make filthy flesh. A clean fed duck is delicious food—otherwise it is little better than carrion. A goose is usually a clean feeder, and no flesh is better, or more nutritious than a fat gosling. "Roast-goose and apple-sauce," is a gourmand's dish, the world over; but it must be clean fed goose and a good variety of apples to make them of, or they are worthless.

Hollow Brick for Draining.

To the Editor of the American Agriculturist:

This past exceedingly wet Spring, has led me to ask your advice about constructing under drains, with brick, made with one side hollow, like the inclosed drawing. We have no stones here, and



can not get tiles at any price, and I have, for some time past, thought of constructing drains with bricks, by cutting the ditch just the size of the bricks, then laying a tier of bricks, hollow side up in the bottom of the ditch, and covering with the bricks, hollow side down, taking care to break joints; then fill in with straw on the bricks, say a foot, and put back the earth on top of all. If this plan will not do, we must surface drain; what you think of the plan? It is simple, and may be of some account, if not too expensive

Can bricks be made sufficiently durable to wall cellars under kitchen and barn. If so a lesson on making and burning the same will be of service to one reader at least. D. J. Banta.

Dubois County, Indiana.

Remark.—The bricks made and placed as described by Mr. Banta, form what is really a tile-drain, and if bricks of this form can be obtained at a price which can be afforded, they will answer the purpose very well. The only doubt with us is in regard to the expense. Calling these bricks 8 inches in length, three will be required to the foot, if laid double, or say fifty to the rod. At $5 per 1000 for such bricks, which is perhaps as low as they would average, the cost would be 25 cts. per rod. The round drain-tiles, 14 inches long, are sold at $8 to $12 per 1000. Taking the highest p ice, $12 per 1000, the cost is 15 cents per rod for the tiles. Still, where the regular drain-tile, can not be yet obtained, it will doubtless pay to use the hollow brick on a great number of soils. There is no danger that the water will not find its way into them. The covering of straw is not needed; it is if anything objectionable as more likely to clog them. Lay them down firmly on a smooth bottom, and fill in the earth, the more gravelly portion first, if there be any difference in the soil in this respect. Small stones, if at hand, make a good first layer over the bricks; but this is not essential. The water will find any open passage way, even if surrounded with earth. Bricks are very often used for cellar walls, and with entire success we believe. The harder they are burned the better for such purposes. We can not here enter into the details of brick-making.—Ed.

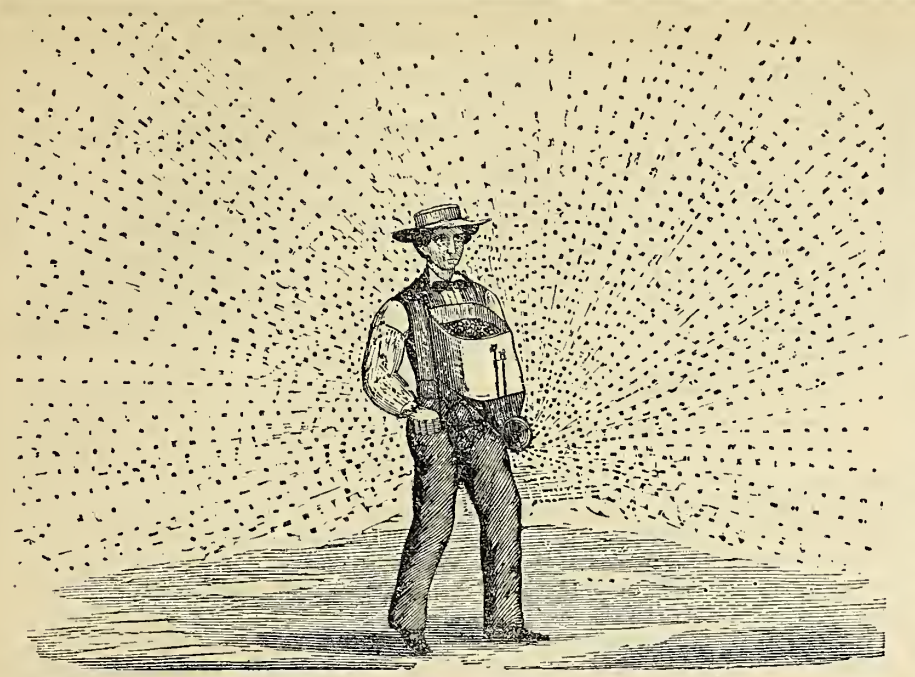
For the American Agriculturist.

The Commercial Value of Muck.

It is but a few years, since farmers have conceded that this article was worth using at all. Swamps, with their inexhaustible supplies of peat and muck, were looked upon as wastes. Some of them would grow poor bog hay and weeds, and others, brush, maple, and other swamp wood. Beyond these products, they yielded nothing valuable to the farm. A change has so far been wrought in public sentiment, that perhaps one half of the tillers of the soil would concede, that muck will pay for carting, and one in four actually uses it. In the large circle of our acquaintance, in a district where fairs and agricultural papers abound, though swamp muck is by no means scarce, yet not more than one in four ever carts a load of muck into his barn yard. It is surprising to see how long men will admit the value of an improvement, before they will adopt it, even if it costs nothing but their own labor.

Of those who use muck, few have any definite conception of its value as a fertilizer. The idea which has been made most prominent in our agricultural journals is its quality as an absorbent of the liquids and gases of stable manure. Attention has not been so much directed to the fertilizing qualities of the muck itself. Professor Johnson, the chemist of the Connecticut State Agricultural Society, has been investigating this matter, the past year, and has brought out very valuable results. He has found and demonstrated, that the muck beds of that State are mines of incalculable value. He made analyses of sixteen peats, from different localities, and found some of them to contain from three, to three and-a-half per cent of potential ammonia, in their air-dry state. It is estimated by the same authority, that average samples of Peruvian guano contain sixteen per cent of ammonia, and that three quarters of its value is found in the ammonia. If a ton of guano is worth 60 dollars, the ammonia in it, upon this basis of calculation, would be worth forty-five dollars. Admitting muck to contain one fifth as much potential ammonia, five tons of it will yield, in time, the same amount of this valuable ingredient as a ton of guano. It would be worth nine dollars, were it as easily handled, and if it would yield its ammonia to the growing crops as quickly as the guano. Its bulk, and the fact that its ammonia is chiefly potential, are important draw backs to its value. But all farmers have the means at hand of putting peat into active fermentation, and thus of availing themselves at once of its riches. If mixed with stable manure, it is soon decomposed, and fitted for plant food. It has been stated by Lord Meadowbank, Mr. Dickson, and other English agriculturists, of high reputation, that one load of dung, by judicious mixture with peat and other matters, will make six loads of manure possessing equal fertilizing power, with the same quantity of stable manure.

If by "the other matters" in their experi-



ments, are meant an abundance of soda, or potash, the statement may be partly true, for either of these articles or even common wood ashes will convert peat into a valuable manure. But with stable manure alone, we think this proportion is quite too large for the best results. Mr. Phinney, of Lexington, Mass., an excellent authority in this matter, was accustomed to mix two loads of peat with one of stable manure. The permanent effects of this compost he regarded as superior to the same bulk of green stable manure. This accords with our own practice for the past seven years. We have found, that yard manure carted out any time during the Fall and Winter, and mixed with twice its bulk of peat or muck, makes a compost about as efficient, as if it were all yard manure. The compost should lie in a heap two or three months, before it is spread and plowed in.

For all practical purposes, it will be seen, then, that peat, conveniently situated on a farm, is worth almost as much as stable manure. If a man has stable manure and has not peat, it will be economy for him to purchase the latter, if he can have it delivered upon the field where he wishes to use it, at a considerable less price than that of stable manure. If peat can be had for a dollar, when manure costs two dollars a cord, he will make a profit on every cord he buys until his land is well fertilized. As to what price one should sell peat for, no rule can be given. It is often for the owner's interest, to sell an article at half its real value. In a neighborhood where peat is not valued, a friend sells it upon the banks of the ditch at a dollar a cord, to induce cultivators to experiment with it. This is done upon the same principle, that a merchant often sells a new article, in which he has confidence, at less than cost, in order to bring it into notice. The demand for peat is constantly increasing at this price, and we have not a doubt that there will be a large demand for it at double the price, in the course of a few years. A farmer with a peat or muck swamp, beyond the wants of his own farm, had better give it away for a year or two, than to have it lie waste. He can at least have his ditches dug for the muck thrown out of them, and benefit his own land, while he helps his neighbor. We are confident that this article will bear examination better than most of the fertilizers offered in the market; and in any region, where there is a sale for manure, it will command a remunerative price, as soon as its value is known. *

A Broad-cast Sower.

We introduce, herewith, an illustration of "Cahoon's Seed Sower," our object being rather to show the implement than to specially commend it at this time, as we have not tested it sufficiently to recommend or condemn it. It consists of a bag for the grain suspended by a strap over the neck, with the sowing apparatus at the lower front side. This is not unlike the spreading part of a tin funnel, in the front of which are placed cross-pieces or wings for throwing the grain outward. The grain is let into the smaller end of the conical cylinder which is kept in rapid motion by turning the crank to which is attached a multiplying wheel. The flow of the grain is regulated by a gate or valve which may be opened more or less to regulate the amount to be sown. We tried an implement with a small quantity of grain which it appeared to distribute pretty evenly. It appears to us, however, that too much depends upon a uniform motion of the crank and a regular gait of the person using it to allow of very great evenness in the distribution of the seed. A very slight increase of the motion of the crank would throw the grain beyond due bounds on either side of the operator. All this, however, is founded upon an examination of the implement itself, and a limited experiment. Experience will test the question of its utility.

Keeping Sweet Potatoes.

Enoch Engle, of Beaver Co., Pa., sends the following which he thinks will benefit many who now lose a large proportion of their sweet potatoes by rotting: "Dig early, and pack in boxes with air holes, but not large enough to admit mice. They may be packed with dry earth, although it is not necessary that anything be put with them in the box. Nail covers over them, and place in a dry, coal bank. A rotten potato will seldom be found even in Spring." We will add that potatoes intended for seed should be dug very carefully and as many of the fibrous roots left adhering to the tubers as possible. They may then be buried in a coal bank or in dry sand out of the reach of frost. We would also recommend hemlock boxes to pack in as less liable to be eaten into by mice.—T.]

A faithful friend is a strong defense.

Mad Itch in Cattle.

We have several communications on this topic from two of which we give extracts. Mr. Conway, Jefferson Co., Ind., referring to the case detailed on page 109, April No., thinks the symptoms indicate that "the disease resulted from acute inflamation, more commonly known among farmers as 'a stoppage,' which is produced by allowing cattle to eat any indigestible, irritating substance, such as frosted turnips, dead leaves, fox grass, and that baneful substance, the chewed wads which hogs leave after feeding upon green-corn stalks, as was the case with Mr. English's cattle referred to. The wads lodge in the stomach, produce inflamation, and the brain is acted upon inducing a species of madness. The rubbing is the natural effort of the animal to remove the irritating cause." He recommends, first, to use prevention; but if the disease be contracted through carelessness, to "administer in the early stages, mucilaginous drinks, in conjunction with anti-spasmodic, relaxing and tonic medicines, with proper attention to diet." More specific directions as to the kind and quantity of medicines, and of diet would have been desirable.

Mr. Hartzell, of Hancock Co., Ill., on the contrary, says that the disease can not be caused by feeding with hogs, because many of the best beef cattle have been attacked, though never having been with hogs at all. The irritating cause may have been the same, however, viz., an indigestible mass clogged in the stomach. He recommends "a tablespoonful of spirits of turpentine. If this does not give relief in 15 minutes double the dose, and go on doubling the dose every 15 minutes until a cure is effected." The first part of this recommendation may be taken, for spirits of turpentine is often beneficial in similar cases, but how long could one go on "doubling the dose" without producing certain death?

Liniment for Cattle, etc.

J. W. De Le Ree, of Queens Co., L. I., sends the following as the best liniment for man or beast. This, he says, is usually sold under the name of "horse oil." Mix thoroughly in an iron vessel, 1 pt. linseed oil with one pt. spirits of turpentine, and add, slowly, 1½ oz. sulphuric acid. When cold, put in a jug or bottle, and cork tight. Be careful not to spill any upon the clothes in using. [We can not say as to the value of this. At first sight the ingredients appear *incompatible*, but we may be mistaken. It would be likely to take off the hair from a horse we think.—Ed.]

One mode of making Shining Black Ink.—E. Pierson of Crystal Lake contributes the following:—"Beat up well together, in an iron mortar, the following ingredients, in a dry state: 4 ounces of the best blue Gall Nuts, 2 ounces of Copperas, 1 ounce of clear Gum Arabic; add 1½ pints of clear rain water. Put all in a stone or glass bottle, and shake it three or four times a day for ten days; at the end of that time it will be fit for use; keep it from freezing. Ink made according to the above I know to be good, by some fifteen years' experience."

Sands form the mountain; moments make the year.

So live with men as if God saw you.

Sin and sorrow are inseparable.

Short reckonings make long friends.

Sorrow's best antidote is employment.

Thrashing Buckwheat

As this is the month in which buckwheat is usually gathered and thrashed, we have a word or two to say on the latter branch of this labor.

It is a long-time custom with some farmers to thrash their buckwheat in the field where it is grown. The reasons for it, as they say, are, that it is "handier than to cart it to the barn; it shells out less, and therefore wastes less; and the work is so quickly done that it is altogether better—*provided the weather is good.* We will not stop to enumerate the mishaps which this proviso is occasionally subjected to in long storms, by which the entire crop is damaged, or lost, but confine the objection to a single item, or two. In the first place, if the ground is hard enough to make a thrashing floor without carrying boards, or plank for the purpose, and barricading to keep the grain from flying out by the action of the flails upon it, the grain gets full of grit and dirt, from which it is almost impossible for the fanning mill to clean it. And this, with the extra labor laid out upon it, with loss of straw, costs quite as much as to haul the cut grain to the barn and then do the job up tidily, saving the straw, and getting a good yield of clean seed.

In the second place, if you have a barn, the harvested crop, when sufficiently dry, can be hauled in, and there lay for bad out-of-door weather, in which you may thrash it without prejudice to other work which must have fair weather. We prefer a thrashing machine for buckwheat, to the flail, provided the straw is not so long, or stout as to clog it. The grain is much cleaner, and for flouring purposes altogether better, as a good deal of the grain is partially hulled by the teeth of the thrasher. Besides this, it is thrashed perfectly clean, and none is left in the straw. After thrashing, let the grain be thinly spread over a floor, till dry. It will yield double the flour, and that of a better quality than when at all moist, besides occasionally getting musty. Save all the straw. It is the best of cattle bedding, besides a make-shift fodder.

Newly Seeded Meadows and Pastures.

Let the season be as it may, there will usually be some spots in newly seeded grass grounds where the Spring or Autumn seeding for some reason has not yet taken well, and they consequently are bare. The month of October, when the September rains revive the withered and feeble growing grass that has suffered in the Summer drouth after the Spring sowing, will show such places where the seed has failed; and now is the time to re-seed them, particularly with timothy, or red top.

One method is this: Examine the field closely by walking carefully over it with a bag of seed thrown over the shoulder, taking along a boy with a bundle of small sharpened sticks. Wherever a bare spot is found, strew a sufficient quantity of seed, and let the boy drive a stick five or six inches into the ground so that the next Spring's thawing of the Winter frost will not throw it out. The seed will come up this Fall and make growth enough to hold in the ground for the Winter. When the snow goes off in the Spring, as early as possible, go over the land again with a bag of clover seed—if you wish the clover added to the timothy, or red top—and sow that, letting the boy follow and pull up the sticks as he goes. The opening and shutting of the surface of the land by the Spring frosts, will cover the clover seed, and when the growing season arrives, a fine young growth of the grasses will appear, and the future meadow, or pasture be uniformly covered with the young crops of grass. The young growth will probably give but little crop the first season, but will be sure for the year following.

It is quite too common a thing for farmers to turn over their newly seeded fields for another crop of small grains, and a re-seeding of grass, because the young grass has *apparently* failed, when it is only feeble, and has made little growth by reason of drouth, or otherwise; when, with a little patience, and coaxing, the coming mid-summer would show a beautiful sod, and a late harvest of excellent hay.

Fall Pasture—October Butter.

We don't like to tell too many secrets; but when we say that October butter, *rightly made,* is the very best for Winter use of the whole season, we know what we are talking about. We say "rightly made." And that is not simply in setting the milk, skimming off the cream, churning and working it, and then packing it down, but depends, also, on *keeping the cow* properly while yielding her milk for the purpose. Some have a notion that mowing grounds should never be Fall pastured. Such may be, or may not be. We assume, however, that after the hay is carried off, and the meadow has lain open to the after showers of the season, provided it has a thick, close bottom, and not been top-dressed since haying, and the grass has again got a good stocky growth, none so good use can be made of that grass, or the ground it grows on, as to feed it off with some sort of farm stock, which it will be ready to have done, if at all, by the first of October. Then, if you have a lot of butter dairy cows, turn them in. Their milk is then richer in cream than earlier in the season, although the quantity of milk is less. The grass is fresh, clean, solid and rich. Turn them in after the frost is off the grass in the morning, and not before. If it is late in the morning before the frost melts or evaporates, give the cows a snip of hay in the stables or sheds before they go out, and keep them in all night, with a bite of hay before them. Don't leave them in the field, for they will not eat in a frosty night, and their milk will secrete less in the chilly air than when under shelter. Then your cows are in capital health and condition; their secretions of milk uniform, and the quality of the best; and such milk *must* make good butter, if properly treated afterwards.

So into November, and through it, you make abundance of butter. As the season advances give them pumpkins, good cured corn-stalks, or anything nutritious and milk-yielding. When December comes, dry them off, if they calved early in the Spring. A good dairy cow should go dry about three months of the year, for she will bring you a better calf, and give more and better milk, on the average, for not being overworked.

"Hungarian Grass."

To the Editor of the American Agriculturist:

I would like to hear from the correspondents of the *Agriculturist* the results of their sowing this season; the quantity raised per acre; its value, compared with millet and other forage crops. I raised a small quantity by the side of millet, and found it a distinct variety, and more even, and of heavier growth. Its comparative value for stock, as well as absolute quantity, as compared with other grasses, clover, Indian corn, &c., will greatly oblige, not only me, but

MANY READERS.

Westchester Co., Sep. 10, 1858.

What makes Young Forest Trees Grow?

We have tried, in several previous articles on the subject of the growth of forest trees, both in standing woods and ornamental parks, to show the necessity of proper and timely training, thinning, and pruning of the young trees which are intended to stock them; and the subject will bear, in its profits and pleasures, a frequent reference in our columns.

Planted at a distance apart at which the trees should stand when fully grown, in grass grounds, they require a deal of spade, or fork cultivation for many years to promote their growth, which is expensive, and troublesome, for the growing grass binds their roots closely, admitting neither sufficient air nor moisture, while the crop draws from them the limited amount of moisture received from the falling rains, to their great disadvantage. Any one who will observe the strong and vigorous growth of young trees—with no thick standing old trees to overshadow them—will see, at once, how rapidly they push forward beyond those which stand out singly, and alone, until they have arrived at a hight to make shade enough to protect their own roots from the growing grass beneath. The secret of this lies in the shadow made by the thickly standing young trees, suffering nothing else to grow but themselves; and so long as not smothered by their own crowding, and over-growth, they push onwards to early and vigorous maturity. So with widely planted shade trees; when once their trunks attain a size of six or eight inches in diameter at the ground, they shoot forward with increased vigor, and in good soil, with fair usage, rapidly extend their shadows to a broad circumference.

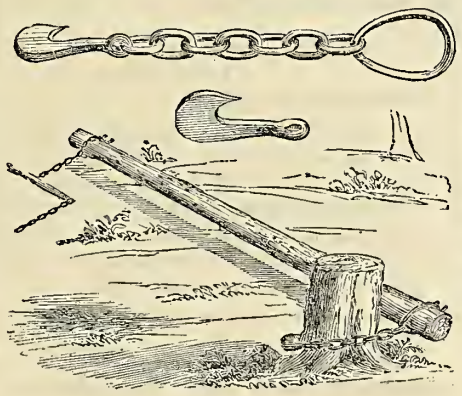
It is thus that thickly planted trees, either in single rows, or in compact masses, for lawn, or park purposes, have a decided advantage in getting a quick growth, and making a dense shade, over those planted, only at the distances apart which they may be required at an advanced age. The way, therefore, to best succeed in obtaining the most shade at the earliest possible time, unless the planter prefers the expensive method of digging, and mulching them at the root, is to have a surplus number of trees at planting, and set them close together so as to cover the ground, and keep it *soft*, as soon as possible. There are many cheap and rapidly growing varieties which may be used for this purpose, as the willows, poplars, abeles, &c., which may be planted around the maples, elms, lindens, and others, thus protecting them for a few years, and then be cut away, or otherwise removed when the outspreading roots and branches become inconvenient to those which are to remain. These we say, are cheap, because they will grow from the slip, as well as the root, and need little care, if not injured by cattle. Or, cheap shrubbery may be substituted equally to the advantage of the young shade trees. For *street* planting we do not name them, as they would be subject to all sorts of depredation, and the protection they would require costs quite as much as the extra cultivation needed by the tree without them.

Of course, this thick planting contemplates future removal of the surplus, and requires a greater outlay and labor at first; but when an early effect in shade, or protection by the trees is the object, the extra cost in the beginning is cheaper than the extra cultivation in the end. The superfluous trees, as they are removed by digging out

may be sold to those who prefer to plant singly, or, if not fit for such purpose, may be cut closely at the root, and used for fuel, or other purposes, while the trees which are to remain still go on expanding, and throwing out their thrifty roots and branches, giving protection to themselves for the future. For lawn, and park plantations, which are chiefly made in clumps, and avenues, the difference of this *thicket* process will at once be found advantageous in the increased rapidity of their growth, besides giving the proprietor an opportunity to rectify any error he may have made in calculating the number and proportion of his trees which may be demanded at a future day. We believe that our American taste is growing in favor of denser wood about our pleasure grounds than formerly; that wood should *be* wood, and open grounds free from trees at all—grassy, and ventilated. A drive through continuous woods soon becomes monotoneus, and tame, while alternating through shade and sun is ever agreeable. A thousand charming effects are given by varied modes of plantation, as in groups, thickets, and occasional single trees of stately dimensions when at maturity, which are entirely wanting in simple avenues, or in a scattered, formal occupation of the ground. A glance, or study of a well situated old farm, long used in pasture, meadow, and woodlands, will, in some of its fields where trees and open glades have been left only to chance to regulate, or supply them with shade, frequently furnish a more agreeable sight to the eye of taste than the most elaborate painstaking in plantations; and the man of true discrimination will often take a ragged, out of the way piece of territory, more or less extended, and by simply cutting out the underbrush, and cleaning away superfluous trees, leaving the open glades as they were, get up a finer park, or lawn in a year or two than the most elaborate cultivation at an enormous cost would produce in half a life time.

Such selections are not often to be found by those who seek country life from the city out in its immediate neighborhood, we admit; but we name such places to illustrate our idea of the production of fine, quickly growing woods, at a cheap rate. We have several places now in our mind which have grown up into beautifully effective woods, and landscape, some by chance, others by planting, but all under the mutually protecting process of thick growth, and shelter. We know of one place in particular, of several hundred acres, which was rescued some fifteen years ago from the vandal hands of a few squatters who had committed all sorts of depredations upon the original forests, and had got into cultivation several open fields for their crops, leaving the adjoining woods jagged, half cut out, and destroyed. The new proprietor, by cleaning up the rubbish, and taking out the superfluous and worthless trees, giving the young wood, whether in clumps, thickets, or single standards, an opportunity to grow, and laying down the open lands to pasture, has made a wide stretch of ornamental grounds which many of our most costly artificial parks will not compare with.

But few such opportunities, we admit, are to be found by those who seek pleasure grounds, or grounds devoted to both pleasure and profit, which all country places of any pretension should be; and those who design to make such by doing their own planting, should take hints from nature itself and direct their efforts by such example. The *best* season for lawn and park planting will, in a few weeks, be upon us, and no time should be lost in properly preparing the grounds destined for that purpose. There is more time in the Fall than in the Spring seasons; the choice of trees can be better made, either in the nursery or the forest, and the work better, and more deliberately done. The trees too, can be smaller for thick planting than when set far apart, they are more easily taken up, with cheaper carriage, less expense in planting, and surer to live; and beyond all these, the nurserymen, if you have them to buy, will sell them for less price—that is, we have always found it so in our own purchases. But, in taking up, and planting thousands of young trees; training, thining, and guiding up to vigorous sizes thousands of others, and watching all their developments from their feeblest infancy in to well grown maturity and splendor, we feel that our experience in this line has been worth something—to ourselves, at least.



"Everybody's Stump Puller."

The above engraving was inserted on page 140 (May number), but a defect in the stereotyping gave an imperfect representation of the position of the hook upon the stump, and we introduce it again in order to make the needed correction, and also to present a description of the mode of making it, which we have since received from Mr. Joseph F. Merritt, of Spring Valley, Green Co., O., who sent us the original drawing. He calls it "Everybody's," because its simplicity of construction, and its being unpatented, enables any one having a blacksmith at hand to get one up. He also says it is not *his* invention, as he got the idea from others, and has seen several in practical use. We will add, also, that several other persons have recently written, endorsing its simplicity and utility. We give Mr. Merritt's description:

The chain and hook should be made of the best Swedish iron, and should contain seven links, or an odd number, in order to have the hook and ring stand at right angles. Swedish Iron being generally square, it is best to get that which is 1¼ inches square, and then when it is hammered round it will be the right size for the links. The ring should be left square, except where it works in the first link; its diameter, the longest way, should be about 12 inches; the shape of the hook is accurately shown in the engraving, with the point turned a little out, so that it will draw into the stump. It must be made very heavy in the turn—say five inches broad. The lever should combine strength with lightness; seasoned sugar maple makes a good one. Let it be 30 feet long, with the ring fitted loosely, so that it will adjust itself when it is strained upon, and your "Stump Puller" is complete. Some may think the chain is too heavy, but considering the power of a 30-foot lever and a good strong yoke of oxen, it is none too heavy. Oxen are the best team to work with it, and they should have plenty of chain, for the chain sometimes slips, and the lever flies against their heels. A crowbar is needed to pry the hook out, and also to strike it with just as it begins to strain. One man and a boy to drive can pull a great many stumps in a day with this It is not calculated for green stumps, but those o four or five years' standing it will take out with ease.

Tim Bunker on the Clergy and Farming.

Mr. Editor:—I suppose you and the rest of the folks have wondered some about Sally's marrying a minister. It does look a little queer, at first sight, that a smart handy young woman, that knows all about the duties of the dairy and the kitchen, and takes premiums at the fairs, on bread and butter, should want to settle in a village. It is perhaps just as queer that the smartest preacher in the county should want to marry a farmer's daughter. But wedlock is an unaccountable affair any way you can fix it, and the particular attraction, I suppose, is in most cases as great a mystery to the interested parties, as to people outside.

But this match, it strikes me is not so much "out of sorts" as matches in general. Josiah Slocum, I guess, knows on which side his bread is buttered. It strikes my neighbors variously according to their characters. Uncle Jotham Sparrowgrass, dropped in the week after the wedding, and says he:

"What a fool you have made of yourself, marrying your darter off to that Shadtown parson."

"A thousand pities, she was so smart!" chimed in Seth Twiggs, as he knocked the ashes out of his pipe, and looked across the room to Sally's mother, who was busy with the needle.

"Why, what makes you think so?" inquired Mrs. Bunker, lifting the gold bowed spectacles, given her by Josiah on her fiftieth birth day.

"Why," said uncle Jotham, "did you ever know a bookish man that want lazy, and always running into all sorts of nonsense. And the clargy are ginerally the most moonshiny of all bookish people. There was parson Tyler, of Mill Valley, over on the Island, when I was a boy, that put up a wind mill on top of his corn crib, to turn the grind stone, churn butter, and chop the sassage meat, and do all kinds of things."

"Yes, and it worked mighty well too," said Seth, who by this time had got his pipe charged again.

"And where was the folly of using wind power instead of elbow grease?" I asked.

"It is a fact, the thing worked well, and saved a heap of labor, but it always looked like laziness to see a man set still, while the wind turned his grind stone."

"And the whole neighborhood come in there to grind their axes rainy days, as I remember," said Seth.

"How long since you have been to meetin, Uncle Jotham, that you have got such notions of ministers?" inquired Mrs. Bunker, rather sharply.

Jotham Sparrowgrass, sinner that he is, had not been inside of a meetin house, on Sunday, in twenty years, and it must be confessed was a little more offish toward ministers, than he ever was toward book farming, and that is a pretty strong statement.

"That is the way with you wimmin folks," responded Uncle Jotham, "always twittin a feller upon facts."

"Sally might have done better," said Twiggs, as he tipped back his chair and puffed away. "You see she ought to have been a farmer's wife, she was so knowing about every thing indoors from garret to cellar."

"And she might have done a great deal worse,

said Mrs. Bunker, who by this time had laid aside the sewing to take the young folks' case in hand. "It don't follow at all, that Sally wont have any use for her training in the milk room and the kitchen, because she has gone to live in a parsonage. A girl that has been brought up to keep every thing straight in the house, as well as to be a lady in the parlor makes a good wife in any calling. I am quite sartain, that her talents wont be buried in a napkin down in Shadtown. For the parsonage has ten acres of land with it, and Josiah is going to keep three cows and a horse, and grow stuff enough on the land to feed them and his family. His people say that he is not afraid of the plow tail, or the hoe handle; that he gets more stuff off of his ten acres, than many of them are able to get from their farms, that he is great on sermons, and just as great on cabbage, and it is difficult to tell whether he is a better farmer or minister; and his wife and the young folks are pleased with each other, and as long as the parties most consarned are suited, I don't see why other folks need to trouble themselves about it."

Mrs. Bunker resumed her spectacles and sewing, after freeing her mind, and Uncle Jotham, found it convenient to leave on important business. Seth apologized handsomely, didn't mean any harm, and after finishing his pipe retired.

You see a great many people have got very narrow views about their neighbors in general, and ministers in particular. They think no man can be more than one thing at a time, because they themselves have never done but one thing, and have not done that very well. If a man is good with a lap stone and an awl, they think he must be a poor hand with a hoe and a scythe. But I have traveled enough in Massachusetts, to know, that some of the best farmers and gardeners in that State are shoemakers, for a good part of the year. They have extra brains enough to plan farm work while they are driving the pegs, and keep two or three hands busy out doors while they have a shop full of hands. I have pretty much made up my mind, that that old saw about "sticking to the last," wants a new interpretation. If a man only sticks to the last, he may as well stick to two or three other things at the same time. The sticking to a thing is a matter of a good deal more importance than having only one thing to stick to. I take it, that brains are given to us in order to be used, and that if a man will only use them, he can do about as much as he wants to.

Folks especially think that a bookish man can not know any thing about practical matters, and that a minister is as likely to ride a horse with his face toward the tail, as any way. I am afraid that such people do not go to meeting as much as they ought to, and that they do not know enough about how ministers live. If there is any class of people that are not in danger of rusting out, that have a plenty to do indoors and out, and know how to do it in the best way, I am sure they'll be found among the clergy, in this State.

And it has always been so in this region, from the first settlement of the country. In the country parishes, they thought they had not done the clean thing by the minister, until they had provided a small farm for him, and made it a part of the settlement. Shrewd men, those first settlers of Connecticut were. They knew that a man with his wits sharpened in college, would beat them all hollow at farming, if they gave them any thing like a fair chance. They put them on small farms, and small salaries, to keep them within bounds, and even then, they generally beat their parishoners, and raised the best crops, and brought up the likeliest families in their parishes. Only two per cent of their children turn out poorly, and if that don't vindicate their claim to good management, and a fair share of common sense, then I am mistaken.

And I guess they hav'nt degenerated much in the present day. There is no set of men in the State that take any more interest in farming, and raising fruit than the ministers. They take hold of the societies, give addresses, and talk about as much to the point, as any orators we get on such occasions. And this is all orthodox doings out here, and I think they preach all the better for stirring around among folks, and knowing what they are thinking about. They were *men* before they begun to preach, and I take it, there is no particular sin in their being men afterwards. At any rate they do common mortals a great deal more good, for entering into their labors and sympathies.

Yours to command,

TIMOTHY BUNKER, Esq.

Hookertown, Sept. 4, 1858.

[A little allowance might be made for Squire Bunker's enthusiastic defense of the clergy, since his only daugter, Sally, has just been married to one of them, as detailed in our July issue (not seen by a multitude of our new readers), but with or without this allowance, we think the squire brings out about the truth of the matter.—ED.]

Agricultural Exhibitions should be Something More than mere Shows.

It is a matter of great importance, that our agricultural exhibitions should not be mere gala-days, for sight-seeing and gossiping. The holiday uses of the occasion are all well enough, but the managers of these fairs should bear in mind that they have a more sober aim. They will profit our husbandry just as they are made to disseminate the correct principles that underlie our farming interests. There needs to be some reform in our premium lists, that shall reward the *principles* rather than the *facts* of husbandry.

A large crop of corn, one hundred bushels to the acre, or more, is a good sight, and worthy of reporting. But the statement which involves the principles by which such a crop was grown is worth much more to the world. That will teach other farmers how to raise maximum crops of corn, at the least expense. A fat ox is worth going to see, but what we are most anxious to know, is, whether the flesh and fat has been laid upon the bones so as to pay expenses. The men who make a living by fattening cattle, cannot afford to make playthings of them. If our agricultural societies can show that beef can be made for eight cents a pound, when it is selling for nine and ten, farmers have a rational motive for producing beef. The whole details of the process will be read with the liveliest interest, and will be of direct pecuniary value to the community. But if, in the same state of the market, it costs eleven and twelve cents a pound to make fat beef, who is benefited by the exhibition? The premium should be offered and paid to the man who will best illustrate the principles of producing beef *economically*.

And so, in all departments of the exhibition, the chief attention should be given to the economy of production. We exhibit annually the best products of our farms and orchards, our meadows and pastures. The multitudes gather from the farms and the villages to behold the fine horses and cows, the splendid fruits and vegetables, and the irreproachable butter and cheese. They wonder and admire, and are, doubtless, stimulated to do something better in their husbandry but without receiving any definite information, as to the best methods of realizing their wishes. They have set before them, in these fairs, good examples of stock raising, fruit growing, and field cultivation, but they get few of the secrets of that skill which is everywhere visible. To multitudes, these fine fruits and products are as great a mystery as if they were the result of legerdemain. Neither themselves nor their neighbors ever secured such results, and they do not understand the philosophy of a hundred bushels of corn to the acre, or of Duchesse pears weighing a pound and a-half a-piece. The fair does not give to them a single new principle, nor suggest to them a better method of cultivating a single crop.

The time has come, we think, when agricultural societies, while they pay no less attention to *things*, should pay far more attention to *principles*. It should be a leading aim with the managers of these institutions, to instruct the communities in which they are located, in the principles of husbandry.

The addresses, the reports, and the statements of exhibitors, where these are required, need to be more carefully prepared. Too often the address is from a gentleman, eminent only in political life, and as ignorant of farming, or any other industrial pursuit, as he is of Sanscrit. The best occasion in the whole year, with its audience of thousands, and its glowing inspiration, is absolutely thrown away. The reports are often made up by a fourth-rate lawyer, whose chief qualification for the office is, that he has little business of his own to attend to. The statements, if made by practical men, are often defective in essential details, so that they are no guide to inquirers after the *principles* of husbandry.

We call for a reform in the management of societies, so that the whole exhibition shall be a contribution to the science of agriculture. We want to understand the experience and the practical skill that has produced the crops, much more than to see the results of this skill.

Trusting to a Single Crop.

There is no crop that does not fail sometimes, though there are a few which are never wholly cut off in any one season. Grass, for example, always yields a partial crop, and a person may, if need be, depend wholly upon this product as a means of subsistence. The same thing, however, can hardly be said of any other staple crop. Innumerable illustrations might be given of the danger of depending upon a single crop. The result in Ireland of relying upon the potato crop is patent. The failure of the wheat crop, in many parts of this country, has involved thousands of farmers in debt, which it will take year's of toil and economy to liquidate. A friend at the West had been so successful in raising peaches that he turned his whole attention to that crop. Last year he realized a large net profit, and looking for still greater results this year, he laid out his plans accordingly, and incurred considerable debts to be paid from the proceeds of his peaches. The result is, that from five or six thousand trees he gathers scarcely two bushels of marketable fruit.

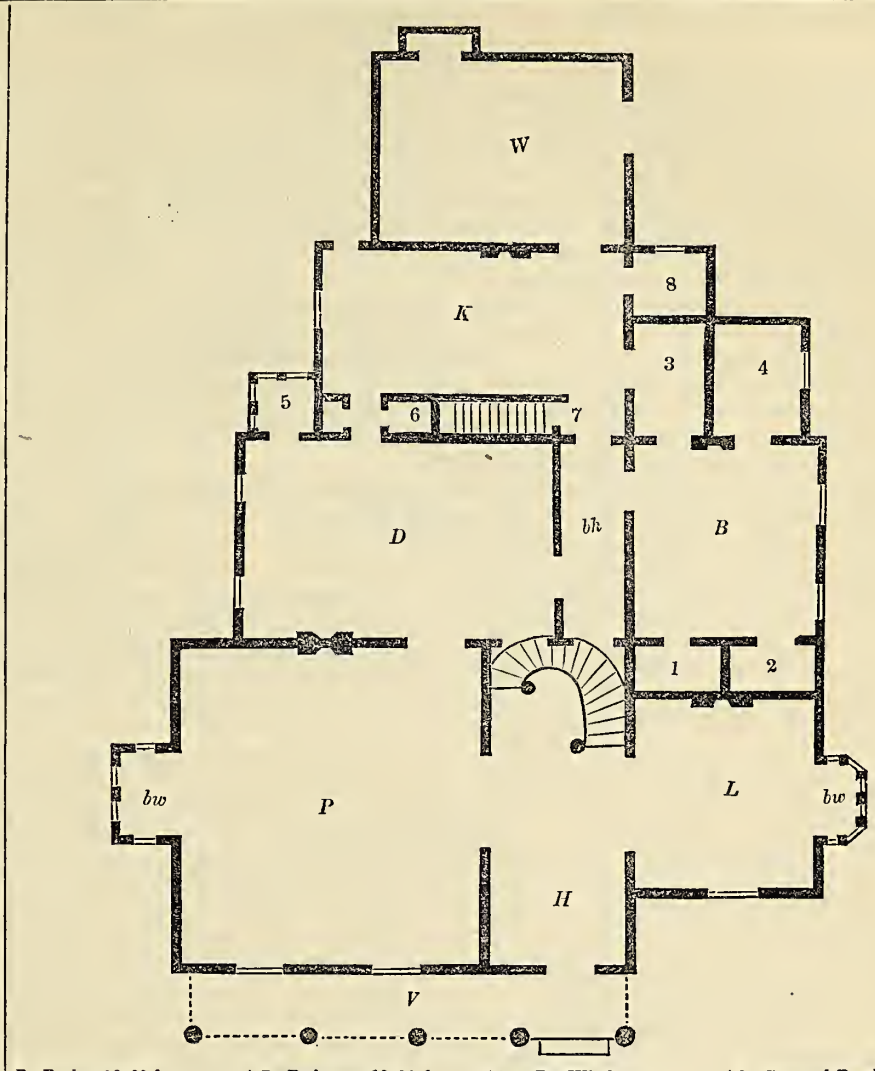
A mixed cultivation is the safest, in the long run. If the potato crop fails, let there be corn, wheat, barley, or other grain to fall back upon. The chances of utter failure are diminished a thousand fold, where there are three or four different crops under culture. A season destructive to one is likely to be just the thing for another.

Plan of a House.

We give, this month, the ground plan of a house which will be suggestive, at least, to such of our readers as contemplate building. It is none the less interesting to us that it is, with slight modification, the plan of the dwelling of one of our stated distant editorial contributors. He assures us that, after the experience of five years, he is so satisfied with its working, that he would not make any essential alterations in it.

The veranda, in front, is nine feet wide, and, being furnished with settees, and shaded by honeysuckles and the American Ivy, furnishes a pleasant resort throughout almost every day in Summer. The hall is spacious, and opens, through folding-doors, into a parlor on one side, and a library on the other. When these doors are thrown open, the view across the suit of rooms, from one bay-window to the other, is quite agreeable and striking. The wood-work of the parlor is painted white, and the walls are covered with light-colored paper. The hall is oak-grained, and furnished with oaken chairs and table, and stair-case. The library is finished in butternut-wood, oiled and varnished. The book-cases, of which there are four, are built into the walls on two opposite sides. The walls are painted a soft pearl grey. The stair-case in the hall, is left open, underneath, allowing a free passage into the dining room and back-hall.

The living room is used also for a dining-room. With piano, sofa, easy chairs, book-case for children, and engravings on the walls, it is made one of the pleasantest apartments in the house. This is the center of the home. The bed-room is provided with two ample closets, numbered 1 and 2, and with a bath-room, number 3. A child's room number 4, also adjoins it. No. 5, is a covered porch for entering the living-room. No. 6, is a "china-closet," on each side of the passage from the living-room to the kitchen, which passage is inclosed with two doors to shut out offensive odors and noises from the kitchen. No. 7, is the flight of back chamber stairs, with stairs to the cellar beneath. No. 8, is the pantry and store-room. Behind the kitchen is the wood-house, a part of which is so arranged as to be used for a kitchen in the Summer. Every room in the house is supplied with a fire-place, to be used in the Spring and Fall. In Winter, the house is warmed by a furnace, and is ventilated by the fire-places and by Arnott's chimney-valves in the chimney breast near the ceiling.



P—Parlor, 18x20 ft.
D—Dining and living-room, 14x18 ft.
K—Kitchen, 13x17 ft.
L—Library, 12x13 ft.
B—Bedroom, 12x14 ft.
H—Hall, (front).
bh—Hall, (back).
V—Veranda.
W—Wood-house.
bw—Bay Windows.
1,2—Closets.
3—Bath-room.
4—Child's-room.
5—Covered Porch to Living room.
6,6—China closets
7—Back stairs.
8—Pantry and store room.

Fire-Proof Ash and Smoke Houses.

To the Editor of the American Agriculturist:

Your plan of your ash and smoke house on page 233 (August No.), I like in the main; still, I will give a description of my own as one that is *fire-proof* from deposition of ashes, beyond all contingency. One or two on your plan have been burned, to my knowledge, from the breaking of a string, and the falling of a ham into the fire beneath. The burning fat makes a great flame which sets on fire the roof; and as other strings burn off all the suspended hams drop into the fire, and the entire structure with its meat is soon in vivid conflagration.

My building is of brick, six feet square; the whole bottom McAdamized (covered with small stone), grouted, and two layers of brick laid on and cemented. As the bottom is raised a little, water has no access to the ashes, and consequently they are not *leached.*

Thickness of wall, one brick; hight to the plates 6 feet. After laying two courses of brick, I left a space 1½ feet high by 14 inches wide—to take out ashes from—making the door out of heavy *boiler* iron, with a handle riveted on. This door is without hinges, but is kept in place with a fixture on each side—like an old fashioned door catch, or letter L—which is fastened into the wall during the erection. This door, passing down the outside of the wall, can be taken out and put back readily.

Over this is another door of the same material, 1½ feet square—and 4½ feet from the ground—hung by two hinges on the upper end—the hinges being fastened on a bar of iron four inches wide—and on this bar, over the door, the brick are laid for carrying up the wall to the requisite hight.

When shut, the door remains in place from its own weight, shutting down neatly on a stone sill. As the ashes are being emptied, this door is thrown up and kept in place by a *button* fastened to the wall above.

Inside, there is a brick partition 4 feet from the rear end—carried up 4½ feet—thus leaving a space for ashes 4 feet by 6—and 4½ feet high. Lying on top of the partition is a stone 3 inches thick—and extending into the outside walls 2 inches, thus covering the entire surface of the ash house By dividing a brick lengthwise for one course, and beveling off the edge of the next, the stone, thus fitting into the wall, is not visible from the outside. At the requisite hight, plates were put on the wall, leaving out one brick at each end of the plates for the escape of smoke. Rafters were put on, and the roof shingled the same as any other building. Hooks, on which to hang the meats, were driven into the rafters and inside edge of the plates. So you see I have a *fire-proof* ash house. For entrance to the smoke house, I made a wooden door (iron would have been better) and when smoking meats, used an old *bake kettle* in which I made the fire, setting it close to the partition; and having an old cast-iron chimney-back, I set one end on the floor—and the other against the dividing wall—the kettle being under—so that if a ham should fall down, it would not fall into the fire. Meats smoke as well the back side in front, only it takes a little longer. For smoking meats, I use corn cobs and a little green hickory, making two or three fires daily.

Most people *crowd* the smoking process too fast. Smoke only in moderate weather. If the meat is frozen, the pyroligneous acid will not penetrate, and the labor is worse than lost. G.

Erie Co, Ohio, Sept. 6. 1858.

We Don't—If any one knows *why* a woman should teach or do any other good work, for half what a man would receive for the *same* service, let him give the world the benefit of his knowledge; but if none can give a good reason for this disparity, then all should unite to remove it as injurious and unjust.

Passion is like an unruly horse, when its driver, Prudence, has become blind.

Is the Farm a Debtor?

Many who complain of farming as a poor business, and who are longing to sell tape or peddle pills, are unable to tell if the farm is a debtor or a creditor to them. Even though they keep an account of personal expenses, and know how they stand with the world, they keep no account of their farming operations, even in the most general way. They cannot tell whether the farm has paid expenses the last year, or has run them in debt. Much less can they tell what particular crop has been most profitable, or what crop has cost more than its market value.

From what we have seen of the statements of those farmers who have presented their farms for premiums at the fairs, and from what we know of the habits of farmers in this respect, we think not one farmer in ten keeps an account of the expenses and products of his fields, or can tell within a hundred dollars whether his farming pays. Many do not know how to keep such an account, and, indeed, there are some points that are not well settled, even by competent authorities. The doctors disagree as to what amount of manure is taken up by the crops the first year, and how much is to be credited to the increased value of a field by high manuring, and thorough tillage; as to what the value of the growth of young stock may be; as to the increased value of young fruit-trees; of forests; of muck dug; the increased value of land drained, &c.

But whatever rule may be adopted in regard to these points, if the same be followed year after year, it will enable a farmer to get at the proximate value of his farming operations. It is a duty which every cultivator of the soil owes to himself and his calling, to keep an account with his farm, and to determine what are the legitimate profits and losses of his business. If farming does not pay expenses, he either ought to reform his style of husbandry or abandon it, unless he is a very rich man, and can afford to amuse himself with enriching his acres, and getting great crops at the expense of his purse. As a rule, no business ought to be followed that does not pay a profit on the labor, skill and capital embarked in it; it ought to be prosecuted on such principles that it will pay, or be abandoned. We are sick of hearing of this impeachment of the fruitfulness of earth, and insist upon it, that no farmer shall be suffered to malign the soil who does not back up his charges with a regular account of expenses and income. The following from an exchange, is an outline of the kind of account wanted:

The farming for this year (the second) commenced last Fall, in getting out about 200 loads of muck from ditches, swamps, &c., mixing it with about one-fourth its bulk of stable manure, a few barrels of lime, ashes, &c., putting it into large heaps, well topped up for Winter. The new ground was plowed in the Fall, it being part bog swamp (drained), and part upland, most of it had been covered with bushes and briers for years. It was *plowed deep*, and most of it, in the Spring, was plowed over twice again. About twenty-seven and a-half acres were tilled; twelve of corn, one of sweet corn fed green to hogs, one-half an acre green for feeding cattle, three and a-half of potatoes, one and a-fourth of cabbages and turnips, one-half an acre of carrots, beets and onions, three and one-fourth of rye, five and one-fourth of buckwheat, one-fourth of an acre of white beans. The crops raised were as follows:

612 bush. potatoes, average worth 57½ cents	$293 90
801½ bush. corn, average worth $1	801.50
26 bush white beans, raised in the main among corn, $1,37½	37.75
180 bush. rutabagas, 30 cents	54 00
68 bush. carrots, 33 cents	22.67
56 bush. round turnips, 20 cents	11.20
93 bush. buckwheat, 75 cents	62·25
10 bush. beets, 33 cents	3.34
7 loads pumpkins, squashes	28.00
Cabbages, beets, onions, cucumbers, green corn, turnips, &c., sold for	68 43
187 lbs. butter, 23 cents	43.01
61½ dozen eggs, 20 cents.	12.30
41½ lbs. chickens, 12½ cents	5.16
Increased value of 15 acres of land tilled, at least $15 per acre	225.00
Keeping one yoke of oxen for the year not used in farm work	82 00
Keeping one cow through the Winter, addition to last year	22.50
Green corn, milk and other feed to 13 hogs, not included above	65·00
	$1,8?8.01

EXPENSES.

Labor for the year, Summer and early Fall, $1 per day; other seasons, 83⅓ cents, they boarding themselves	$717.31
Seed corn, potatoes, rye, buckwheat, cabbage, &c.	23.55
Stable manure, $170, one-half allowed benefit received	85 00
Ashes, $105½, one-third allowed benefit received	35.00
Guano	73.25
Plaster	14.99
Interest on assessment of farm, $3,600 (6 per cent.)	216.00
Expenses, tools, &c.	45.00
Interest on stock, taxes, &c.	29.00
	$1,239.10
Difference, net profits	$598.91

This is a much clearer account than we usually see in such statements, because it happens to be made by a gentleman who unites merchandize with his farming, and is accustomed to keep accounts; but even this contains an important omission.

Some would criticise the item of $225 for the increased value of the land under cultivation. But from personal inspection of the premises before and after the crops, we have no doubt it is within bounds. To clear an acre of land of scrub oaks, and to plow into it fifty loads of compost, will add more than fifteen dollars to its value, if it lie near a good market, as the land in question does. But here there is no estimate of the value of the manure made upon the premises during the year, which is an item of profit as legitimate as the corn or the potatoes. If one hundred and seventy loads of stable manure were made, it is worth just as much for the next year's operations as the same amount purchased.

This single item in this case would add about twenty per cent. to the profits of the year. One is struck here with the large amount paid out for labor, and with the proportion it bears to the whole expense, and with the fair profits of the farming. We trust that our readers, if any such there are, who mistrust that farming does not pay, will just sit down and make out their account for the past year, and strike the balance. It may be found that the farm pays very well, in some instances, where the farmer does not. A farmer may be reckless, may speculate, may dissipate, may neglect his business. It is manifestly unjust to charge his sins to the farm. We are concerned for the honor of the soil, and claim that no man should bring against it loose accusations. Good farming, we believe, always pays, and is a credit, both to the character and purse of the cultivator.

Lime on Seed Potatoes.

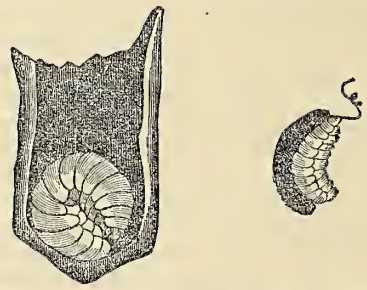
To the Editor of the American Agriculturist:

Having lost most of my potatoes by rot for the last three years, I applied lime this season, and up to this time when they are mostly ripe, they have not shown any evidence of rot. I applied lime on the potato after it was dropped in the hill, and on the vines at two different hoeings. I believe lime the best and almost only preventive for rot. To know how to apply it is of vast importance, considering the large annual value of this crop. I trust your correspondents who have tried experiments with lime on their potatoes, will give through your valuable journal full particulars of the mode and time of application, quantity, kind of lime, and condition when applied, and every other particular essential to its proper use. Some have said, cut the potatoes and roll the pieces immediately, while the cut surface is still moist, in quick lime. Is this necessary and safe? I hope to see this matter fully explained in your columns. LONG ISLAND FARMER.

Sept. 4, 1858.

Bees—Old Hives and Comb—Do the Bees Become Dwarfed, etc.

We have already stated some facts concerning the development of the bee, from the egg to maturity. The tiny egg that is laid by the queen, when hatched, gives birth, not to a bee, but to a *worm*, which grows rapidly for several days, and then is covered up in its cell, to undergo, in darkness and repose, an amazing change, as the result of which it becomes a perfect winged insect. A casual glance at a sheet of brood comb would lead one to suppose that the worms were perfectly motionless, as they lie coiled up at the bottom of the cell. A careful observer, however, will not fail to detect their motion, which is especially noticeable when for any reason the cell has been left uncapped a longer time than usual. The covering of the cells is the work of the bees, who have already provided the helpless worm with a sufficient supply of food. After the time has come for sealing up the cell, the worm begins to



spin its cocoon, moving its head (?) back and forth, while its thread, like that of a spider or a silkworm, is paid out and attached nicely to the inner walls of the cells. After weaving the cocoon, the worm, turning its head toward the opening of the cell, quietly awaits its transformation into a perfect bee, which finally works its way out from the cell about eighteen days from the hatching of the egg. The drones are a few days longer coming to maturity. The queen bee, on the other hand, is perfected in a shorter time.

These cocoons are never removed from the comb by the bees. The queen, on finding a cell vacant, proceedes to lay an egg within the cocoon, and the worm that is hatched from it weaves its cocoon within the other; and so on, generation after generation. Any one can easily satisfy himself of this fact, by taking a piece of old brood comb and carefully tearing it to pieces; or by melting it before the fire, when the wax will melt away, leaving each nest of cocoons separable from the rest. Then, with care, the different cocoons may be taken apart, like sheets of paper from a quire, though their thickness is much less than common paper. The texture resembles paper, and so far as we can see, is not capable of being unwound.

It is natural to suppose that the cell may become too small, as one cocoon after another has been left in it, and that the bees may become dwarfed. We do not know of any observations to show exactly where this point is reached. The "Cottage Bee Keeper" (page 93) says, "*renovation of comb* should take place not less often than

once in every four or five years." On the other hand, a correspondent in our August number, page 237, speaks of bees which had undisturbed possession of a hive for twenty-two years, *after* which period, the bees seemed to be "one-third smaller in size than bees in young stocks adjoining." And Mr. Quinby, commenting on this statement, page 269, says. "I have known combs half that age to be used for brood, and the bees bred in them *could not* be distinguished from those reared in new combs!" Mr. Langstroth, in his work, page 312, also says, in reply to the suggestion that combs may be so old as to produce dwarfs: "When I find such a colony, I shall think it worth while to give specific directions as to how it should be managed. The truth is, that of all the many mistakes and impositions which have disgusted multitudes with the very sound of 'patent hive,' none has been more fatal than the notion, that an old colony of bees could not be expected to prosper. Thousands of the very best stocks have been wantonly sacrificed to this chimera; and so long as bee-keepers, instead of studying the habits of the bee, prefer to listen to the interested statements of ignorant, or enthusiastic, or fradulent persons, thousands more will suffer the same fate. * * * What old bee-keeper has not had abundant proof that stocks eight or ten years old, or even older, are often among the very best in his whole Apiary, always healthy, and swarming with almost unfailing regularity! I have seen such hives, which for more than fifteen years have scarcely failed, a single season, to throw a powerful swarm."

It also appears from Mr. L.'s experience, page 42, that drones reared in worker cells where they had not space for full development, "were dwarfed in size, although the bees, in order to give them more room, had pieced out the cells so as to make them larger than usual; size excepted, they appeared as perfect as any other drones."

What then is established by these facts! Not that a piece of comb may be incessantly used for brood, for fifteen or twenty years; but that a large hive, well supplied with worker comb, need not be pruned of its comb to prevent the dwarfing of the bees, except at very long intervals of time. One may safely wait until his bees *have actually become reduced in size;* and even then it would be a question whether they would prove less efficient and serviceable. If such degeneracy occurs, it may be presumed also that the queen does not participate in it. This is the great practical lesson to be learned. We have much more to fear from the abundance of *drone* cells, and of thick combs fitted only for storing honey, than from cells so much contracted as to be unsuited for brood.

It is well known that brood cells are used indiscriminately for brood and honey. As the Winter's supply of food is consumed, cells are made vacant for the eggs from which the hive is to be repeopled in the Spring. So that the rate at which cells become filled up by cocoons must be much slower than if a generation of bees was raised every month of the year. And then in these old hives it may be true that some of the old comb ceases to be used for brood. If a hive is twenty years old, it is not certain that the combs used for brood have been constantly devoted to that purpose.

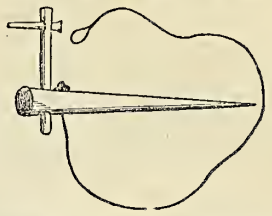
We have before us a piece of comb taken recently from an old hive, whose age we could not ascertain. It contains, chiefly, regular drone cells. On one side, these seem to have been cut away, so as to be too shallow for use; on the other they are apparently of unusual depth; but this is due to the accumulation of cocoons, the thickness of which is so great that the bottoms of the cells are more than half an inch from where they were at first, in other words the cells have been gradually filling up with cocoons, and have been lengthened out about half an inch in the other direction, in order to give them sufficient depth for the brood. We succeeded in separating twenty cocoons from one cell, which seemed to be an average specimen; and between some of these we found deposits of thick black matter, which may possibly have been bee-bread; though we are in doubt about it. One such layer was nearly a tenth of an inch thick. The diameter of the cells seems to be but little diminished; and their appearance would not lead one to expect a dwarfing of the bees. Half a dozen thimbles fitted into one another will show how it is possible for the cocoons to be multiplied without diminishing the capacity of the cell. We presume that while the cells of one comb have thus been extended, those of the comb directly opposite must have been cut down to make the passage way sufficiently wide. This piece of comb, taken from a hive in July, after the forcing of one swarm and the subsequent expulsion of the residue, contained neither brood nor honey when it came into our possession, but it may have been occupied by brood this very year.

King Philip Corn in Michigan.

Peter Fournie, of Saginaw Co., Mich., writes under date of August 21: I have been here eight years "milling it," but the present year I have worked both a farm and a mill; and though this is my first farming in 13 years, I believe I shall hereafter follow this occupation. [A good decision.—Ed.] Hearing much about the King Philip corn, I decided to try it, but could not get seed before June 22. Two acres were planted from that to the 25th. We had green corn August 18, less than two months after planting! My corn is now better than any of the other kinds around me, though mine was planted two weeks later. I am satisfied that the King Philip variety is the kind for this section of the country, as the growing season is very short. Some think this county (latitude 43½°) is too cold for corn, but I say, do the work well and adopt the right variety and it will pay.

Remark.—Our correspondent does not state whether his soil and the manuring were like that of his neighbors. Superior culture in these respects, may have made considerable difference in favor of his plot. It is generally desirable to have these particulars stated. We have repeatedly remarked that for colder sections of the country with "short" seasons between Spring and Autumnal frosts, the King Philip is one of the best varieties if not the best—owing to its early maturity. It has a much smaller stalk than other kinds, and should be planted nearer to get a large product. The ears are of pretty good size, and the cob being small the amount of shelled corn is large.—Ed.

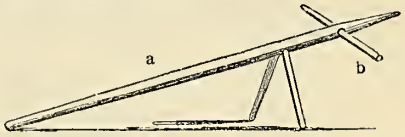
Land-Side Cutter on Plows.—Objections.... "C." of Sussex Co., N. J., raises the following objections to this implement, described and illustrated on page 237.—1st. When a narrow furrow chances to be cut, the plow would shove off into the furrow, and it would require some force and skill to get it back again. 2nd. In stony ground the plow would be constantly shoved out by stones against the beveled cutter. 3d. In stony (or rooty) ground, when the plow must be frequently lifted over or turned aside, the cutter on the left side would prevent a free management of the plow....[These are manifest objections, especially the last two, and we would not advise its application on very stony ground in any case. On clean land it may work well.—Ed.]



Shocking Corn Implements.

We are indebted to Mr. James Hau, of Davenport, Iowa, for the description of a simple (unpatented) implement which strikes us as being very convenient to use in tying corn in shocks, and we have engraved the above sketch. The longest part is a round piece of wood, 4 or 4½ feet in length, 3 inches in diameter at one end, and running to a point at the other. Upon the blunt end, there is a crank, say 2 feet long, fitted with a handle, similar to a common grind-stone crank. A hole is made in the pointed shaft, near the crank, through which one end of a rope or cord 7 or 8 feet long is thrust, and fastened with a knot, and upon the other end of the cord is a small loop. The mode of using this implement, which is quickly and easily made, will be readily understood. The pointed shaft is thrust through the shock; the cord is then thrown around and the loop put upon the projecting end of the crank. Turning the crank will wind up both ends of the rope, and bring the stalks as tightly together as may be desired, when they are tied with a straw band, or with stalks, withes, or twine.

While on this subject we will re-introduce another implement described a year ago. A number of readers who adopted it at once, have expressed themselves highly pleased with it. A Maryland subscriber wrote that "this single little hint was worth five times his subscription." The implement is made as follows:



The round pole *a*, is about ten feet long, and three or four inches in diameter, according to the weight and strength of the wood. It is supported by two legs which are simply round sticks let into augur holes. The larger end of the pole is sharpened out to a point. About 1½ feet from the point is an augur hole through which is thrust *loosely* a stick, *b*, say 4 feet long. When set down, as in the engraving, the corn is set upright around the crossing of the two pieces, and bound. The cross-piece, *b*, is first taken out, and then *a*, is withdrawn. The whole implement is light enough to be carried around by hand. With only an ax and augur any one can cut the sticks from the woods and complete the making in half an hour.

Loving vs. Liking.—The distinction between liking and loving was well made by a little girl, six years old. She was eating something at breakfast which she seemed to relish very much. "Do you love it?" asked her aunt. "No," replied the child," with a look of disgust. "I *like* it. If I *loved* it, I should *kiss* it."

The following contains the alphabet:—John P. Brady, gave me a black walnut box of quite a small size.

Breeds of Swine.

For the purpose of giving our readers a clear idea of the breeds of swine, and of the difference in their appearance, we present engravings of a number of them together. The original wild boar speaks for himself. Killed at the proper season, and when not too old, and where nutritious, wild roots and mast abound, the hams and side pieces of the wild hog are highly relished. In ancient times this was the principal animal food of the inhabitants of European forests.

Land-pike and Alligator may be called the *disimproved* or Ishmaelite sorts, which abound in roadside ditches and along the fence—often the wrong side of it—to the great annoyance and injury of the good farmer and his crops. These are generally bred and owned by people as Ishmaelitish as the animals themselves

The cut of the Chinese is a good representation of those usually imported into this country. The objection to them is, they are too small, have too much belly, and are sway-backed. Their merits are, they mature early, are very prolific, and keep and fatten easily. They also make an excellent cross on the common lean breeds of swine—the progeny usually possessing the merits without any of the defects of either parent.

The Suffolks are very fine in all their points; of medium size, mature early, fatten easily, and make pork of the best quality. Their color is pure white, and they have little hair and no bristles. This breed is supposed to be formed by a cross of the Chinese white boar on the common white swine of Suffolk County, England, and then further improved by careful selections, and breeding these together.

The Essex breed are about the same size and form as the Suffolks. Their color varies from very dark copper to black. They are supposed to have been formed by a cross of the black Siamese boar, with the original black stock of Essex County, England. Some prefer the Essex as more hardy than the Suffolk, but our opinion is that their merits are about equal.

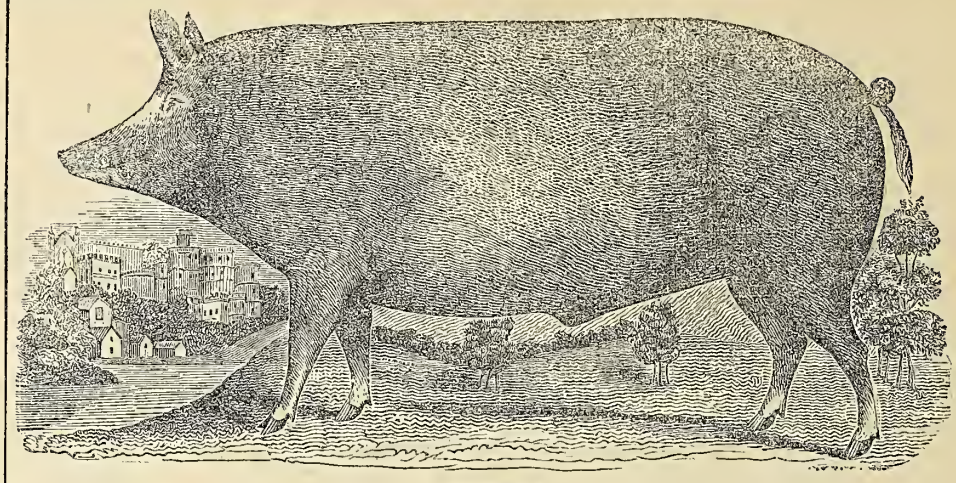
The Neapolitan are much like the Essex in shape, only finer, if possible, with scarcely a hair on them—the skin a dark, rich purple. The only really choice ones we ever saw in this country, and which fully answer to this description, were imported from Italy by Mr. Chamberlain, of Red Hook, Columbia County, N. Y. There are many spurious things called Neapolitans, as well as other breeds, of which our readers cannot be too suspicious.

The pure Woburn, as bred by the late Duke of Bedford, on his estate at Woburn, 40 to 50 years ago, has been extinct for some time. One occasionally meets a pig in this country of pure white, or white with large patches of dark ash color or brown, called "Woburn," but we have no idea that they have much, if any, of the pure English blood in them.

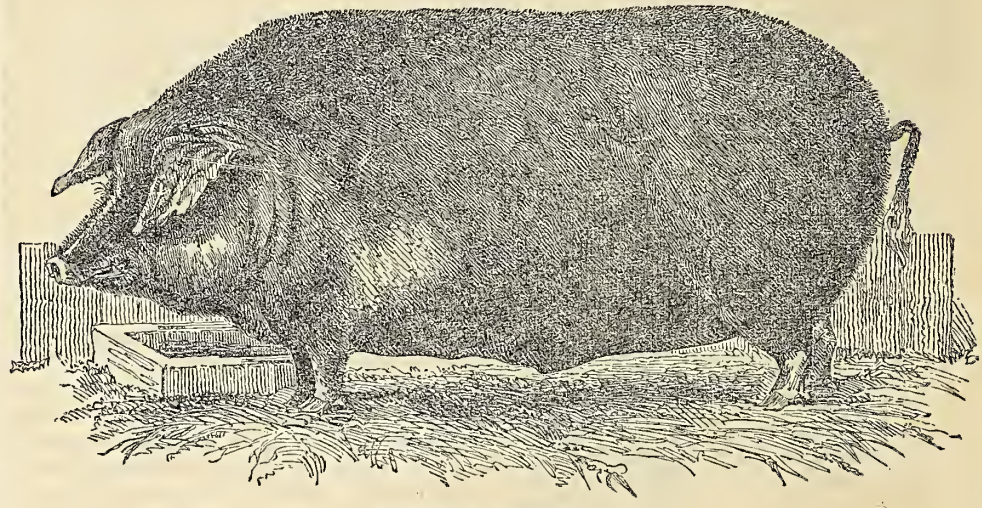
We now come to the Berkshire, which is a favorite farm stock. They are of dark copper, purple, or black color, interspersed with a little white. They vary from medium size to pretty large, according as they are bred. They have been so well known for twenty years past in this country, that it is unnecessary to describe this breed more fully. They are hardy, prolific, and mature early. Their great merit is, their uncommonly thick, lean, tender, juicy hams. We know nothing equal to them in any other breed, and they are particularly cultivated for this good point, at the West.

The largest breeds we know are the Leicestershire and Lincolnshire swine—particularly the latter. Though rather coarse, they are very thrifty, and are highly esteemed on Southern plantations. We have seen occasional specimens whose live weight, well fatted, was over 1,200 lbs. If properly fattened, they often dress, at 18 to 20 months old, from 500 to 700 lbs.

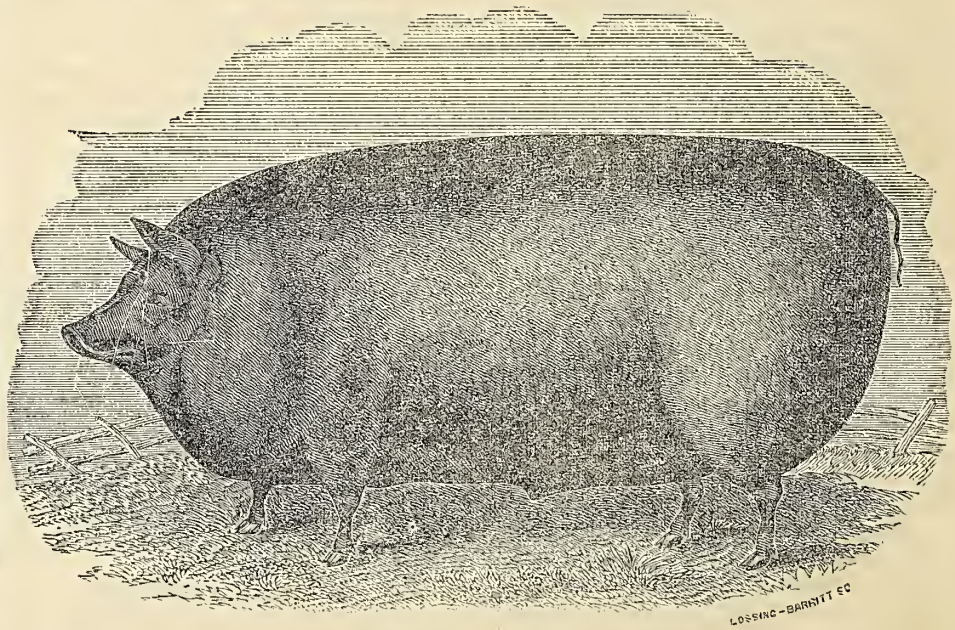
The Chester breed, of Chester County, Pa., are much like the above, except they are usually finer; and we have seen similar in this and the Western States.



BERKSHIRE.



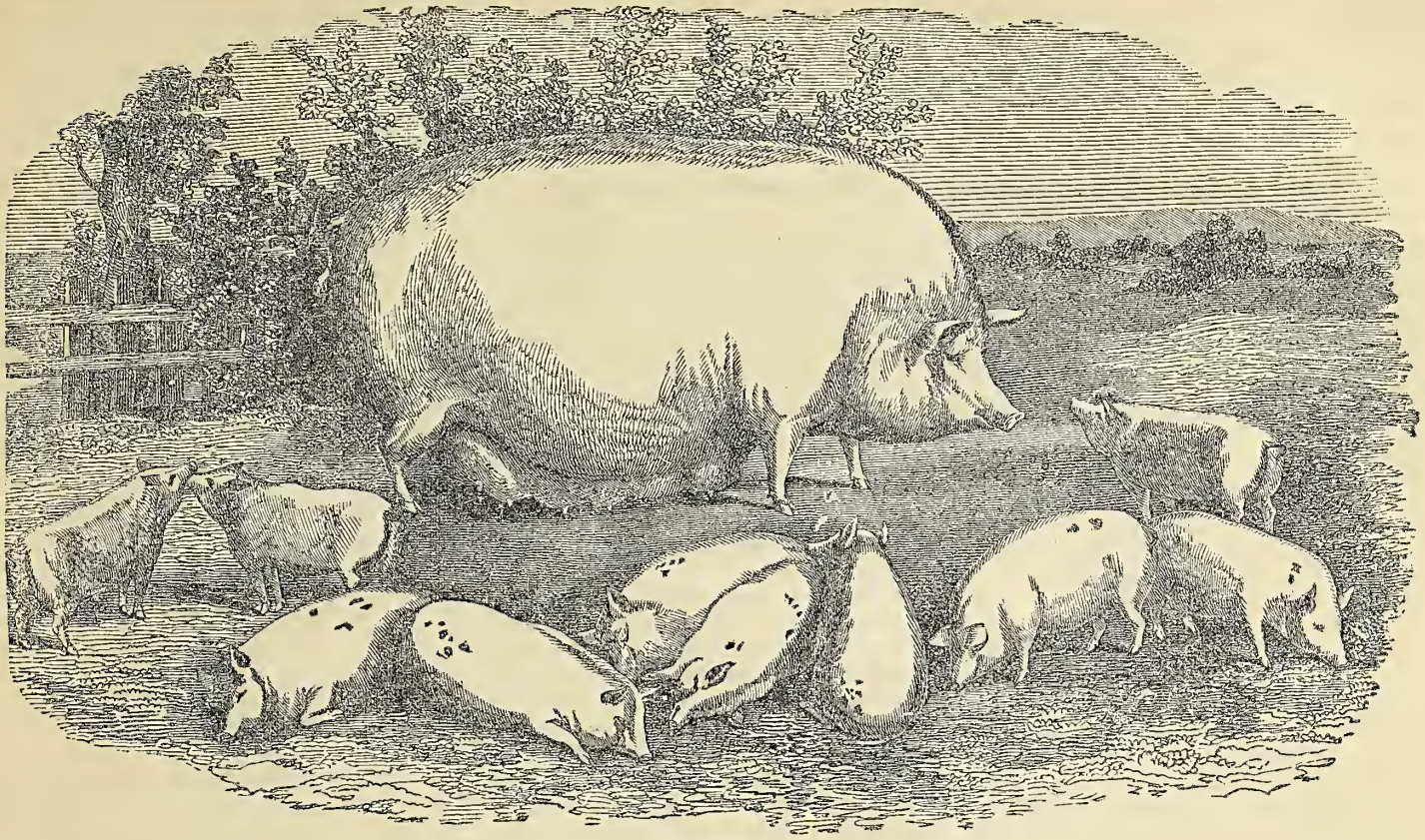
BEDFORD OR WOBURN.



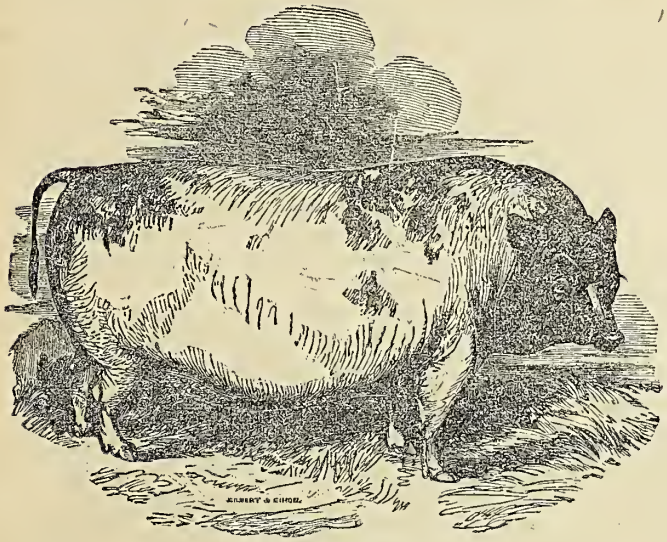
IMPROVED CHINESE.

Fattening Hogs.

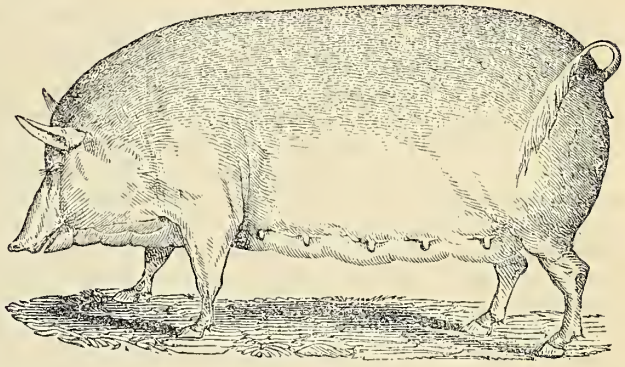
Hogs, we said, not land-pikes, with noses as long as hand spikes, and legs like a deer. We should as soon think of trying to lay flesh upon a lightning rod, as upon one of these animals, that sometimes infest a farmer's sty. The best use you can put such brutes to, is to sell them to the bristle dealers, reserving the noses for top riders to a rail fence; that is, if you are situated as



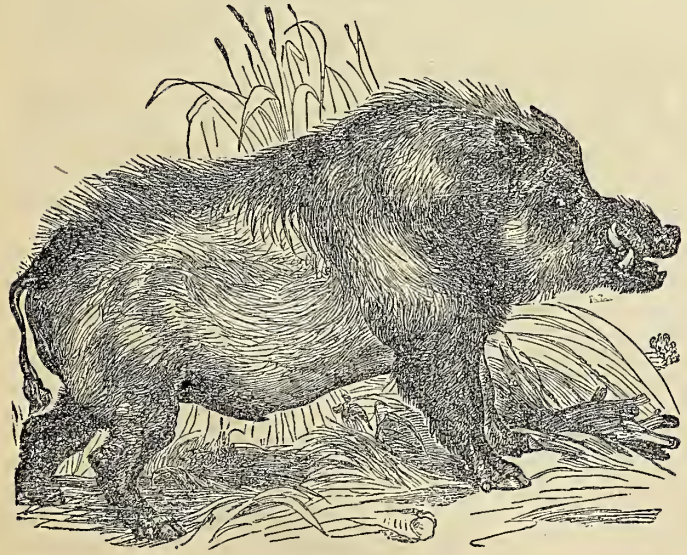
SUFFOLKS.



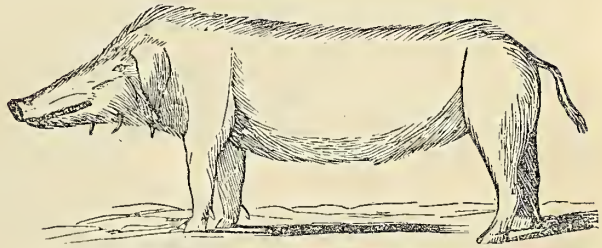
NATIVE CHINESE.



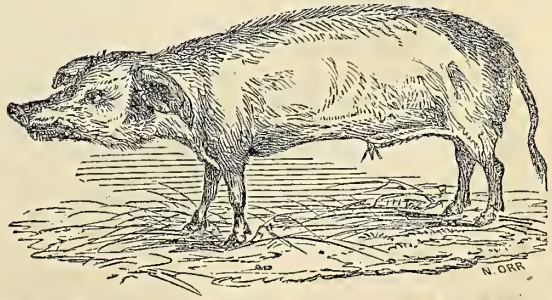
BERKSHIRE SOW



WILD BOAR.



LAND-PIKE OR DITCHER, OR SUB-SOILER, OR POTATO-DIGGER.



NONDESCRIPT—SOMETIMES CALLED "ALLIGATOR," AND SOMETIMES A "CORN-CRIB."

most farmers are, with a good market for corn, and other grains. But if your corn crib is plethoric, and you have a surplus that you want out of the way, without any return for it, just put it under these long noses. You will accomplish your purpose. A grand recipe for famine are these land pikes

Hogs, we said, not asses or African Elephants, with ears as big as a leathern apron. The only ears a pig should run to, are ears of corn—his own being short, erect, well set, thin and soft to the touch, showing that the forces of the animal are not wasted in making souse or headcheese. His head should be short; nose fine; neck thick, short and deep; his back broad and rounded along the whole body. We want a fine boned and compact animal, with legs just stout and long enough to hold up the fat and muscle you mean to put upon them. With a pen of such animals, you can make pork cheap, no matter what breed they belong to. There is satisfaction in looking at them, and in feeding them. You can see where the corn goes to, and what comes of it, in the swelling sides, and rounding back.

The pig is a gentleman of leisure, and wants clean quarters. He must have a dry sleeping apartment, and plenty of straw if you want him to do his best. Then he is omniverous in his appetite, and wants a little of almost everything nice that tickles the palate of his master. While cooked Indian meal is the staple, he should be treated to vegetables daily, green corn stalks and ears, cabbage, turnips, carrots, beets, parsneps, &c. Milk or whey never comes amiss. If these are not convenient, they should have all the water they wish to drink. A little salt is also a desirable addition to the daily diet.

Regular feeding is a matter of much more importance than most people suppose. The healthy stomach of a pig performs its task of digestion with as much regularity as a day-laborer, and when the meal time comes, it feels the uneasiness of hunger. A squealing pig should be considered a disgrace in any farmer's yard. Even if he affect that kind of music, he should understand, that it is a very expensive luxury that none but the rich can afford. It is like the brilliant light from a lamp, fed with oil from his own ribs. Feed by the clock, and stop the racket. Give at each meal, only so much food as they will eat up clean.

If you have any considerable number of hogs, it will pay to have a cooking apparatus, for boiling or steaming the meal and vegetables. Fair experiments show, that a large proportion of cooked food will make more flesh and fat than the same quantities given raw. A little green food given as a change is economical. With neatness and system, this branch of farm industry may be made very pleasant and profitable.

Cattle Show Deception.—Yankee Tricks in Great Britain.—Since all cute and mean tricks are set down to Yankees, we suppose one of that genius must have settled in Great Britain, for we learn that at the last Ayr Agricultural Cattle Show, the first prize was awarded to a two-year-old bull which was decorated with false horns, and a slight hollow behind the shoulder was filled out by puncturing the skin and blowing in air. A thin band of gutta percha was fastened around the base of the false horns with some adhesive substance, and the hair carefully drawn over. Other animals were tinkered with in a similar manner. Where's Bother Jonathan? *Vive le John Bull!*

Fertile County—"In my fertile county," said a Leicester man, "you could turn a horse into a field new mown, and the next morning the grass would be grown above his hoofs." "Pooh! that's nothing," cried a Yorkshire man. "You may turn a horse into a field in Yorkshire, and not be able *to find him next morning!*"

Management of the Horse.

In our remarks on this subject, last month, we spoke of the importance of the cleanliness and ventilation of stables. Hardly less important is the cleanliness of the horse himself. That the animal prefers a neat skin to a dirty one, is manifest from his treatment of himself when out to pasture. By rubbing against fences and trees and by rolling on the grass, he keeps his hair in tolerable neatness; it is often more tidy and glossy than when under the care of the groomsman. He can not curry and brush himself to any amount in the stable; hence he is obliged to lie down in whatever filth his untidy owner suffers to remain beneath him.

A stabled horse should be cleaned every day. And this, not only for the sake of the neatness itself, but for the benefit of the friction to the horse's health. Many stabled horses are not worked or exercised regularly, and they consequently need to have their skin rubbed daily in order to open the pores, and to promote a good circulation of the blood to the extremities. This begets a gentle heat and perspiration, and produces a glossy coat of hair. It is not a neat practice to groom a horse in his stall. Much of the dirt and dust rubbed out of his hair, falls back upon him, or settles on the sides of his stall and in his manger. The horse should be taken into some open, airy place in the barn near the door, or even out of doors is better, so that the scurf and dust may blow away, and the horse himself enjoy the benefit of exposure to the fresh air. This is also a much neater method for the groomsman himself.

Is not the currycomb often used with more severity than is needful or humane? Some kinds of dirt adhere so obstinately to the skin, that this implement must be used with some degree of harshness to remove them. But, as a general rule, it should be used lightly, especially on the legs and other tender parts of the body. Some horses, too, are very thin-skinned and sensitive, and must be treated accordingly. After the currycomb has been gently passed over the surface, nothing is better than rubbing with a large wisp of pea-straw. Rub, from one extremity of the animal to the other. This may be followed by the ordinary brush or a hair-cloth. When this is done, it is a good plan to give the legs a good rubbing with the hands. It brings down swellings, softens stiffnesses, and makes the legs warm and trim.

2. *Exercise.*—Farm horses seldom need more exercise than they get in the ordinary labors of the farm. Their work is regular, and not exhausting. Like the farmer himself, they have enough to do to promote their health, without being at one time enervated by idleness, and at another overcome by excessive labors. It is the horse of the mechanic, merchant, editor, minister and lawyer, who often needs artificial exercise. Sometimes, he stands idle in his stable for days and weeks in succession, and then is worked or driven to the top of his strength, for the same length of time. His food is often continued the same in kind and amount, whether at work or resting. No horse can be treated so, without more or less injury. By standing idle, he is quite sure to contract the "scratches," or fever, or some of the many diseases of the feet and legs. By being hard driven, after a time of idleness, he is quite sure to get inflammation of the lungs or of the feet. The horse, like his master, needs daily exercise. The amount may vary, from one hour to four, without any damage. This exercise will keep up his digestion and his appetite, preserve the health of his lungs, eyes, feet, limbs, and, in short, of his whole system. Then, when circumstances require extra labor, he can perform it with comparative ease, and without injury to himself.

3. *Food.*—For the horse roaming in the pasture, little need be said about his food or drink. The nourishment which nature provides for him there, is eminently natural. But most horses are confined to the stall a part of the year, and a great number the year through. The great end to be aimed at in feeding a stabled horse is, to give him such food and in such quantities as will keep him in good flesh, and at the same time maintain his general health. It is not enough to give him nourishing and hearty food: he must have such as will digest well and will not favor the contraction of any disease. Moreover, a working-horse must be fed differently from a carriage-horse, and a trotting horse or racer different from both. Observation and experience will teach more on this point than can be learned from books.

The old practice of allowing a horse to stand day and night, before a rack or manger full of hay, is coming to be discarded. It has been found that in this way, horses distend their stomachs by over-eating, and besides, waste a good deal of hay by pulling it from the rack, picking out the sweetest stalks and throwing the rest under their feet. When hay is fed, it should only be at intervals, and in small quantities. It is an excellent plan to moisten it with water, having a little salt in it, which makes it more palatable and more wholesome. Hay is in its best condition for fodder when about ten months or a year old. It has then gone through the process of fermentation, and its sweet and nutritious properties are fully developed.

Cut feed is considered by many the best form in which hay or straw can be given to horses. If chopped fine and mixed with grain or meal, little or nothing is wasted, and the food is quickly disposed of. This last item is one of considerable importance for hard working horses. By limiting their food at one time—say, at night, after a day's work—to a manger full of good cut-feed and grain, as soon as this is eaten, they can lie down and rest; whereas, by the old method of feeding grain, and then a rack full of hay, much time was spent in eating, which should have been given to resting. There is a gain of at least two hours' rest every night.

Beans and peas are fed to horses, in England, more commonly than in this country. When well crushed, they are excellent for hard worked horses; but being quite heating and stimulating, they should be mixed with a good deal of cut feed.

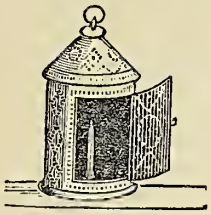
Shorts, or mill feed is a good diet for the laboring horse. Mixed in the manger with chopped straw, and well moistened with water, a horse will thrive upon it, while doing at the same time a good deal of daily drudgery. Carriage horses, used only at intervals, should have their shorts mixed with a greater proportion of bran than is common for the team horse.

Probably no article of food is preferable, all things considered, to oats. They contain 743 parts of nutritive matter out of 1000 parts; which seems to be an excellent proportion for the food of this animal. They appear to possess, also,

an enlivening and invigorating property which no other food contains. They are in their best condition for fodder when from six months to a year old. They should be plump, bright, and free from any offensive taste or smell.

Carrots, turnips and potatoes all form an excellent diet. Neither of them alone would answer for horse feed, but to alternate with other food, they are highly valuable. They aid in the recovery of an ailing horse, and tend to prevent the inroads of disease. Every farmer and keeper of livery stables, and indeed every owner of a horse should have on hand a supply of these vegetables for use in his barn.

We can not close without adding, that one of the most important things to be considered in feeding a horse is, that he be fed regularly. As it is not well to have his stomach overloaded at any time, so he ought not to go long hungry. Food and water given in suitable quantity and at regular intervals, contribute greatly to his comfort and health.



Blinks from a Lantern..... IV.

BY DIOGENES REDIVIVUS.

THE FARM OF THE SLOTHFUL.

My last blink had not more than fairly got before the public, when I received the following letter from among my readers down south. I had never thought that my light would shine so far into the world.

"BENDOVER HALL, Md., Sept. 2, 1858.

MY DEAR OLD GREEK:—I thought I had bid you farewell forever, when I left the halls of Nassau, and quit college and the classics, twenty years ago. Who could have thought, that the crustiest of philosophers, caged in libraries and seats of learning for so many centuries, should re-appear among living things, and go around inspecting cabbage and turnips! That last idea of yours—poking your lantern into a man's brain in search of a farm—is of Grecian origin, and as racy as any thing you uttered, when you dwelt in the flesh. I am a convert to that Platonic notion, and should like a little light from your lantern upon the peculiarities of my case.

I have just come into possession of a large estate, which is certainly too much like the garden of the sluggard to be called a farm, and I am by no means certain that I have any map of a farm in my brain, that will ever be realized on these neglected acres. As mine is a fair type of many of the estates in this region, and further south, I will make a brief statement.

It consists of some 1,200 acres, half in nominal cultivation, and half in excellent timber. It was once kept in fine order by its former owner, but since his decease some twenty-five years ago, it has run down under the management of tenants. When I came into possession, last year, buildings, fences, and all else were in a melancholy condition. In the noble old mansion, several of the finest rooms were used as granaries decay had obliterated much of its beauty, and not one apartment out of ten had glass enough in the windows to keep out the rain or the snow. Repairs to the buildings have done much to improve appearances, and after a while other things will be got in order. The land is a dark sandy loam, naturally a capital soil. It lies nearly level, is easily plowed, and is well drained by ditches. But the neglect of which I have spoken, coupled to the most careless and miserable "*farming*" gave briers and weeds full swing, and for 25 years they have luxuriated, with scarce a disturbance from the plow, or the harrow. True the fields have been cultivated, but of *such* cultivation it is difficult to give you any proper idea. Of course war has now been declared against the weeds and briers, and preliminary steps taken to carry it on vigorously. But the briers infest all the fields, and seriously interfere with our operations. We have cut, turned, and plowed a hundred acres or more, but still the roots are there, and thousands more of the same sort. It is the common black and dewberry.

Now, O Diogenes, man of the lantern and the tub, permit me to draw a little upon your experience, gained in your modern search after farms. I want to get rid of the "pests" as soon as may be, and do not intend to spare any effort that can accomplish that end. Tell me then, in reply, what method you advise, as best calculated to rid the land of these nuisances in the shortest time, and what implement, if any, will eradicate them, root and branch. How shall my 1200 acres be made into a model farm?

There is manifestly too much of what is termed "careless industry," among the farmers of this county and State, and great would be the change if they would but turn over a new leaf.

Yours Respectfully,

SOLOMON WALKER."

The friend and admirer of my classic sayings, (who was formerly a member of Congress,) is asking more than I bargained for, when I began to let my light shine in these pages. It is the office of a curt and crusty philosopher to point out the defects of *what is*, rather than to attempt to reform it. Modern philosophers have got so much off the track in this respect, and have made such a bungling piece of work in their reforms that it would be poorly worth while for me to imitate their example. Yet Mr. Walker, has done up the work of a cynic so well, and shown up all the bad points of his estate, and of kindred institutions in his neighborhood, that courtesy seems to require that I should, on this occasion, depart from my rule, and lend him a hand in his necessity.

The estate, so graphically described by my correspondent, is a striking picture of the legitimate result of tilling the soil by tenant labor. However profitable for a time, and under certain circumstances it may be, its tendency is all toward that careless industry and consequent abandonment of the soil to weeds and briers, which my correspondent describes. It has been well said that "the best manure for a farm is the footstep of its owner." Unless his tracks are around, seeing to every thing in person, it matters very little what fertilizers you have, or what crops you plant. There is no thrift without intelligent labor.

The next best thing, to the foot prints of the owner, is the presence of skillful well paid laborers. It will not answer to have all the brains in one head. There are a thousand details, that the overseer can not attend to in person, and where skill and a sufficient motive for its application is constantly needed. Silver is better than a grindstone to sharpen the edge of a hoe, or the teeth of a cultivator. It is astonishing to see what a clean cut steel thus sharpened will make upon weeds and briers. It is also quite as good to sharpen the eyes of the workmen, as their tools. There is no eye salve like it. It works like a charm upon the boy that rides horse between the springing corn. He sees every blade, and no hoof mars its beauty. It is better than spectacles to the man who follows with a hoe. Every bramble is cut, or snaked out by the roots, so that it will make no trouble in future. Clean, careful cultivation, thrift in the best sense of the term, is possible under no other system.

To come to the particular need of this estate—the subduing of briars; it will take several years of patient and intelligent industry to accomplish the work. Fall plowing is very important to give the frost a fair chance at the up-turned roots. The high blackberry, though a strong grower, is not so tenacious of life as many other plants. Its roots are tender, and greatly coveted by swine, which make a clean sweep of them, in any small lot where they are confined. Deep plowing is hardly less important, to cut off the roots so low down, that they will not have time to send up shoots before the corn is ready for the cultivator and the hoe. This should be followed by thorough, and frequent cultivation with the steel toothed cultivator and the hand hoe. If the corn is furrowed both ways, nine-tenths of the work may be done by horse power.

This thorough treatment should be followed up until every vestige of brier is removed. The most of them will be killed the first season, and the strong temptation is to stock down to grass, which will give the briers a chance to revive again. Hoed crops for two or three years are the safest remedy.

White Robins.

To the Editor of the American Agriculturist:

In a stately willow in front of my farm house, two robins have domiciled for years. Their little brood for this year contained two *white* robins. One of them was caught by a passer by, but the other is at liberty and is indeed a beautiful bird—as white as the driven snow. I have heard of white crows, and have seen what they called white blackbirds, but I have never seen nor heard before of a white robin. WM. J. WILCOX.

Clarksville, Rock and Co., N. Y., Aug. 21, 1858.

REMARK.—We have several times heard of white robins, but have never seen one.—ED.

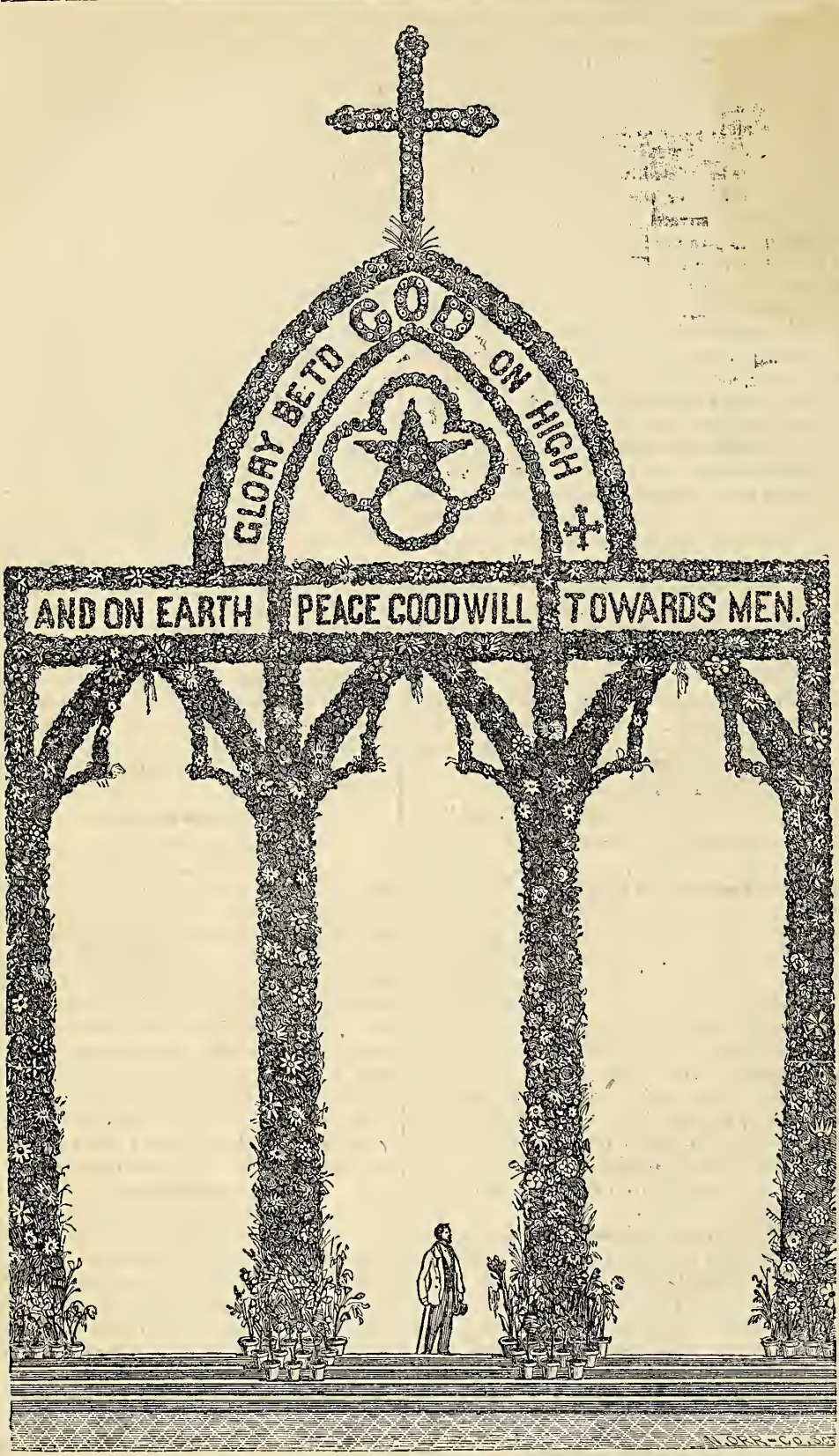
Gapes in Chickens again.

To the Editor of the American Agriculturist:

I have frequently noticed in your excellent paper a remedy for gapes in chickens, a complaint very common in some parts of our country. I have been in the practice of raising chickens for more than twenty years, and was never troubled with this complaint. My food for the chickens is common corn meal, wet with cold water, and lightly salted. My chickens are always healthy, and as hardy as pigs. If your correspondent, Mr. M'Comas, of Harford Co., Md., will take my mode of feeding his chickens, I think he will be able to dispense with his grease for all coming time. S. WRIGHT.

Granville, O., Aug., 1858.

A WOULD BE MORMON—A physician at Bath lately remarked, in a coffee house in that city, that he had three fine daughters, to whom he should give ten thousand pounds sterling each, and no one had yet come forward to marry them. "With your *love*, doctor," said an Irishman, who was present, stepping up and making a respectful bow, "I'll take two of them."



MAGNIFICENT FLORAL PIECE—HIGHT 48 FEET, WIDTH 30 FEET—PLACED IN FRONT OF THE CHANCEL OF TRINITY CHURCH, N. Y. CITY, SEPT. 1ST, 1858, ON THE OCCASION OF THE CELEBRATION OF THE SUCCESSFUL LAYING OF THE ATLANTIC CABLE.

(*Drawn and Engraved expressly for the American Agriculturist.*)

We suppose all our readers have learned from the general newspapers, of the Grand Celebration in this City, Sept. 1st, in commemoration of the successful laying of the Telegraphic Cable. Some persons have manifested a disposition to laugh at the enthusiasm displayed here; but in reality what event could happen which should occasion livelier emotions? The mind can hardly grasp the importance of this result, for it must be remembered that *this is the longest stretch of wire that will be required to bring the entire world into instantaneous communication.* This first cable, and a dozen others over the same bed may fail—there are fears of such a result, at the time of this writing—but that does not alter the case. The simple fact that a wire has been laid across the Atlantic, and that even a single message has been sent through it, settles the *possibility of sending an effective current through that length of wire*, and it remains only to find out what form of cable will be best adapted to endure the casualties of the oceanic bed. That problem *will soon be solved beyond a doubt*, if it be not already done.

We may then well rejoice and render an anthem of praise to God; we may with peculiar fervor say, "Glory to God in the Highest, on Earth peace, good will towards Men." During the Celebration there were beautiful displays throughout the city, but a detailed description of them would be out of place here, and we will only allude to a single feature of the exercises at Trinity Church, which is peculiarly appropriate to these pages: We refer of course to the

FLORAL DECORATIONS.

Our engraving gives the outline and general appearance, so far as it can be done without colors, of the floral pillars and arches placed before the chancel, and facing the two inner double tiers of pews. The actual dimension of the piece must be kept in mind to get an idea of its magnificence. The width was *thirty-feet*, and the hight from the floor to the top of the cross, *forty-eight feet.* The width of each pillar was about 1½ feet. The whole, pillars, arches, wreaths, cross and LETTERS, were made up of flowers of various forms and hues, intertwined with evergreen branches, leaves and vines, all so naturally arranged that they seemed to have grown there. Nothing of the kind that we have ever seen, or imagined even, could present so gorgeous a spectacle. Our engraving, as beautiful as it is, seems too tame, when we recall the display of colors. There were consumed in the preparation of this work some twenty wagon loads of flowers and plants.

Among these Flowers were: 150 varieties of *Roses;* 150 varieties of *Dahlias;* 50 varieties of *Asters;* 50 varieties of *Verbenas;* 25 varieties of *Fuchsias;* 6 varieties each of *Altheas, Gladiolus, Lillies, Delphiniums,* and *Phloxes;* from 1 to 4 varieties of *Amaranths, Helianthus, Hydrangea, Gallordia, Zinnia, Targetis, Pyrethrum, Salidago, Erythrina, Rudbeckia, Rhus, Salvia, Funkia,* etc. Among the evergreens and plants were: *Holly, Box, Juniper, Larch, Hemlock, Spruce, Pine, Fir, Cedar,* and *Arbor Vitæ.*

Much skill and taste were manifest in the grouping of the flowers and plants of various colors and forms to produce the most pleasing effect. The groundwork was green cloth over the wooden structure, which was entirely concealed.

The *quatrefoil* under the upper arch, which appears to be unsupported was held in place by wires not perceptible. The four parts of this were designed to symbolize the "Four Quarters of the World," and the 5-pointed star within, the five races of men. The several words in the arch were of different colors, that is, each word was made up of a variety of flowers, but all of the same color. The middle word, "GOD," however, was composed of white roses set upon red ones.

The design was by Mr. BABCOCK, of the firm of R. UPJOHN & Co., Architects of Trinity Church. The floral arrangement was under the care of Andrew Reid, the well-known florist of this city and redounds greatly to his credit.

We were not present at the religious services on the morning of the 1st, which were represent-

ed as grand and impressive, but we made several visits on succeeding days, to study the floral beauties which remained until the 6th, and we were so much gratified with the sight, that we thought it would be pleasing to our readers, to have a representation and description of this grandest floral display yet seen in our country.

Cultivation of Ixias and Sparaxis.

Among half-hardy greenhouse *Irids* (Iris family), the ixias, sparaxis, tritonia, and gladiolus are, perhaps, the most beautiful, and are so easily cultivated, that those who have seen a well grown collection are surprised that they are not more extensively known and introduced. When in bloom, they produce an abundance of graceful panicles, or terminal clusters of brilliant flowers, varying in color, from the richest crimson and carmine to all the intermediate shades of red, orange and rose, blending with the most delicate sea-green foliage. Notwithstanding all these desirable and attractive features, they are generally neglected, or entirely overlooked in plant collections. When grown in masses, they present a glowing combination of the most chaste and showy colors. They are natives of the Cape of Good Hope, where they grow in myriads, decorating the surfaces of the vast plains with their brilliant flowers.

They are propagated by dividing and resetting the roots or bulbs, which multiply very rapidly. This is best done in October or November. For effect, they should be planted rather thick in the pot. Where a 6-inch pot is used—which is a convenient size—the largest and best bulbs only should be used for flowering, and as many as eight may be put in one pot. The small ones may be planted in shallow pans or pots, and kept in store until they have attained size enough to flower. The best season for dividing and potting is early in October. The soil should be a sandy loam, with a portion of leaf mould, and have a good drainage. After potting they should be protected from heavy rains, and be sparingly watered until they appear above the surface of the soil. They may be kept in a cold frame until severe frost sets in, in the Fall, when they should be removed to a cool part of the greenhouse, where they can be supplied with plenty of air and light.

After blooming, and the season's growth is matured by encouraging the growth of the leaves for a few weeks, water should be gradually withheld; and as the foliage becomes generally discolored from cessation of growth, the pots may be removed to a frame, and all further watering be omitted. Expose them for a few weeks to strong sunlight, to enable the bulbs to elaborate their accumulated secretion of sap, necessary for the next season's bloom. They may then be removed to any dry, airy place, until September or October. Where it is desirable to have them in bloom as long a time as possible, some of the bulbs may be potted as late as November. Bulbs so reserved should be kept as dry and cool as possible, for they will be disposed to start into growth in September or October. For a small collection, the following twelve named varieties would make a good assortment:

Ixia grandiflora, longiflora, crocata, rosca, splendens, bicolor, rubra cyanea, tricolor, J. K. Knorr, cœrulea, striata and *fulgens*.

"I NEVER shot a bird in my life," said some one to his friend, who replied, "I never shot anything in the shape of a bird but a squirrel, which I killed with a stone, when it fell into the river and was drowned."

Fruit Planting.

After the middle of October, and on till the middle of November, is the best time for all sorts of Fall planting of fruit, or other trees with the exceptions stated in another article.

In the first place, if you *buy* your trees, and the nursery from which you get them, is near at hand, go and see to taking up the trees yourself. Insist on every tree being taken up properly, with a good supply of *unbroken* roots, fine as well as coarse; and if a set of heedless, obstinate men are set to do the work, and will not take them out properly, which is sometimes the case in the hurry of the season, just refuse to take them at all, and insist on good trees, if such are what you buy and pay for. Or, if you send for your trees, and find, on unpacking them, some are defective in either root, trunk, or top, throw them aside at once. They will either not grow, or make unsatisfactory things when grown. These should be deducted from your bill—but if not, better lose them at the first than lose your labor and time in trying to cultivate at all what will never be satisfactory.

Secondly. Plant none but good, well tried varieties of whatsoever kind you get, unless you choose to *experiment* with a new thing. We have known almost whole orchards which had to be reworked with other established varieties, because some enthusiastic man had recommended a few particular varieties which had been quite successful in a distant locality, and in a different soil. In this regard we speak principally of the tree fruits, as apples, pears, peaches, plums and cherries. The small, or shrub fruits usually being more *universal* growers than the others.

Thirdly. Never plant in poor land, nor in an unprepared soil. You might as well take a thrifty sucking-calf from its dam, and turn it upon a lean pasture, and cold water, and expect it to grow, as to lift a tree from the highly cultivated soil of a nursery, and set it out with its roots to feed on a leechy gravel, a hungry loam, or a tenacious clay. Young trees, in order to grow, must have a free, warm, rich soil for three or four of their first years. When well started, they will provide for themselves better, but good ground for their extending roots, they should have, always. There are lands, large bodies of them, and pretty good farming lands too, for some crops, utterly unfit for extensive orcharding, and on which orchards, with ever so much cultivation, will never pay. So, reject such land altogether, or plant but few trees on it, if you have no other, and then only for family use. *Natural* orchard land—and there are wide tracts of such in various localities—is always to be sought, if fruit growing is to be your business, and we will briefly describe it.

First: An elevated locality, free from late and early frosts.

Second: A porous, gravely, sandy, or clayey loam, having plenty of lime, or potash, productive in grass, corn, and potatoes; where no water stands, even if the ground be level; having a *natural drainage* of itself. Gently rolling land is the finest for orchard purposes.

Third: A soil sufficiently fertile in itself to give force to the trees without perpetual tinkering with manures to coax them into growth, and bearing. In some cases artificial draining and manuring may be resorted to on a limited scale. We refer to the best natural lands for growing fruit largely.

Fourth: Cultivate the orchard with any sort of crop you like, for a *single* season, provided the soil is sufficiently strong for the crop to be a good one; the only condition being, that you do not injure the trees by the plow, harrow, or whipple trees, or yokes of the teams while working the ground; and also, that the soil for three or four feet around the trees is kept clear of the growing crops.

Fifth. We don't recommend laying down orchards into mowing grass, for hay, until they make a growth of six or eight inches diameter; nor then, without either mulching them at the roots for four or five feet, each way from the stem, or digging round them to keep the ground loose. Yet, they may be kept in grass for the pasturage of sheep or swine, if the trunks are protected so that the animals will not injure them, and the grass be not allowed to interfere with the roots. By close cropping the grass, and scattering their manure in small quantities over the ground, the rain readily penetrates to the roots, and washes in the soakage of the manure. Besides these, the sheep and pigs pick up and destroy the windfall fruits, with the worms infesting them, and thus keep the orchard and fruits healthy.

Sixth. Never let grown cattle nor horses into the orchard; and keep the branches trimmed at a moderate hight from the ground, to let the wind and air sweep freely beneath them. Trees require a dry, free atmosphere to thrive and be healthy, particularly fruit trees, which are constitutionally made to require it.

Seventh. Keep your trees pruned into free, open tops, giving them a uniform shape, as near as possible, and supplied with abundance of bearing wood; and for all this, but little pruning or cutting away is necessary—the main requirement being to cut away the small, thrifty, *upright* growing limbs, which are mere *suckers* to draw off the sap from the lateral and fruit-bearing branches.

Eighth. Let your apple trees stand not less than thirty-six to forty feet apart. This looks too distant at first; but rely on it, if planted at less distance they will be too close when fully grown, and worth not half so much in the long run.

Best Time for Transplanting.

With every returning Fall and Spring, the question arises: Which, on the whole, is the best season for transplanting? We do not propose, now, to discuss the question at length, but merely to state a few general principles.

Before planting, the question to be considered first, is the nature of the soil into which our trees are to be set. If it is wet, and cannot easily be made dry by draining and trenching, then in that case, assuredly, Fall planting is not the best. Trees set in such soil in Autumn, get but a slight hold of the earth before Winter sets in. The stagnant water at the roots not only cankers them, but by alternate freezing and thawing, heaves them out and exposes them to the air. And when all this does not occur, the stem of the tree is swayed about in the soft earth, making a hole around it for the descent of air to the roots. When Spring opens, such a tree, if alive, is in a poor condition to make a vigorous growth. If trees *must* be planted in such soil — which, by the way, we much question — the best way would be to wait until Spring, or to dig them up in the Fall, "heel them in" in some dry and sheltered spot for the Winter, and set them out as soon as Spring fairly opens. But we must say that, considering the many kinds of diseases to which all kinds of trees are subject, we would go without trees — fruit trees, certainly — rather than set them in a cold, wet soil that cannot be reclaimed

Would it not be better still to sell the uncongenial land, and buy better if draining cannot be effected!

The same general principle would apply in the case of planting upon an exposed and bleak site. Trees set out in the Fall, on such land, would be likely to get lashed about or blown over by the winds of Winter, before getting established. Set out in April, the roots would get a pretty firm hold before Autumn came around, and would sustain the tree in its place.

Again: trees whose hardihood is at all doubtful, should not be planted in the Fall. They are not in a condition to resist the cold of Winter. Trees are often condemned as tender, and the nurserymen who sell them get roundly abused, because the trees perish the first Winter after transplanting, when they would undoubtedly have lived had they been set out in Spring.

That evergreens of every name should be transplanted only in the Spring, we need not now stop to show. Some of the hardiest kinds may go through the Winter safely, after Fall planting, but theory and experience testify against the practice.

With some exceptions like these, we say, plant in the Autumn. Hardy trees, such as the apple, cherry and plum, and forest trees generally, set out in good warm soil, gain a decided advantage by this treatment. If set out early in the Fall, the ground gets well settled about the roots, and considerable root growth is made before Winter sets in. By this means, they are prepared to endure the cold of Winter, and to start forth vigorously in the Spring. In Fall planting, it is well to throw up a mound of earth a foot high around the trunk, to prevent hard freezing of the roots and to keep them firmly in their place. This precaution will also prevent mice from barking the trees. Large trees and those with short roots should be well tied to stakes, to prevent their being blown over by the winds.

Land for Fruit Trees, and its Culture.

To the Editor of the American Agriculturist:

I have an acre of land, naturally good, but rather thin at present. How shall I thoroughly prepare it for fruit and vegetables? Shall I plow deep, subsoil, or trench it?

And how can I thoroughly enrich it, cheaper and better than with horse manure at $1.25 per load of from thirty to forty bushels? What about guano, poudrette, bone-dust, lime, salt, &c.? I think of setting it out with pears (mostly Bartlett). What can I do better? What shall I cultivate between the trees, as the best and most profitable—pie-plant, raspberries, rutabagas, or carrots? GILBERT B. HART.

Peekskill, New York.

REMARKS.—The above letter came a long time since, and, like many others, embracing so long a catalogue of questions, was necessarily laid over to a more convenient season. It is hazardous to undertake to prescribe for a particular soil without seeing it, or having a minute description. This subject has been discussed at length in various articles, but we may sum up a few general statements. Land designed for fruit trees should always be made dry to the depth of three feet. Nothing pays better than good draining. Deep plowing and subsoiling are both highly useful, and in the long run, trenching by spade would pay. In some way secure a deeply-pulverized soil. For a few years' effect, stable manure at the price named would be the cheapest. For permanent effect, nothing can be better than crushed bones, through both surface and subsoil. They give both present and long-continued effect. You can hardly add too much of them to a poor soil. Guano, poudrette, and bone-sawings, or very finely ground bones are powerful manures for a year or two, but are not lasting; the bone sawings endure the longest, next guano, while poudrette expends most of its force the first year. Lime is good on cold, damp soils; a successive, light application every year or two is better than a single heavy dose at first, unless the land be very cold, damp and sour. Salt is sometimes good—sometimes of little utility. Experiment is the only certain guide.

Bartlett pears are as good a variety as can be selected, if a single sort is chosen. It is better, however, to have a little variety. The Lawrence is a late pear, and will fill a gap in the market when few other good pears are offered.

Almost any kind of hoed crop may be put between the rows of trees, if the ground be kept in good heart by manure; but nothing, especially not weeds, should interfere with the ground sustaining the roots of the fruit trees. Raspberries succeed well when partially shaded, and this is a good plant to grow among fruit trees. The canes should be headed in, three or four feet in height, at most. They should not be planted within four or five feet of the trunks of the fruit trees.

Experience in Planting, Staking and Moving Trees.

To the Editor of the American Agriculturist:

Within the past ten years I have planted a great many *trees*—a number every Spring and Fall—but attention has often been directed to other business, and I have failed with fruit and other trees, *only* through haste and carelessness. Let my failures be a better lesson than the record of my success would be. Three years ago I had to plant from 40 to 50 silver-maple trees along a drive which was the boundary between myself and other property, whose owners, by agreement, were to plant the same number of the same kind of trees, along their side of the road. The trees cost us 75 cents a-piece; and they were planted all in the same week by the same person. Those on the neighboring property were secured to the fence, and enclosed by two or three palings from cattle or any other thing rubbing against them. Mine were left without any support. They were planted in the Fall; cattle were turned into the field; they rubbed against them, some were thrown down, and the result, altogether, of this my *half-doing the work*, is, that at this time but little more than half of my trees are growing at all—while every tree on the other side is flourishing and nearly double the size of mine. I would, to-day, give twice the original cost of the trees to have mine as good as the others. *Fastening trees* firmly by stakes, particularly those planted in the Fall, is very important to their success.

In planting in the Spring, I have succeeded best when the ground was *very wet*, even after the buds were out, and in many cases, particularly with maples, where the leaves were larger than a shilling. Where the roots are taken out of a dry soil which leaves them clean, stirring them into a thin mortar of clay or soil—made in a barrel or keg if for small plants or shrubs, and for larger trees in one of the holes intended for the trees—coats with soil, even the small fibers of the roots, which, thus closely surrounded with the earth, go to their work of nourishing the tree at once.

Let me boast of *one of my successes*. I had too hastily located a valuable dwarf pear, two years since, and found that it was in the way of a path in my garden. So last Spring, although it looked the most thriving of my trees, and was already out with green buds, I determined to remove it. To take it up and replant it I thought would be something of a risk, as it was then very dry, before our late rains set in; so I had the walk dug with pick and shovel, 2 feet deep, round a circle of 2½ to 3 feet, which I left in one heavy ball attached to the tree. I wished it removed 4 feet only from the spot where it stood, and to effect this, I cut a canal, as I might call it, as deep as the under part of the mass of earth encasing the roots, and at its termination a wider and slightly deeper place, where the tree was to *stop*. But when ready to slide the mass in one piece, by applying a light lever of boards, it began to crack. Happening to have a large roll of old carpet just taken up, and condemned by the kitchen folks, I wrapped it round and round the mass of earth tightly, and then taking a stout rope from the hay ladders, I wound this round the carpet in such a way as to draw tighter, and compress the mass when pulled upon. In five minutes we *towed* the tree along its dry canal, upon a broad shovel as its boat, one man acting as steersman *and* boat-horse, beside two pulling at the rope. We moored it snugly in its haven, 4 feet off. We next threw a little of the loose earth round the outside of the mass attached to the tree—and it has not found out to this day that it has been moved. J. H. M.

Lancaster Co., Pa.

Sulphur for Vine Mildew Dangerous.

To the Editor of the American Agriculturist:

In the July *Horticulturist* (*not Agriculturist*) I found the following:

"THE VINE MILDEW having made its appearance in one of my houses, I tried the following plan of curing it: Having shut the house quite close, I got four large flower-pots, and half filled them with lumps of quick-lime; having sprinkled it with water, I strewed a handful of sulphur on each pot, and let it steam up through the vines till it quite filled the house with steam. On the following morning I opened all the ventilators, and gave the house a good syringing till I quite saturated it. I repeated the same the following day, when I found that the mildew had wholly disappeared. I have also tried the same remedy for red spider in a peach house, and I soon found it to vanish. If gardeners will use sulphur in this way, they will find no ill effects from it; as soon as they have strewed it on the lime they can leave it till the following morning.—*J. James.*"

As the editor of the Horticulturist endorsed this as "an excellent device," I, unfortunately, followed the directions minutely in one of my grape houses, only that I used but two pots of lime instead of four. On opening my house the following morning, I found every leaf as dead, dry and crisp as if baked in an oven. The fruit remained on, and since new leaves have come out a portion of it is maturing sparingly. How the plants will survive and flourish hereafter, I cannot tell, but it will be gratifying if they maintain even a sickly growth.

I deem it important that the result should be published, as a caution to others, and I therefore send this item to your widely-circulated journal.

FREDERICK SEITZ.

Easton, Pa., Sept. 2nd, 1858.

A FRIEND showed a gentleman filling a place of trust some slanders that had been written against him. "These rascals," said the official, "make me talk and act as they would if they were in my place."

Troubles like babies grow bigger by nursing.

Gathering Pears.

Now that Autumn pears are coming to maturity, it is well to consider the best way of gathering and ripening them. A few sorts need no attention: they attain their highest perfection if allowed to hang on the tree until perfectly ripe. But not so with the majority. We have explained the *reason* of this formerly in our columns, and need not repeat it now; the *fact* cannot be questioned. Many sorts, which are only second or third rate if left to mature on the tree, become rich, melting, and delicious, when gathered before they soften and ripened in the house. Many which rot at the core, under the first named management, remain sound under the other.

The only rule for gathering, is to pluck them while yet hard, when just beginning to change from green color to yellow, and when the stem parts readily from the branch on lifting the fruit gently with the hand. This is generally from a week to a fortnight before the ordinary ripening of the fruit.

In regard to gathering Winter pears, Thomas, author of the *Fruit Culturist*, says: "Winter pears should hang upon the tree as long as safety will allow, and when gathered, should be kept in a cool room till near their usual period of maturity, when the ripening is to be completed in a warm room, at a temperature of 60° to 70°. They should be kept covered to prevent shrivelling. Some cultivators have wholly repudiated Winter pears, merely for want of skill in the management of their ripening, or the want of a good cellar to ripen them in. Some sorts, however, as the Beurre d'Aremberg, require but little care; others, as the Vicar of Winkfield, need particular attention. But the transfer from the cool to the warm room is of great importance to most, and will convert tough and hard specimens into those which are juicy, melting and excellent."

Preservation of Grapes in Winter.

We gave, last Fall, a chapter on the preservation of grapes fresh for Winter use. The methods then advised insured to all who adopted them, a good degree of success. But we have since learned a better mode, which we can recommend on the authority of others, and our own experience. The plan is the one practiced by Mr. McKay, of Naples, N. Y. This gentleman is well known to fruit-growers, as a very successful cultivator of the Isabella grape, being to Western New-York, what Dr. Underhill, of Croton Point, is to Eastern. Some clusters from his vineyard, which we saw, last Winter, were nearly equal in size to Black Hamburgs, and were as plump as when first gathered from the vines. His method is substantially as follows:

Let your grapes be fully ripe before gathering: several sharp frosts will not hurt them. All defective berries should be picked out from the bunches with a pair of sharp pointed scissors. Saw a barrel in two, to make tubs for harvesting the grapes, and bore several holes in the sides of the tubs to furnish air to the fruit. Handle the bunches carefully when plucking them, and carry them without jolting, to a cool, airy chamber. Leave the tubs partly uncovered, and let them stand a week or ten days, for the fruit to go through the sweating process. This having been done, pack the grapes in boxes containing six or eight pounds each, and set them away where they can be kept *uniformly dry and dark*, with a temperature ranging from 35° to 40°. If they are packed between layers of cotton, or in dry bran, it will be all the better. It should be borne in mind that light, heat and moisture promote fermentation, and of course decomposition. The nearer the fruit can be kept to the freezing point without actually freezing, the better.

Fruit Shelves and Boxes.

Samuel Woodruff, of Kalamazoo Co., Mich., gives us his arrangement for keeping fruit in the cellar, which is essentially as follows: A series of boxes are made, 1½ to 2 feet wide, and 10 to 15 feet long, according to convenience for the space to be occupied. He does not give the depth, but we should say 5 or 6 inches, at most, as it is better not to put the apples in too deep layers. In these long boxes several divisions are made by strips of board running crosswise. When the apples are first put in, one of these divisions in each box is left empty, so that in sorting over the fruit, the sound apples can be transferred to the vacant division, and from the next division to the one just emptied, and so on. These long boxes can be set one above the other—first against the wall, and then another tier far enough from the first, to allow a good passage-way between. The lower box of each tier should be raised, at least a foot from the ground, by placing blocks underneath. With boxes thus arranged, one can be taken out at a time for sorting over, which should be done quite frequently.

Our Best Gardeners.

An observant traveler passing through what is termed our good farming districts, and the villages scattered through them, will readily detect, as a general thing, the superiority of the vegetable gardens in the villages, to say nothing of the fruit and ornamental attachments. What makes this difference in the simple department of gardening, and why is the mechanic, the day-laborer, the professional man, or the shop keeper, a better husbandman in his limited plot of a few square rods, with his manures to buy or scrape up as he can, while the farmer has his garden of any desired size and quality, with his whole barn yard for enriching it?

It is either a question of taste with the farmer, or his family; of necessity with the villager; or his superiority in skill over the farmer in the cases where the latter excels—perhaps all combined. The farmer from education, or choice, thinks his garden of little account in comparison with the better cultivation of his farm. He may have no immediate market for his surplus vegetables, or small fruits, and so neglects them; or if there be a market, does not think it an object to cultivate more than for family use. And this very fact makes him careless of even a wholesome family supply. We have known hundreds of such cases, of farmers' families, even, depending on the gardens of their village cousins, or friends, for occasional presents of choice fruits, vegetables, and flowers which they think it beneath their attention to cultivate, although to produce them would occupy only the time devoted to no appreciable profit on the farm. We like good farming—the very best order of farming—but we know of no reason why a good farmer should not at the same time be a good gardener. There is a profit in a garden, if only for family use, which some farmers little think of. It adds to the comforts, as well as luxuries of the table, the health of their families, and the economy of their living. As a general thing our farmers need to pay increased attention to their gardens.

With our villagers and town folks, gardening is to most of them—poor and rich alike—a necessity, a pleasure, and a recreation. A necessity, because it gives them, at less expense, *better* vegetables than they usually buy in market, better for being *fresh*, at any rate; a pleasure, because it fills their leisure hours with an agreeable occupation; and a recreation, because the time spent within it is healthful, promoting cheerful intercourse with their families, and friends, and good in every way. They thus become superior gardeners *by giving their minds to it.*

Maggots in Mushrooms.

Mr. Samuel Wheelock, of Tompkins Co., N. Y. informs us that he followed closely the full and minute directions for cultivating Mushrooms, given in the last November *Agriculturist* (Vol. 16: page 262,) and as the result he has a very large crop. But, unfortunately, all the plants that grow to good size are infested with maggots or worms. He has taken care to twist out the stems that no decaying portion be left in the ground; but even the first that grew upon the plot were infested. There must be some local cause for this difficulty, either in the soil, manure or mulching. We know not what to recommend. A sprinkling of salt upon the bed might be beneficial. A toad or two would pick up many insects that infect such places.

Watering Strawberries, and Killing them.

J. G. Leverich, Vermillion Co., Ill., writes, that in 1856 he read a newspaper account, that some one in Georgia had produced strawberries ten months in a year, by planting near a stream and watering the beds daily. Mr. L. resolved to try the experiment, and here is his statement: "Last season, having a bed set with 'Prolific Hautboy,' and 'Hovey's Seedling,' I determined to make experiment of watering daily, in order to produce a Fall crop. The plants were confined to hills, the runners closely trimmed, and the ground mulched. From July 1st to Sep. 16 they were watered at evening, every day that it did not rain, but not so much as a *blossom* made its appearance. Last Spring, the Hovey's were entirely used up, but the Prolific bore a fair crop the present season."

Remarks.—We have frequently seen it stated, that strawberries could be raised with no manure except *water*, and that they would become almost "everbearing," by showering them every day; but, as with many other theories which from time to time creep into newspaper columns, we did not consider this of sufficient importance to notice, much less to advise a trial. The strawberry delights in a fair amount of moisture, and is benefited, in dry weather, by an occasional watering, but not being a "*water* plant," it may be drowned out, as were the Hovey's Seedling above alluded to.

"Felten's Great Seedling Strawberry."—This was first announced this season as "Felten's Improved Albany Seedling." This was a misnomer, as it is a seedling from Wilson's Albany, and therefore a distinct variety. It is represented as superior to the noted parent variety, in size, flavor and productiveness, which is saying a great deal for it. We have had no opportunity to see it in bearing, and, of course, can not speak definitely of its claims, but if half of what is claimed for it be true, it is destined to take a foremost rank. For the purpose of testing it, we have put out some of the plants obtained from Messrs. Spangler & Graham, Philadelphia, whose advertisement may be found in the September *Agriculturist.*

Rural Gossip.

It was the writer's wont, during some of the warm afternoons of the past summer, to leave the sanctum and saunter through our garden and grounds for recreation. The walk, in one direction, leads to an arbor built under and around an ancient elm, a picture of which we have formerly given to our readers and now reproduce.

This was a favorite resort because, though completely shaded from the sun and concealed from street goers, it yet commanded a fine landscape. Here we often sat undisturbed for hours, and made many jottings in our portfolio for the *Agriculturist*. Sometimes, the members of our family would follow us, and occasionally, a visitor or two would seek us out and claim a seat by our side Would it be strange if in our afternoon talks, there were some of them worth recording? Would it be strange if, with a group of young and old about us, on the grass, we sometimes opened our note-book and read an occasional lucubration? Here is one of them:

ABOUT GARDENING.

How suggestive the word, garden! The very sound carries us away to Eden, the first garden, and brings before us a fairy scene of fruits and flowers, of sunlight and shade, of perfect beauty and unmingled delight. It recalls whatever history, poetry and books of travel have told us of beautiful scenes in the East, in southern Europe, and in our British father-land. What wonder that the most cultivated nations, ancient and modern, have been noted for their love of gardens! Where could Plato and Aristotle have more successfully taught philosophy, than amid the groves of the Academy?

[Here, an old gentleman who had hobbled up, begged leave to interrupt us by saying that if Plato had taught philosophy as sensibly as Bacon did, the world would have got on better and faster. He wondered if Plato's fondness for gardens and trees didn't make him the 'highfalutin' philosopher he was? We simply replied that Plato's philosophy was very good of the sort, and that Bacon was as much of a garden-man as Plato.]

Pliny and Horace seldom wrote better than when rural life was their theme. And who can forget that our Savior spent some of the most trying hours of his life in a garden, and in a garden made his grave? Divest literature, ancient and modern, of its essays and poetry on country life, and of its illustrations drawn from rural scenes and employments, and you strip it of half its charms.

["How doth the little busy bee," &c., chirped in a curly head, at our feet. After patting her locks, and thanking her for her appreciation, we went on:]

The influence of a garden upon the forming of the mind and character of youth, is of greater importance than is generally supposed. Not a few men have been saved from vicious indulgence, not a few have been directed into paths of virtue, and honor, and high endeavor, by reason of their early association with beautiful scenes in nature. Train up a child in a home destitute of rural attractions, where the beautiful in the surroundings of daily life is ignored, where the ruling motto is: "Money makes the mare go," and it will be strange if that child does not grow up an avaricious, cold, calculating miser. He will, at least, care little for personal improvement, will possess little in his character to win the affections of others, and will do little to make the world happier or better. His own children will grow up with little attachment for home, and, unless their finer feelings are crushed out, will be glad to escape from it as soon as possible.

How different the case when parents surround their homes with some kind of rural embellishment? They need have no grand and expensive garden, nothing that requires the neglect of other things, or imposes a burden of care and labor. He who has the time and the means, may gather about his dwelling all manner of curious and rare trees and shrubs; velvet lawns may stretch away on every hand, and everywhere there may be seen the hand of educated taste and skill. But a garden may be much less than this, and yet be very attractive and useful. It may consist of only a few favorite shrubs and old-fashioned flowers, and a little grass-plot, nothing more. The planting and tending such a garden may be the recreation of the family in the intervals of other pursuits. It will be loved all the more, if the work is not done by the "hired man."

But let no one undertake to do up all his gardening at once. For the first year, it will be enough to break up the ground and set out a few trees and plants. Next season, manure and pulverize the soil more thoroughly, and add a few hardy herbaceous perennials and annuals, and lay out a walk or two, which may be gravelled. For another year, introduce some choicer plants and vines, look well to the weeds in the walks, keep the grass-plot trim, and build a rustic arbor or seat, in some appropriate place. The experience and reading of each year will suggest something new for the year to come. And so the labor of each season will be comparatively light, and the curiosity will be continually awakened and gratified.

The young should be taught to love gardens, not only for their beauty, but also for the study they afford of the works of Nature. With the first swelling of the buds in Spring, explain to them the mystery of the rise and fall of the sap, and of the growth of all vegetation.

[Here, a schoolmaster present, wanted to know if *we* understood this mystery. Could we, or anybody else, tell exactly what caused the sap to ascend? And as to its descending, he would like to see satisfactory proof of it. The school teacher was implored to wait until another time for an explanation. Expressing our surprise that he should doubt that an Editor knows everything, we proceeded]

When flowers appear, take one and dissect it, and even a young child will wonder admiringly at the mechanism and arrangement of its several parts, the design of calyx, petals, and stamens, and pistils. And when Winter approaches, explain to your pupil why the leaves fall; show him the next year's buds already formed at the bases of the leaves, and the ripened wood prepared to resist the action of storm and frost. In this way a spirit of inquiry will be aroused, which will result in the acquirement of mental discipline and an improvement of the character. For the investigation of one subject will lead to the study of others, and familiarity with pure and beautiful objects will tend to personal refinement. No one can be long engaged in gardening, without wishing to acquire a knowledge of botany. Ladies, especially, find great attractions in this study. It gives them a new insight into the traits, the very heart, of the plants they cultivate; it leads them off into pleasant and healthful strolls in field and forest, in quest of flowers; and the habit of close examination and nice comparison which the study fosters, often gives their minds an acuteness and force as great as can be derived from classical studies.

[Here, a young lady, attending a boarding-school near by, re-arranged the folds of her dress, and sat up a little more erect. We shut up our portfolio at this point; whereupon the old man before mentioned, said our piece was a pretty smart one, and good doctrine on the whole, and he hoped we would put it in the paper. We have followed his advice.]

Set Out a Shade Tree.

You admired those trees in Mr. Smith's yard, last Summer. How cooling their shade, how ample and rich and graceful their foliage! How finely they set off the house behind them! You said to yourself that those trees added $500, to the value of his premises, and you resolved that when another planting-time came around, you would set out a good lot of trees around your own homestead, and along the street in front of your land. Now, that planting time has come, be sure and keep your vow. Don't say, I havn't time, or it wont pay, or I am getting too old to plant trees, I shal never live to sit under their shade. Don't indulge in any such vain pleas for indolence. You *have* time to set out, at least a few. It *will* pay, as every year's observation shows. Very likely, you *will* live to enjoy their shade. Trees grow very fast, if well planted and afterwards well-cared for. We have known men to go about, making the last-named excuse ten years in succession, a long time enough for their trees to have grown to considerable size, had they been energetic enough to plant them at the outset

And what if you don't live to enjoy their shade! Under whose trees do you walk or ride every day, when you go down the street? Trees which men planted before your day. From whose fruit-trees do you gather an abundance of delicious apples and pears every year? Trees which men planted before your day. Now, suppose they had said: Let us not waste our time and money and strength in planting trees, for we shall not live to enjoy their shade and fruit,—the present generation would have been poorly off in these respects. Who can not see that every generation is indebted to those preceding it, and should make the debt for those following, larger still! It is a debt, strange to say, which enriches those on whom it is entailed, and which makes children bless the memory of their fathers.

REDEEMING TIME.—"I say Peter, in going round the world a man loses a whole day from his life. Can he in any way make it up again?" "Oh yes! that's easy. Let him turn round and go back again."

IN DOOR WORK.

Hints on Setting out a Table—Deportment while at Table, &c.....III.

BY ANNA HOPE.

[*Continued from page* 249.]

"The Little Folks" in a letter to the editor, referring to my recent articles, inquire: "Is it proper in helping fowl, to ask if any part is preferred, and if so, how shall we be able to help to certain portions unless 'the whole fowl is dissected at once and our dish filled with fragments heaped up,' if not like a 'slaughtered' at least, like a well-disciplined 'army,' standing at ease?" Also, "if we are not to put our knife into the mouth, which hand shall we hold the fork in while passing the food? and if in the right hand, what proportion of our dinner, or of what our plate contains, shall be cut and prepared before we commence to lift it to our mouths?"

Ans.—I do not think that it is as customary now, as formerly, to ask what part of a fowl is preferred It is taken for granted that every one likes a piece of the breast, and after that is put upon the plate, the carver may inquire, "shall I send you this, or is there any other part you prefer?" If the question is asked, "what part do you prefer?" it is necessary to carve only a few pieces before the choice bit can be reached, unless the choice should be a back bone, and that I never heard any one mention as desirable for the first cut. After the wing and leg of a fowl are cut, any piece is accessible at once. As these are laid upon the dish, the crisp skin should be up and not next the dish. If there is stuffing, it should not be scattered carelessly over the meat. Neatness is just as desirable on a plate, as it is in a parlor. When a slice of fowl is put upon a plate the brown side should be up—if there is only a brown edge that should be toward the outside of the plate, that it may not lose its delicate crisp by contact with gravy or vegetables.

If you are asked what part you like, give a definite answer. Do not say "it is immaterial," nor "I have no choice." Such answers only embarrass a carver, and well might tempt him to pass to another person while you were left in your indicision. I well remember the lesson my father taught me in my early childhood in regard to this matter, and I can not even now think of a person who has "no choice," but as deficient in decision of character in everything else. A lady once went to Dr. Mussey to have a tooth extracted, but she hesitated and hesitated, till he quietly put up his instruments, and told her when she was ready he would attend to her, but in the mean time he must attend to other business. It would not do for a gentleman at his own table, to treat a guest in this way, but children should certainly be taught to know their own wishes, and when asked, to express them. It is easy enough to say, "I will take a piece of the white meat," or "I will take a piece of the dark meat," or even, as I heard a young lady reply, "Any piece but the wing."

Do not remove a part of a fowl from the dish to a plate, to complete the carving. To receive such a plate might spoil the dinner of a fastidious person.

Vegetables should be put neatly and compactly upon the plate, and not scattered over it. Gravy should be put on the plate, not on the meat, or vegetables.

The fork, in "passing the food," may be held in either hand as is most convenient. If used as a spoon, it should be held in the right, as for peas, tomatoes, squash, &c. If used for a *fork*, then the left hand may hold it.

Only a few mouthfuls of food—if any—should be cut before beginning to eat.

When the fork is held in the right hand, it is often convenient to use a bit of bread to push vegetables like peas or tomatoes, upon the fork, I, of course, refer to forks with three or four tines, as they are now usually made, when I speak of eating peas with a fork.

BREAKFAST.

This is not a ceremonious meal, nor a dress occasion. Low necks, and short sleeves, laces and jewelry are entirely out of place at the breakfast table. Linen collars, or those of thick cambric, with sleeves or cuffs to correspond, are designed for morning. Neat muslins, or prints, delaines, or very simple silks, plainly made, are proper, but rich silks and flounces, and heavily trimmed dresses are in bad taste at this meal. And I may here add that it is decidedly vulgar to flounce merino on delaine or any cheap material. No *lady* ever wears such a dress. No morning dresses can be prettier than those open in front worn over a fine white skirt. On a sewing machine these skirts can be very neatly tucked in a few minutes. It is quite as important that the hair should be neatly arranged at breakfast as at dinner, but the head-dress should be very simple.

For morning work, a dress that can be washed is most desirable, although for Winter something warmer may be necessary. My fancy was once much pleased by a grey cloth basque worn by a friend of mine. Such an article can be as easily dusted as a gentleman's coat.

Pies should never be eaten at breakfast; but it is now the style to have fruit on the breakfast table.

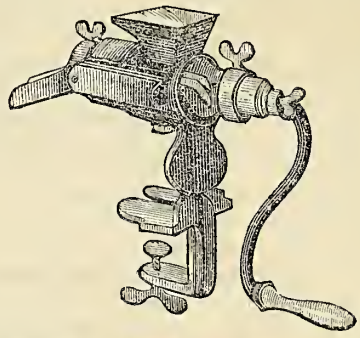
In pouring coffee, the sugar and cream should first be put into the cup, and the coffee poured on. If milk is used for coffee, it should be brought to the table scalding hot. I like the "Old Dominion Coffee Pot," as with good materials it is impossible to make poor coffee in it, if the directions are followed. If I lived in the country, as I do not chance to do just now, I would have cream very rich and thick for coffee, and the coffee made strong, and weakened with scalded milk; but as it is, I am compelled to be content with only the milk. For tea the sugar and cream should be put in the cup after it is filled. I do not like brown sugar in coffee, any better than in tea; it injures its delicate purity.

It is not customary, in good society, to load a tea table with all that can be placed upon it; one or two kinds of cake and sweetmeats, with bread and butter or biscuit, are sufficient for most occasions. A little dried beef, or thinly sliced tongue, is not out of place after an early dinner, but where a family dines late it is wholly unnecessary.

Bread for tea should be cut in very thin slices. In many families the loaf is placed upon the table and cut from as is needed. This prevents the waste of bread or the accumulation of dry pieces. It is convenient to have a bread-board for this purpose. A bread knife is much like a carving-knife, but the thinner the blade, the better.

Cup-plates are out of date. Coffee and tea are drank from the cup, not from the saucer*. The spoon should be placed in the saucer while drinking. Do not drink with a "schloop," nor eat with open lips.

* REMARK.—We are fully aware that the writer states what is the custom in good society—and this is all that is intended—but we must quarrel with the custom. There is no doubt that hot liquids of any kind are decidedly injurious to the teeth. If one has abundant time to sip tea or coffee from a spoon, cooling each spoonful before taking into the mouth, it may do to follow custom, but unless one can wait for this, or until the whole liquid in the cup can cool, we would advise to save the teeth and health by pursuing the "old fashioned" mode of pouring the tea or coffee into the saucer to cool, setting the cup into a cup-plate, or if none were provided, then put it on the table.—ED.



Masticator, or Tooth Helper—A Hint to Inventors.

In previous articles we have shown the importance of having food of all kinds thoroughly masticated or ground before it goes to the stomach, and this not only for children, but for grown up people. The stomach is not provided by nature to do the work appointed to the teeth, and it can not do it, though the faithful organ will do its best, but the result will be, aches, pains, dullness, headache, languor, and finally disease will surely follow sooner or later. Any lumps of food going into the stomach to be pulverized or ground there, are entirely out of place.

"But," asks an old reader, "what is a body to do who has lost his teeth? Shall he stop eating, like Cuffee, whose advice in cholera times was: 'The best way is to eat nuffen at all, and then you no 'spose yourself.'"

By no means, aged friend. Take plenty of nourishing food of various kinds, but cut or mash it very finely upon the plate before carrying it to the mouth.

Stop a minute! Here, we have it! Looking over an English Journal we see an advertisement of a small implement made 'on purpose' to carry round with you to do the work of the teeth. We have made a sketch of it above, though its internal arrangement is not very clear. It is described as being suited to make hash, pulverize potatoes, and grind food for aged or toothless persons. It is said to be of any size from a pocket edition, upward. You will see that it is provided with clamps and a thumb screw to fasten it upon the edge of the table. The food is to be put into the hopper and turning the crank throws it from the spout upon the plate.

Now, this is a capital idea, we think, and a practicable one too. What's to hinder getting up a small masticator, trimmed in silver or gold, if you like and can afford it. It need not be too large to carry in a lady's work-bag or reticule, or in a gentleman's overcoat pocket. Fashion would soon allow you to take out your masticator, even at a friend's or stranger's, fasten it upon the side of the table and turn away. You will thus be independent of tough beef, false teeth, the dentist, and—bad digestion. A first rate silver or gold mounted instrument would cost less than a new set of teeth, and be far more effective.

We say, here is a splendid field for inventors and they should not let it go unoccupied. To further the enterprise, we will promise the first

person who will send us a right sort of implement to accomplish the purpose, to give him a free editorial advertisement which will hasten him along on the road to fortune.

For the American Agriculturist.

Twelve General Rules of Health.

N. B.—Without tolerable physical health all other possessions or acquirements are comparatively useless; therefore

1. Be regular, temperate and cleanly in all your habits.
2. Avoid all unnatural stimulants, especially tobacco and alcoholic drinks.
3. Eat only such food as your own or the general experience of others has proved to be wholesome.
4. Avoid late meals and late hours.
5. Rise early.
6. Keep out of harm's way.
7. Take regular and sufficient exercise daily in the open air.
8. Use as little and as mild medicine as possible.
9. Secure at least one regular evacuation of the bowels daily, especially after breakfast.
10. Cultivate a cheerful temper, and keep a clear conscience.
11. Do not fancy yourself sick upon every trifling ailment, but take prompt measures of cure whenever you perceive decided symptoms of disease.
12. Remember that all must die at some time; therefore prepare betimes for another world.

Flushing, L. I., Sept., 1858. J. S.

About Drying Apples.

October and November are the best months for drying apples, and the well-ripened, choice, fall varieties, are by far the best for that purpose. Some people have an idea, that anything in the shape of an apple, big enough to pare, cut, and core, let the flavor be what it may, is just as good for drying as another. We beg leave to correct this error. It is just as important to have a good apple to dry, as to eat raw, cook, or bake. To those, therefore, who want *good* dried apples, we will offer a few suggestions.

1st. Let your apples be of good size, fair in shape, choice in flavor—sweet or tart, as you may prefer, but both are good for a variety of purposes. They should be gathered *without bruising*; laid by till nearly ripe, but not *quite* ripe; pared with a machine—if you have a good one—and quartered, or half quartered, according to the size of the fruit, or the use to be made of the article when dried.

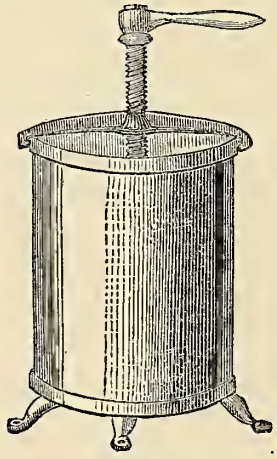
2nd. Let the work be done as rapidly as possible, for the fruit may ripen too fast after beginning to do them, and keep the cutting and coring up with the paring; for the moment the open flesh of the fruit becomes exposed to the atmosphere, not heated, it begins to lose its aroma, moisture, and flavor, all to the damage of its quality when dried.

3rd. If you choose to string them, which may be done, or not, as you prefer, do it as soon as you can. We should not dry thus, preferring wire racks for the purpose. Then, instead of hanging them up by the side of the house, in the sun, or in the kitchen, where millions of flies will alight upon, and live on them for several days, put them in a kiln, or drying-room, with a heat of a hundred degrees of thermometer. Let the kiln be ventilated at the bottom and top, to pass off the exhaling moisture, but not enough to make a perceptible *draught* through it.

4th. When the drying heat has sufficiently closed the pores of the cut fruit to prevent the escape of its aroma, the heat may be modified ten or twenty degrees, and so continued until they are sufficiently cured for storing away, which may be known by breaking a few pieces, and the absence of any *settled* moisture in the flesh, showing fermentation.

5th. When sufficiently cured, pack them away in small bags, or sacks made of common cotton sheeting, or light flour sacks, not closely crowded in, but as they will naturally fill; tie them closely, and hang them to nails on the side of a dry room. They will thus keep indefinitely, or till you want to use, or market them.

A well selected apple, properly pared, cut, cored, and cured, is one of the best luxuries of the table, while indifferent varieties, carelessly worked up, strung and dried in the kitchen, half covered with flies, fused with the steams of cookery, dust, and the accumulations and exhalations of an open, disordered living-room, are not fit to eat, nor even to sell. We have seen apples dried after the latter fashion, even in the households of otherwise tidy people; and to those who are in the habit of doing so, we say, try the other plan, and if they do not acknowledge it a better way, in every possible use an apple can be put to, call upon us, for the difference in expense.



A Convenient Kitchen Press.

Every housekeeper is aware how often the sad-irons (flat-irons), and sundry other heavy articles are called into requisition, as weights to press meats, fruits, etc., to render them compact or extract juices. We formerly constructed an implement for this purpose, thus: A stout board was cut four feet long, and five inches wide at one end, and tapering to 1½ inches at the other. Two strong spikes were driven into the wide end, but left projecting one inch. Over the usual place of the kitchen table, an upright strip was nailed against the wall, and fitted with pairs of holes over each other, so arranged that the spikes would fit into them. Any article to be pressed was set upon the table near the wall, the large end of the lever placed over it, at the desired hight, by putting the spikes upon the end into the right holes, when a strong pressure was obtained by a small weight, say a sad-iron, hung upon the long arm.

We have just obtained a household implement, more convenient for most purposes, an engraving of which is shown above. It consists of a cylinder made of tin, three or four times its usual thickness, around the bottom and top of which is an iron band, well coated with tin—three tinned iron feet being attached to the lower rim. Inside is a movable bottom board, pierced with holes, and over this a round board or follower, just fitting the drum. Over the top is a tinned iron cross-piece, which slides on easily, and when turned round to a certain point, catches upon projections on the upper rim, and is held firmly. Through this cross-piece a long screw passes, and fits into a hole in an iron placed on the top of upper wooden follower. Fruit, meat, or other articles are put in, the upper board placed upon them and the pressure applied by turning the screw down. It appears to be well adapted for the purpose for which it was designed. It is called "Jenk's Universal Kitchen Press." Particulars, as to price, &c., will be found in the appropriate place in the advertising columns.

An inquiry about Bread—The use of Cream of Tartar and Soda.

To the Editor of the American Agriculturist:

It is now a common thing for editors, lecturers, and authors on cookery to repudiate the use of soda, cream of tartar and saleratus in making bread, stating that these drugs are poisonous, producing dyspepsia, and other maladies, and so affecting the constitution of the American people that they are rapidly producing a degeneration of the race. Are these things true? If so, why is it so?

Bread is usually raised by carbonic acid introduced into the dough by fermentation, or chemical action. Now when the cook takes a teaspoonful of bicarbonate of soda and an equal quantity of tartaric acid and dissolves them separately, and incorporates them with the dough, a chemical change immediately takes place by which carbonic acid gas is eliminated, which causes the bread to raise. The *rationale* of the process is easily understood. The tartaric acid unites with the soda producing *tartrate* of *soda* which is left in solution in the bread, whilst the carbonic acid of the bicarbonate of soda is set free, most, if not all, of which escapes during the process of baking; but even should it remain in the bread, it is confessedly not deleterious; but the real question is this: Is the tartrate of soda injurious to health? If this question is fairly settled, aside from adulterations of soda, cream of tartar and saleratus, the whole question is settled—for when cream of tartar and saleratus is used, tartrate of potash is left instead of tartrate of soda, (*a*).

Tartarte of soda and tartrate of potash are not poisons, and are not injurious to health. They belong to the class of neutral salts, and are, medicinally considered, refrigerant, diuretic, and mildly laxative. They are exceedingly simple and inoffensive salts without irritant or corrosive qualities.

Chloride of Sodium or common salt is taken as food, perhaps in as great quantity as tartrate of soda or potash, and with much more truth might be called a deleterious agent, as its properties are stimulant, tonic, chologoguic, irritant and emetic, yet no one thinks of calling it an unwholesome ingredient in food. So with lime, being a necessary constituent of the body, it enters into the system in the form of phosphate and carbonate, in food and drink, yet no one thinks of denouncing it as detrimental to health, because *quick lime* can not be taken as food. If warm or hot bread is to be denounced, let it not be because it contains soda or cream of tartar, but for the true reasons. I hope to elicit the opinions of the scientific on the subject. M. D.

Jefferson, Greene Co., Iowa, July 29, 1858.

Remarks.—(*a*) Cream of tartar and bi-carbonate of soda, (*i. e.* common cooking soda) are the substances usually employed. These when

united in bread or cake produce a double salt called "*Siegnette* or *Rochelle Salts*," (*i. e.* tartrate of potassa and soda), and not simply "tartrate of potash," as stated by M. D. The Rochelle salt thus formed by using cream of tartar and soda, in bread, cake, etc., is a neutral one, being neither acid nor alkaline. It is mildly purgative (physicing), well suited to delicate and irritable stomachs. The dose required for cathartic effect is from half an ounce to an ounce, which is more than would be produced in raising forty or fifty ordinary biscuits with cream of tartar and soda. Therefore the amount consumed by a person at a meal, is too small to produce material injurious or beneficial effects, and we have never condemned its use in any kind of bread or pastry. As far as health is concerned we would prefer pie crust, for example, *raised* with cream of tartar and soda, to that made "crisp" with hog's fat. We think the chief injurious result from soda raised biscuits and bread arise from the fact that, when made light and palatable, persons eat double or treble the quantity which the stomach can digest, or which the system requires as nourishment. It is certain that most persons eat a much larger bulk of new bread or biscuit than of that a day or two old, though bulk for bulk, they both contain an equal quantity of nutriment.

But while we do not fear any material injury from the small quantity of cream of tartar and soda now used in cooking, we would not advise its increase, for even a small quantity is absorbed into the system and renders the urine slightly alkaline. Perhaps, everything considered, it is better to use bread raised by the usual yeasting process, and resort to cream of tartar and soda, only for occasional convenience. Whatever the "editors, lecturers, authors or dentists" may say on the subject, we shall not fear any evil effects, any shortening of life, or any teeth spoiled from eating two or three times a week, a proper quantity of bread, biscuits, etc., raised by cream of tartar and soda.

The case is somewhat different, if cream of tartar and soda be not used in due *proportions*. If there be an excess of soda, not only will the dough turn yellow, when baked, but the *excess* of soda will disturb the digestion by neutralizing the natural acid of the gastric juice. The ordinary rule in cooking, is to take one spoonful of soda to two of cream of tartar. This is nearly correct. The true mixture, in order to have them exactly combine and neutralize each other, is to weigh them, and mix 75 parts of cooking soda (the bi-carbonate) with 187 parts of cream of tartar;* or about 1 ounce of soda to 2½ ounces of cream of tartar.—Ed.

* The chemical reader will understand that cream of tartar is a combination of tartaric acid and potash. Tartaric acid is represented by $C_8H_4O_{10}$, and potash by KO. Cream of tartar is therefore=KO, $C_8H_4O_{10}$+HO, the HO standing for one equivalent of water which combines in crystalization. Bi-carbonate of soda is NaO, $2CO_2$. On uniting these two substances the carbonic acid escapes, producing the rising, or effervescence, and in the remaining (Rochelle) salt we have the double compound (KO+NaO)$C_8H_4O_{10}$.

The chemical *equivalents* are C=6; O=8; H=1: K=39.2; Na=23. By adding and multiplying the equivalents and number of atoms in bi-carbonate of soda and cream of tartar respectively, it will be seen that the combining numbers or equivalent are as stated in the text, viz: 75 for bi-carbonate of soda, and 187.2 for cream of tartar.

The Vainest Fowl—The general opinion is that the vainest of all birds is the peacock. We think the goose is. A goose, when entering a barn through the doorway, invariably bobs her head to avoid hitting the top. Evidently every goose thinks herself at least fifteen feet high.

Concentrating Manure.—Lord Kames, in a conversation with his gardener one day, said, "George, the time will soon come when a man shall be able to carry the manure for an acre of land in one of his waistcoat pockets;" to which the gardener replied, "I believe it, sir; but he will be able to carry all the crop in the other pocket."

Making Good Butter.

The making of *good butter*, is a great art, one of which any woman who possesses it may be truly proud; for there are few things which go so far to make up the daily comforts of good living as good butter. The art of making it is one of the essential processes of domestic rural economy in our day. But the ancient Greeks never employed the article; the old Romans knew nothing about it, until taught how to make it by the Germans. When Julius Cæsar invaded England he found that the inhabitants had an abundance of milk from which they made butter, but the art of making cheese was taught them by their invaders.

The chief causes of poor butter are: 1, want of perfect cleanliness of everything used in and about the dairy; 2, want of a cool, light and airy place to set the milk; 3, a neglect of constant attention and frequent examinations of the milk, so that the cream may be removed at the proper time, for every good butter maker knows that if allowed to remain long after the milk becomes thick, it loses its fine flavor; 4, suffering the cream to stand too long before it is churned, or to get too warm, causing the butter to become sour, soft and obnoxious to the taste of all lovers of good butter. These are the main causes of so much inferiority in the quality of this important article. Imperfect working and overworking are also very common errors in butter making. On the whole there seems to be too little system, or too much hap-hazard work, generally, among those who make butter for our great public markets.

The milk should be strained, as soon as brought in, through a fine linen cloth strainer—into pans holding six quarts each—a wire strainer will not keep all the particles of dirt out which unavoidably get into the milk-pail. The temperature of the room should not fall below 50° nor attain a warmth over 60 degrees. At this temperature the cream will all rise before the milk coagulates, or thickens, and the milk may safely stand 24 to 30 hours before skimming. It should be examined however, twice a day, and when on the point of changing the cream should he taken off. No more cream will rise after the milk is once soured.

Churning should be done every day, if sufficient cream is obtained. If not the cream in the pot should be thoroughly stirred whenever any is added. Cream just taken from the pans should not be churned, but kept over till the next churning. The butter should be taken out immediately after it is gathered, and thoroughly freed from the buttermilk, salted, and set away for 24 hours, when it should be again worked until it presents a firm and uniform appearance. An ounce of salt to a pound of butter for market, but a little less for home use, is our rule. If the butter is packed in firkins, or jars as fast as made, a cloth wet in strong brine is pressed down closely over each layer as it is put in, and when filled the cloth must he covered with salt two inches in depth and kept moist. The room in which the butter is kept should be *dry, airy and cool*, and contain nothing save what belongs to the dairy.

It is only by the constant observance of such *necessary rules* as the foregoing, that butter, possessing that excellence of flavor and uniformity of color, so desirable, can ever be made; and if these rules are adhered to, there is no danger whatever of producing a poor article.

Michigan.

Hams—A Good Pickle.

Having recently tried, proved and approved the excellent quality of a ham obtained of Haight and Emens, 226 Front-street, in this city, we solicited from them the best directions for pickling hams, and they have consented to give their method to the readers of the *Agriculturist*, though the process has hitherto been a private matter.

For 100 lbs. of Hams.—Pack them in a barrel or cask, and pour in water enough to cover them. Pour off the water, and add good rock, or Turk's Island salt, enough to make a brine that will just float potatoes. Two or three kinds of potatoes should be dropped in, as some varieties are much heavier (of greater specific gravity) than others; about the average weight is desirable. To the brine for the hundred pounds thus prepared, add one pint of good molasses, and six to seven ounces of saltpetre, using the large, clear crystals, as being the purest. Make and use the pickle cold. Then pour the liquid back upon the hams, and let them stand six weeks, when they will be ready for smoking, though they may stand as much longer as may be desired, as they will in the first six weeks take up all the salt that they will absorb. When removed finally for smoking, they should be thrown into fresh water, and stand 24 hours.

Take notice, that the position of the hams in the barrel should be changed once in 10 or 12 days, to let them lie upon each other at new points, and allow the brine to come in contact with the parts which had previously lain together. This is an important hint in pickling hams, whatever kind of pickle may be used.

Plea for Flies and Spiders.

To the Editor of the American Agriculturist:

I do protest against all your fly traps and fly poisons. They are 'agin nature,' as Tim Bunker would say. Does a common observer know what the flies do? Let the merchant protect his goods with gauze, but do not destroy the flies. Think how many little specks of grease, sugar and other matter would undergo decomposition if not removed with the delicate swah of the fly. I have been almost nauseated by offensive smells on premises where cobalt had done the work. Put away that trap and cobalt; go to scrubbing and cleaning every nook and corner, and you will have few flies, if any. And I here put in a plea for the spiders. Good housewives—did you ever live in a musketo country, where the little pest blows his shrill horn about your ears for half the night, and then penetrates your skin; and filling himself with your precious life stream, flies away and hides himself in the angles of the ceiling, till the next night? But if my friend the spider has not been thoughtlessly swept away, he has his net spread, and that musketo will trouble you no more. Give me friends that will defend me when assailed unjustly or ignorantly. So the fly shall find a champion in me, and the little tiger spider too.

Alabama.

Tuscaloosa Co., Ala, Aug. '58.

Of all poverty, that of the mind is the most deplorable.

About Starch.

A foreigner, whose chief idea of the American people had been drawn from the pictures of the "Universal Yankee Nation," that find their way into foreign prints, would be led to think *starch* an article little known, or at least little used here. But a visit to our cities, or our country towns and churches, and a sight of the stiff collars and "dickies," to say nothing whatever of the *boundless* crinoline, would soon change his opinion; and when he here reads, that on this side of the Atlantic we *daily* consume about 250 tuns—or half a million pounds of this article, he will conclude, that, after all, we are quite a starched up people.

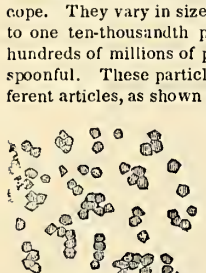
Where does the starch come from? Almost every thing we eat contains more or less of starch. The following table gives about the average proportion of starch in several leading articles:

100 Pounds.	Starch.
Wheat Flour (in ordinary state)	40 to 80 lbs.
Rye Flour	50 to 62
Barley Flour	65 to 70
Oat Meal	70 to 80
Rice Flour	83 to 86
Corn Meal bolted	76 to 82
Buckwheat Flour	50 to 55
Bean and Pea Meal	40 to 45
Potatoes (undried)	12 to 16
Potatoes (dried)	55 to 65
Sweet Potatoes (undried)	14 to 18

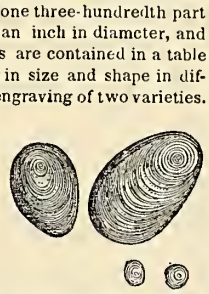
It will be seen that the amount varies considerably, dependant upon the variety of grain, the soil, location, etc. Thus: Wheat grown at the South, usually contains more gluten, and much less starch, than the white wheat grown at the far North; while, on the contrary, the Southern white corn is more used for starch-making than the Northern flint varieties A glance at the table will show that Indian corn (maize) has a much larger amount of starch, in proportion to the relative prices, than any other article named. For example: calling flour worth 2 cents per pound, and corn meal 1 cent per pound, which is about the usual proportion, $2 worth of flour (100 lbs.) would contain, say about 67 lbs. of starch, while $2 worth of corn (200 lbs.) would contain 155 lbs. of starch. This fact is well understood by starch manufacturers, and they now use corn almost entirely, except in a few localities where potatoes still grow well, and are sold very low.

Tapioca and *arrow-root* are mainly starch obtained from roots, growing—the former in South America, and the latter in the West Indies

Starch exists in small grains, too small to be seen by the unassisted eye, but readily examined with the microscope. They vary in size, from one three-hundredth part to one ten-thousandth part of an inch in diameter, and hundreds of millions of particles are contained in a table spoonful. These particles vary in size and shape in different articles, as shown in the engraving of two varieties.



GRAINS OF RICE STARCH.



GRAINS OF POTATO STARCH.

Even the finest wheat flour contains the starch particles in regular, unbroken form.

Starch is a very simple compound, each atom being made up of 12 atoms of *carbon* (charcoal), 10 atoms of *oxygen*, and 10 atoms of *hydrogen* (C12, O10, H10). The chemical reader will readily understand that starch is really composed of 12 atoms of carbon, (charcoal,) and 10 atoms of water—as the 10 atoms of oxygen and the 10 atoms of hydrogen are equivalent to 10 atoms of water. In other words: 9 lbs. of pure, white, dry starch really contain 4 lbs. of charcoal, and 5 lbs. of water, and *nothing else* This is one of ten thousand wonders revealed by chemistry, which we cannot now stop to explain or dwell upon.

Starch serves an important end in food, since it supplies a large proportion of the material for oil or fat in the body, and the carbon for producing the warmth of our bodies.

How Starch is obtained.—This we cannot fully enter into, but will give a few hints. Make flour into a stiff dough, put it into a muslin bag, and work it over with the hands for some time in a vessel of water. The starch will pass out into the water, and an elastic, tough, gum-like dough, called *gluten*, will remain in the cloth. Allow the water to stand several hours, when the starch will settle to the bottom. Pour off the water carefully and add more water, stirring it well with the starch, and let it settle again. A few successive washings will produce a pure, white starch. Put this in a muslin bag to drain and dry. When nearly dry, heat it slowly in a warm oven, and it will form starch crystals, which will be visible on breaking the dry mass. Ground grain of any kind, rasped potatoes, and some other roots will produce a similar result.

We recently visited the "Glen Cove Starch Works," at Glen Cove, L. I., 25 miles east of this city, which is one of the largest and most perfect establishments of the kind in the world. There, the white Southern corn is first soaked until soft, then ground in water and run through bolters, or sieves, which remove the hulls and coarser particles. The milky fluid is conveyed into immense vats and allowed to settle. The water is drawn off and more added at several successive intervals, until a beautiful pure, white starch is obtained. The magnitude of the operations carried on may be gathered from the fact, that the buildings cover nearly two acres of ground, and 18 tuns, or 36,000 lbs. of starch are daily manufactured. The purest spring water is used, which is an important requisite, and upon which much of the perfection of the process depends. There are several details which we cannot give, such as the proper soaking, perfect separation of the gluten by chemical additions, etc., etc. About 23 lbs. of starch are usually obtained from a bushel of corn. The remaining portions are saved in a semi-fluid state, like thin mush, and this is largely used by farmers in the vicinity for feeding milch cows, hogs, and other stock. It is sold at 30 cents per barrel, at which price it would seem to be a very economical food. Indeed, while writing this article, Mr. Willis of Syossett happened in, and he says he finds it decidedly profitable to cart it 9 miles to feed to milch cows.

American Women Buying Washington's Tomb and Homestead.

To the Editor of the American Agriculturist:

Do your readers know of the effort which is now being made through the length and breadth of our land, from the forests of Maine to the flowers of Florida, to obtain possession of Mt. Vernon? This name, which calls up to us, not only the home and tomb of Washington, but the farm which he cultivated and loved, as all your readers love some acres, few or many, of their own, is now placed within our reach. The Mt. Vernon Association of the women of the Union has, for the sum of $200,000, purchased two hundred acres of the land belonging to the Mt. Vernon Estate, including the mansion house and its appendages, the gardens and landing on the Potomac, and above all, the Tomb which contains the mortal remains of the Father of his country. A good price, some practical farmer will say, thinking only of the corn and wheat these acres will raise. But Mt. Vernon raised something above price, in the hearts of our countrymen and countrywomen, Washington, his home life, his farmer life, which he loved best, and longed for while in command of an army, and at the head of a government, his crops which he planted, by directions given from the besieging camp near Boston, from Head Quarters in the Highlands, from the President's house in Philadelphia; the love and veneration we feel for the man, all these thoughts and feelings cluster round Mt. Vernon, making our hearts yearn towards it somewhat as he did. We wish to have it owned by the people of the country, to have it kept forever, as it was while in his hands, safe from the chances which befall private property in this country. It should be sacred to his memory, a spot which all the world may visit and bring away lessons of Wisdom, of uprightness, of trust in God, and where we may learn true patriotism and devotion to the highest good of our whole country.

On the 6th of April last a contract was made with the proprietor of Mt. Vernon, for the purchase of the 200 acres described for $200,000; $18,000 were paid in cash, $57,000 are to be paid January 1st, 1859. This is now ready for payment, making in all $75,000. The effort now making by the women of our country, is to raise the remainder, $125,000, by the 22nd February next, Washington's birth day, in order to obtain possession of the estate on that day. The payment of one dollar makes every one, man, woman or child, a member of the association, and a joint proprietor of Mt. Vernon. The Regent, Miss Cunningham, is empowered by the Constitution to appoint Vice Regents from each State, who form a Council of Management. Twelve States are already organized as follows: Mrs. Little, Portland, Maine; Mrs. Greenough, Boston, Mass; Miss Hamilton, New-York; Mrs. Ritchie, Virginia; Mrs. Dickinson, Wilmington, N. Carolina; Mrs. Eve, Augusta, Georgia; Mrs. Le Vert, Mobile, Ala.; Mrs. Morse, New Orleans, La.; Mrs. McWillie, Jackson, Miss.; Mrs. Fogg, Nashville, Tenn.; Mrs. Walton, St. Louis, Missouri; Mrs. Murat, Florida. Subscriptions and contributions, whether in small or large sums may be sent with name and residence to either of the Vice Regents, or to the Treasurer of the Association, George W. Riggs Esq., Washington, D. C., or to the New York office—in the Cooper Institute, Astor Place, addressed to Mt. Vernon Ladies' Association, New York City P. O, Station D.

From the contract with Mr John A Washington, that, "the said vault, the remains in and around it, and the inclosure, shall never be removed or disturbed," every woman who loves her home and every farmer who tills his land, may come forward with security to help on this national tribute of devotion to the memory of Washington

The names as proprietors will be registered on the books at Mt. Vernon.

Death of Mrs. Loudon.

There are few reading farmers or gardeners who are unacquainted with the valuable works of J. C. Loudon, who died in 1843; but a much smaller circle are familiar with the writings of his worthy consort who may be said to have laid the foundation of "Ladies' Flower Garden Literature." We have received the intelligence of her death which occurred on the 13th of July. The Illustrated London News of July 17th, thus notices the event: Mrs. Loudon, a well-known name among English women from her beautiful and valuable works relating to English flowers and the English flower-garden, died in London on the 13th inst., at the age of fifty-eight. We remember the time when she first obtained some distinction in literary circles. She was then Miss Webb, and as Miss Webb she wrote and published a novel, in three volumes, called "The Mummy." "The Mummy" introduced her to her husband, the late J. C. Loudon, whose labors in landscape gardening were so very useful, and whose writings on English forest-trees will be remembered. When Miss Webb married Mr. Loudon she knew so little of flowers that she could with difficulty distinguish a daisy from a dandelion. But with an innate love for wild flowers, and for garden flowers generally, she set resolutely to work, and under her husband's tuition soon became an adept in something more than the language of flowers, and, before many years were over, a skilled writer on the subject of Gardening for Ladies. Her "beautiful Flower Books," as the trade truly describes them, form six volumes quarto, and contain upwards of fifteen hundred exquisitely colored illustrations of the choicest wild and cultivated flowers. She had the skill to choose taking titles: witness "The Ladies' Flower Garden of Ornamental Annuals," "The Ladies' Flower Garden of Ornamental Greenhouse Plants," "The Ladies' Flower Garden of Ornamental Bulbous Plants," "Mrs. Loudon's Practical Instruction in Gardening for Ladies," "The Ladies' Companion to the Flower Garden," &c. Mrs. Loudon had a Government pension after her husband's death, of one hundred pounds a year, and has left an only child—a daughter—who inherits the literary tastes of both her father and her mother.

Valuable Books.

I. Botany for Young People and Common Schools. How Plants Grow; a simple introduction to Structural Botany; with a Popular Flora. Illustrated by 500 wood engravings. By Asa Gray, M. D., Fisher Professor of Natural History in Harvard University. New York; Ivison and Phinney. 75 cents.

II. First Lessons in Botany and Vegetable Physiology Illustrated by over 360 wood engravings from original drawings; to which is added a Dictionary of Botanical Terms By same as above. $1.

III. Manual of the Botany of the Northern United States, including Virginia, Kentucky, and all east of the Mississippi: arranged according to the Natural System. By same as above. $2.50.

IV. Introduction to Structural and Systematic Botany and Vegetable Physiology, being a fifth and revised edition of The Botanical Text Book, illustrated with over 1300 wood cuts. By same as above. $2.

We give here the titles of a complete series of volumes, in which is presented the scientific side of a subject which we are constantly treating in the *Agriculturist* in a more practical way. Our pages are taken up to a considerable extent with directions for tilling the soil, showing when and where to sow seed, how to destroy weeds and multiply valuable plants, and how to preserve the fruits of the earth and make them serviceable for man and beast. The knowledge that men have concerning the vegetable kingdom and the life and growth and reproduction of plants, when properly classified and arranged, constitutes the science of Botany; and it is easy to see that such a science must be of great service, directly or indirectly, to those who are engaged in agriculture, and whose constant aim is to get from the earth certain vegetable products for food, fuel, shelter and clothing. Botany has to do not only with flowers and the flower garden, without which no farm is complete, but with every species of vegetable growth—with the grasses, the grains, the roots, the fruits and the trees, about which every farmer's mind is exercised.

Professor Gray is well known among men of learning as an accurate and thorough naturalist. His works bear evidence on every page of being written by one who is master of his subject. He writes in a style singularly

clear and attractive, and evidently tells what he himself knows and thinks, and not merely what he has found in other men's books. The admirable illustrations with which these volumes are profusely supplied, are chiefly original and drawn from nature. We heard the other day of an author, who had *compiled* several books for children, but who was greatly puzzled to determine the name of a curious insect he had found in his garden. He asked one and another without gaining the desired information, but was somewhat confounded when a third gentleman took up from the table one of his own works for children and showed him there a *picture* of the insect with a full description. We venture to say that the author of the volumes before us is better informed on the subject about which he writes.

The first of these volumes, "How Plants grow," is one of the most attractive elementary books. It is a good study book for common schools, and a good reading book for vacations at home; and wherever it finds its way, some persons older than children will not be ashamed to be reading it. A few weeks since, we saw a lady at the White Mountains pouring over its pages for a whole evening. We know a minister in this city who was so much pleased with it that he took it home and at once began to teach his children botany; and one young girl, not over fond of hard study, was quite won by the author's sympathy for scholars expressed in the remark, "it is a pity that these three words are so long, for the pupil should fix them thoroughly in his memory." This volume is designed for young beginners and contains a classification and description of the common plants of the country both wild and cultivated.

The second book of the series goes into the subject more fully, and is suited to scholars somewhat more advanced. Treating as it does of common things, and giving illustrations of stems and roots and leaves and flowers, such as every boy and girl who lives beyond the limits of city pavements can find at any time, it is admirably fitted to foster habits of careful observation and of the study of nature. The same clearness and simplicity characterize this volume, and a knowledge of its main facts is essential to one who would be a thorough practical agriculturist.

The third volume of the series contains a descriptive account in scientific language of the peculiarities of the plants of the Northern part of the United States, including the Ferns, Mosses and Liverworts. This is full and satisfactory, and is prepared with constant reference to the wants of students. It is intended to accompany the preceding volume. Those who do not care to study the mosses and flowerless plants, can also procure for $1.50 an edition of the Manual, in which a hundred pages devoted to the Cryptogamia are omitted.

The fourth work of the series is designed for a college text book, and treats of the structure of plants, external and internal, through the whole process of growth from the seed; and also of the relations of plants to each other, in accordance with which they are grouped into classes and families. Though it is profound and scientific, it is not unintelligible. Words of course are introduced into such a treatise that are not familiar and commonplace; the use of them is necessary in order to secure brevity, accuracy and definiteness; but such words will soon become easy to one who will consult the dictionary of terms, at the end of the volume. The whole series we are glad to commend as one of great value, exceedingly instructive, and especially interesting in unfolding the wonders of creation and of providence.

A Whole Library in One Work.

We have examined with much satisfaction the first three volumes of THE NEW AMERICAN ENCYLOPEDIA, now being published by D. Appleton & Co., New York City. It is justly styled a "Popular Dictionary of General Knowleedge, for when complete, it will contain about all the information in every department of science, art, history, biography, etc., which will be desired by the great mass of readers. Indeed, we doubt whether one person in a thousand will care to learn more on any subject than can be found in this work. The first three volumes go down the alphabet only to BRO, and as a test, we called to mind a dozen topics, including matters relating to agriculture, horticulture, geography, biography, etc., and we found upon each topic a large amount of the most condensed, yet full information. There are some things, such as the articles on scientific agriculture, agricultural chemistry, etc., which we would have changed somewhat, had we written them, but taken as a whole, the work is as perfect as could be expected in one of so comprehensive a character. It is as we have styled it, a whole library in one work. Take the first volume as a sample of the others. This begins with *A*, goes to Arag.—not through one letter—and treats of 2,740 topics, in 752 large, closely printed, 2-column pages. This gives an average of over half a column to each subject, though some of the more important topics occupy several pages, and others, less important, are condensed into a brief space. From this, any one can gather an idea of what will be contained in the entire 15 volumes. We are informed in the introduction, that in addition to a free use of all former encyclopedias issued in this country and in Europe, about a hundred gentlemen assist in the preparation of the different departments. It is under the editorial supervision of Geo. Ripley and Charles Dana.

We have spoken thus strongly of the work, because we deem it an important one—such an one as all will desire to possess who can possibly afford to do so. It is published at $3 a volume

BOY'S & GIRL'S COLUMNS.

"UNCLE FRANK," whom we introduced to you last month, makes his appearance promptly in this number—he is a prompt old gentleman we believe—and hereafter he will have many interesting chats with the boys and girls we hope. By the way, we see he has been telling you some of our private talk, for which we were disposed to scold him a little, but we did not wish to fall out with him at the first start; and besides, he claimed that when introduced into so large a crowd, a bashful man like himself ought to be allowed to pay his respects and make his apology for his appearance, in his own way.

A Boy not Afraid of a Dog.

The following account of a brave boy—one truly brave—we take from the Sunday School Advocate. It imparts a good lesson, for though none of our young readers may be placed in such circumstances as are here detailed, yet all of them, both boys and girls, will often be tempted to waver from the true, the right course, by fear, or by hope of profit. Remember this story, and let it be your fixed principle to *do right, without regard to circumstances.*

Two wicked men told a good boy that he must swear, or they would let a savage dog loose upon him.

"I can't swear," said the boy, "it would be wicked."

"You shall, or the dog shall tear you to pieces!"

"No," said the boy, "I won't swear! God forbids it!"

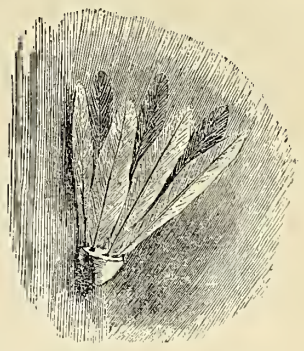
"At him then!" said one of the men to the dog.

"Seize him! seize him!" shouted the other.

Now these men did not mean to let the dog bite the boy. They only meant to frighten him into the sin of swearing. But the dog, being set on, sprung suddenly from the man, who held him, and fastened his sharp teeth in the noble little fellow's arm. Before those wicked men could make the savage dog let go his hold, the boy's arm was badly mangled. Fainting with fright and loss of blood, he was taken into the house of his master, (who was a farmer's servant) and put to bed. A fever set in, and after some days the boy died, forgiving his cruel persecutors.

I admire the conduct of that brave boy. He could not be made to do wrong. He had the stuff in him of which martyrs are made, and I doubt not that he wears a martyr's crown in heaven. Glorious boy!

Children, cherish that boy's spirit. Settle in your hearts at once and forever that you will always do right, cost what it may! Resolve, by the help of God, that neither money, honor, office, nor any other thing shall ever induce you to do wrong, and that you will die doing right, rather than live by doing wrong. Let your motto be *Duty with poverty and death is better than wickedness with wealth and life.*



A Shuttle-Cock.

A little boy "out West" (in Minnesota), wishes the Editor would tell him "what is the Shuttle-cock and Battle door which we frequently see mentioned in the Sabbath School books and papers?" We have had the accompanying picture made to illustrate the shuttle-cock, which is simply a cork made in the shape of half an egg, with feathers or very small quills stuck in the flat side. The *battle-door* is somewhat after the shape of a boy's "bat," or wicket ball club. In a regular battle-door, the stick or handle, is about as large as a broomstick, say two feet long, and upon the end of this is a hoop six or eight inches in diameter, upon which is stretched a piece of parchment or thin leather. When the cork of the shuttle-cock is struck by one girl with a battle-door, it flies through the air, the lighter feathers keeping the cork forward. Another girl standing at a little distance hits the cork and sends it back again, when the first girl hits it again. We have seen too little girls keep a shuttle-cock thus flying forward and backward between them a long time, without its once falling to the ground. It is a very pleasant and healthful exercise for girls.

MICROSCOPES AT LAST!—Ever since the July number was issued we have been trying to get some of the *microscopes* referred to in that number. Only two or three were to be found in this city; then a lot ordered from Paris were lost on the way; and then another lot were poor. But we have at last got some good ones, with the genuine "Coddington lenses." We hoped to have obtained some in German Silver cases, but these we have are all like fig. 4, on page 219 of July number, and in pure *silver* cases. The present retail price is $4, though a free demand and larger importations by dealers will probably reduce this price. Those we have were not obtained for sale, but to give for premiums, as described on the last page.

Uncle Frank's Chat with the Boys and Girls

One day last month, I received a note from Mr. Judd, stating that he would be happy to see me a few minutes at his office. I always like to make my friends happy, when I can; so I lost no time in calling upon him. It is barely possible that I might have had another reason for calling so promptly; I well knew that agricultural editors, at this season of the year, frequently have some choice specimens of fruit sent them; "and who knows," I thought to myself, "but Mr. Judd wishes me to *discuss* with him the comparative merits of the New Rochelle Blackberries? or perhaps," I went on with my pleasant musings, "there is a new variety of peaches to be tested. Something of that sort is in the wind, no doubt. Well, I trust I am adequate to any such performance. I believe I am a man of taste, at all events." With these thoughts, I entered the private sanctum of the editor of the *Agriculturist.* There sat Mr. Judd, at his desk, driving a steel pen of some thirty horse power, more or less, and so busy that I had to hail him twice before he looked up. He did look up, though, after a while, when something like the following dialogue took place:

MR. JUDD.—"I want to make the *Agriculturist* the best farming paper in the United States of America."

UNCLE FRANK—(somewhat crustily, perhaps, thinking

more of New Rochelle Blackberries and new varieties of peaches than of dry articles on *mulching* and the *curculio*)

"You have my best wishes, sir, I am sure. But don't you publish the best paper in the Union, now? Most editors claim to do that thing, I believe. You don't mean to be more modest than the rest of them, do you?"

Mr. J. "Well, editors are not generally overcharged with modesty, that's a fact. It certainly does not amount to a *vice* with them. I don't remember, just at this minute, that I ever heard of one of the brotherhood having been hung on any such charge. I never set myself up as a supremely modest man, to be sure; and I own that I honestly believe the *Agriculturist* is *now* the very best agricultural paper in the country."

U. F. "Ha! ha! I thought so."

Mr. J. "I said the best *agricultural* paper. Now, what I want is to make it the best paper in the land for *every member of the family*—for the mother as well as for the father—for the boys and girls, as well as for their parents. That's what I want; and what is more, sir, *I'll do it*. I've done something towards it now, and I'm going to do the rest, without a moment's unnecessary loss of time. See if I don't."

U. F. "You talk as if you were in earnest. I like that. You can't fail of success, with such a spirit. Go ahead, sir; I wish you a million of subscribers—and a good morning."

Mr. J. "Stop a moment, my dear sir, I want your help in this thing,"

U. F. "Impossible, sir, quite impossible."

Mr. J. "Permit me to say, that I think otherwise. Listen to me a minute. I am afraid you don't understand me. I want your aid in a department, where you are at home. I want you to write solely for the boys and girls—to keep up a monthly chat with them—to amuse and instruct them, in your best style. Will you do it?"

U. F. "Why, can't you keep up the department yourself, Mr. Judd?" ——

Mr. J. "I'll tell you. I have so far hoped to keep the boy's and girl's columns all to myself, for I *enjoy* this department more than all the rest of the paper. But the business of publishing the *Agriculturist* has become so extended, that I do not always have time for a long monthly chat with my young readers. Very often the only time I get for this is when the dear little ones all over the country are in bed, and sound asleep. Now, I want to engage you to *harness up* with me, and help draw these boys and girls into good habits and correct ways of thinking. What say you?"

U. F. "I couldn't think of such a thing, unless you will manage to lengthen my days so as to make them, say, about twenty-five or twenty-six hours long."

Mr. J. "I know well enough you are a busy man, Uncle Frank; and I know equally well, that it is the busiest man who has the most leisure for any little matters out of the ordinary routine of his business."

U. F. "You are right there. It is only your idle man who never does much of any thing, that has no leisure. But really I don't see how I can possibly ——"

Mr. J. "Chat half an hour with a hundred and ten thousand boys and girls."

U. F. "One hundred and ten thousand! You don't mean to say seriously, that your paper goes into the hands of one hundred and ten thousand young people!"

Mr. J. "I do mean to say, seriously and truthfully, that I believe the aggregate number of young folks able to read, in the families where the *Agriculturist* is a monthly visitor, can not be less than one hundred and ten thousand."

U. F. "That alters the case, sir. One hundred and ten thousand—whew! I'll talk to them. I *must* find the time, by hook or by crook."

And so, my dear young friends, I am going to chat with you every month—that is, if you and I get along pretty well together. If you don't like my bill of fare, I shall find it out, just as the cook finds out that her dishes are not relished; and as soon as I see you yawning over what I have to say to you, I shall be off in less time than it takes me now to talk about it.

I didn't intend, in this first chat with you, to say much more than just to tell you what I am going to do and how I came to do it. But there is a bird story in my head which has been struggling for some weeks to find an outlet, and I'll tell it now, if you please, for fear it will not keep till another month.

THE LITERARY ROBIN.

Did you ever see a robin, who was fond of literature, and selected the very best reading he could find? "No, indeed, sir; did you?" Well, listen to my story, and then judge for yourself,

The world-renowned Washington Irving resides on the margin of the Hudson, in one of the cosiest nooks imaginable. This place he calls "Sunny Side." It is only a short distance from my own country residence. One day, during the last Summer, I visited that charming spot, and was sauntering around the grounds, when I observed a robin on one of the forest trees near the house, tugging away lustily at a sheet of paper. The paper proved, upon closer examination, to be a manuscript. The bird seemed anxious to deposite the treasure in her nest, which was in process of building on one of the highest boughs of the tree. But the task, like many of those undertaken by architects without wings, especially by that large class of people who are known by the name of "castle builders," was much less easily achieved than determined upon. Robin encountered a host of difficulties. But he still persevered in his work. Now the paper would catch in an angle of the tree; then it would get fast among the twigs and leaves. But the bird toiled on. He didn't get discouraged. He seems to have been a bird with "one idea," for the time, at least. That manuscript must be got into his summer-house, come what might

"Well, Uncle Frank, did he succeed?"

Of course he did. Perseverance always—almost always—secures success. Now, having stated this fact, I leave you to form your own conclusion as to the intelligence and literary taste of the bird. Don't you honestly think, now, that he must have been a lover of literature in general, and Washington Irving's writings in particular? How came he to spend so much strength, and time, and patience, over that sheet of paper, if he merely wanted it for the purpose of nest-building? Besides, that kind of timber is not adapted to the construction of a robin's nest; and moreover, the bird, after having deposited the manuscript in the place where he wished it, did not attempt to use it in building, but merely attached it to the outside of the nest. Don't you think this looks very much as if the bird knew he was a tenant of the sweetest prose-writer on this side of the Atlantic, and that he had a suspicion that this manuscript was written by Irving's own hand? You smile at all this, and think that it would be well, perhaps, to clip the wings of Uncle Frank's fancy a little. But I do assure you, though I will not waste time now in trying to establish that robin's literary character—I do assure you that there is far more intelligence in birds than most people are willing to give them credit for. I have been a resident in bird-land a great part of my life. I have watched the dear little creatures very closely; and I have learned many things about their habits which would greatly amuse and astonish you. Some other time—not now, I guess—I must tell you a few of my choicest bird stories, that is, if you are in a humor for listening to them.

By the way, a friend of mine, a great lover of the birds, says, that he has satisfied himself, from observation, that the male robin builds the nest, and that the female does'nt meddle at all in the business, except, perhaps, in the way of advice. What do the boys and girls say to this? Is my friend Dr. C. right? I am inclined to think he is mistaken. Have any of you ever watched the nest-building of the robin family, so closely and carefully as to be able to tell me positively what is the fact in this case? For myself, though I have a more intimate acquaintance with the robin family than any other of the feathered tribe, I have always taken it for granted that both the father and mother shared in building their house, and consequently I never took the pains to examine the matter.

American Pomological Society.

This Association held its Seventh Session in this city, commencing Sept. 14th, and closing on the evening of the 16th. The meeting was a highly interesting and useful one, and was attended by a very large number of practical and amateur fruit-growers from almost every part of the country. We noticed several from beyond the Mississippi River, where the culture of fruit is being rapidly extended. The whole session, beginning at 9 A. M., and continuing with two short intermissions until after 10 P. M., of each day, was occupied in discussions and reports upon the various fruits. Cultivators from every part of the country presented the results of their experience and observation upon the different kinds of fruits in their several varieties, as they were successively called over. The only objection we can bring to the order of proceeding is, that too much time, relatively, was devoted to the discussion of pears, leaving too brief a space for other important fruits of a wider cultivation and interest.

The preceding part of this number being already stereotyped, we have only room for a condensed report of the proceedings; but the list of fruits named below, gives a clear understanding of the results arrived at, better, perhaps, than a more detailed report would do, for it should be stated that each fruit was called over, and full details of observation and experience were given by all who were acquainted with it. No partiality or statements of interested parties were allowed to shield any fruit from the severest criticism when deserved. We were present during the entire meetings, and, every thing considered, we deem the list of fruits given below as a very valuable one.

At the opening of the session, the usual address was delivered by the Prest, Hon. Marshall P. Wilder, a review of which we must reserve for the future. The following is the list of officers elected for the term of two years:

President—The Hon. Marshall P. Wilder, of Massachusetts.

Vice-Presidents—S. L. Goodale, Maine; H. I. French, New-Hampshire; Samuel Walker, Massachusetts; Fred. Holbrook, Vermont; Stephen H. Smith, Rhode Island; A. S. Monson, Connecticut: Charles Downing, New-York; William Reid, New-Jersey; Hartman Kuhn, jr., Pennsylvania; E. Tatnall, Delaware; Charles B. Calvert, Maryland; Yardley Taylor, Virginia; Walter L. Steele, North Carolina; A. G. Summer, South Carolina; Richard Peters, Georgia; Jos. L. Moultrie, Alabama; Dr. M. W. Phillips, Mississippi; Jas. S. Downer, Tennessee; Lawrence Young, Kentucky; A. H. Ernst, Ohio; J. C. Holmes, Michigan; J. A. D. Nelson, Indiana; J. W. Felt, Louisiana; Thomas Affleck, Texas; R. C. Overman, Illinois; N. J. Colman, Missouri; George Worthin, Arkansas; Robert Avery, Iowa; J. C. Brayton, Wisconsin; Simpson Thompson, California; Joshua Pierce, District of Columbia; Edward Hunter, Utah; Amasa Stewart, Minnesota; C. B. Lines, Kansas; William Davenport, Oregon; Hugh Allen, Canada East; James Dougal, Canada West.

Secretary—Thomas W. Field, Brooklyn, N. Y.

Treasurer—Thomas P. James, Philadelphia, Pa.

Executive Committee—The President and Vice-Presidents ex-officio; W. D Brinckle, M. D., Philadelphia, Pa.; T. W. Field, Brooklyn, N. Y.; M. B. Bateham, Columbus, Ohio; L. E. Berckmans, Plainfield, N. J.; F. K. Phœnix, Bloomington, Ill.

For convenience of reference, we arrange the lists of fruits together. Those marked for GENERAL CULTIVATION *are such as, from all accounts, appear to do well throughout the country, so far as tried. See remarks below.*

N B.—1st. The seven apples enclosed in [ ] were reported by Mr. Bateham and Dr. Warder as not doing well West.

2nd. Those fruits in the different lists marked with an asterisk—, are new additions made to these several lists at the present meeting, by* GENERAL VOTE.

APPLES.

FOR GENERAL CULTIVATION.

Amer. Summer Pearmain,
Autumn Bough,*
Baldwin,
Benoni,
Broadwell Apple,*
Bullock's Pippin,
Carolina June,*
Coggswell,*
Danvers Winter Sweet,
Early Harvest,
Early Strawberry,
Fall Pippin,
Fameuse,
Gravenstein,
Hawley,
High Top Sweeting,
[Hubbardston Nonesuch,]
Jonathan,*
[Lady Apple.]
Ladies Sweet,
Large Yellow Bough,
Melon,
Minister,
Monmouth Pippin,*
Porter,
Primate,
Rambo,
Red Astrachan,
[Rhode Island Greening,]
[Roxbury Russet,]
Smith's Cider,*
Summer Rose,
[Swaar,]
Vandervere,
Wagener.*
William's Favorite (except for light soils).
Wine Apple, or Hays,
Winesap.

APPLES PROMISING WELL.

Buckhingham,*
Fornwalder,
Genesee Chief,
Jeffries,
King of Tompkins County.
Mother,
Primate,
Smoke House,
White Winter Pearmain,*
Winter Sweet Paradise,
Winthrop Greening, or Lincoln Pippin,
Willis Sweeting,*

FOR PARTICULAR LOCALITIES.

Canada Red,
Æsopus Spitzenberg,
Newtown Pippin,
Northern Spy,
Yellow Bellflower,
Ribstone Pippin.

FOR GARDENS.....Garden Royal.

PEARS.

FOR GENERAL CULTIVATION.

ON PEAR STOCK.

Ananas d'Eté,
Andrews,
Bartlett (Williams' Bon Chrétian),
Belle Lucrative, or Fondante d'Automne,
Beurré d'Anjou,
Beurré d'Arenberg,
Beurré Bosc,
Beurré Clairgeau,*
Beurré Diel,
Beurré Giffard *
Beurré Hardy (Sterckmans).*
Beurré St. Nicholas,
Beurré Superfin,*
Bloodgood,
Brandywine,*
Buffum,
Cabot,*
Dearborn's Seedling,
Doyenné Boussock,
Doyenné d'Alençon,*
Doyenné d'Eté,
Flemish Beauty,
Fulton,
Golden Beurré of Bilboa,
Howell,
Kingsessing,*
Lawrence,
Louise Bonne de Jersey,
Madeleine,
Manning's Elizabeth,
Onondaga.*
Osband's Summer,
Paradise d'Automne,
Tyson,
Urbaniste,
Uvedale's St. Germain (for baking),
Virgalieu, (or White Doyenné),*
Vicar of Winkfield,
Winter Nelis,
St. Michael Archange.

ON QUINCE STOCKS.

Belle Epine Dumas,*
Belle Lucrative,
Beurré d'Alençon,*
Beurré d'Amalis,
Beurré d'Anjou,
Beurré Diel,
Beurré Hardy, (Sterckmans),*
Beurré Langelier,
Beurré Superfin,*
Buffum,*
Catillac,
Duchesse d'Angouleme,
Easter Beurré,
Figue d'Alençon,
Glout Morceau,
Louise Bonne de Jersey,
Napoleon,
Nouveau Poiteau,
Rostiezer,
Soldat Laboureur (?)
St. Michael Archange,
Urbaniste,
Uvedale's St. Germain, or Belle Angevine (for baking),

Rostiezer, Seckel, Sheldon, Vicar of Winkfield, White Doyenné (Virgalieu of N. Y.)

PEARS PROMISING WELL.

Adams, Alpha, Bergen,* Beurré d'Allert, Beurré Gris d'Hiver Nouveau,* Beurré Kennes, Beurré Langlier, Beurré Nantais, Chancellor, Charles Van Hooghten, Collins, Compte de Flanders, Comptesse d'Alost, Conseillier de la Cour, Delices d'Hardenpont de Belgique, Dix, Duchesse d'Orleans, Duchesse de Berri d'Eté, Emile d'Heyst Epine Dumas, Fondante de Charneuse, Fondante de Comice, Fondante de Malines, Fondante de Noel, (?) Hinkle,* Hosen Schenk, Hull,* Jalouise de Fontenay Vendée, Kirtland, (?) Limon, Lodge (of Penn), (?) Merriam,* Niles, Nouveau Poiteau, Ott, Philadelphia, Pinneo (Boston),* Pius IX., Pratt, Rouselette d'Esperen, Steven's Genesee, Sterling,* Striped Madeleine, Theodore Van Mons, Van Assene (Assche), Walker, Zepherine Gregoire,

PEACHES.

FOR GENERAL CULTIVATION, (old list unchanged).

Bergen's Yellow, Crawford's Early Crawford's Late, Coolidge's Favorite, Early York, large, Early York, serrated, George IV., Grosse Mignonne, Hill's Chili, Large White Cling, Madeleine de Courson, Morris' White, Old Mixon Free, Old Mixon Cling, Teton de Venus,

PROMISING WELL.

Chinese Cling,* Columbia,* Carpenter's White Freestone,* Gorgos, Susquehanna,

Heath Cling, for Particular Localities

PLUMS (old list not revised).

FOR GENERAL CULTIVATION.

Bleecker's Gage, Coe's Golden Drop, Green Gage, Jefferson, Lawrence's Favorite, Lombard, M'Laughlin, Munroe, Purple Favorite, Prince's Yellow Gage, Purple Gage, Reine Claude de Bavay, Smith's Orelans, Washington,

PLUMS PROMISING WELL.

Bradshaw, Duane's Purple, Fellenberg, General Hand, German Prune, Ives' Washington Seedling, Pond's Seedling, River's Favorite, St. Martin's Quetche, White Damson,

CHERRIES (old list not revised).

FOR GENERAL CULTIVATION.

Belle d'Orleans, Belle Magnifique. Black Eagle, Black Tartarian, Coe's Transparent, Downer's Late, Early Purple Guigne, Early Richmond (for cooking), Elton, Governor Wood, Graffion, or Bigarreau, Knight's Early Black, May Duke, Reine Hortense,

CHERRIES PROMISING WELL.

American Amber, Bigarreau Monstreuse de Mezel, Black Hawk, Great Bigarreau of Downing, Hovey, Rockport Bigarreau, Kirtland's Mary, Ohio Beauty, Walsh's Seedling,

Napoleon Bigarreau, for Special Cultivation.

CURRANTS.

FOR GENERAL CULTIVATION.

Black Naples, May's Victoria, Red Dutch, White Dutch, White Grape,

CURRANTS PROMISING WELL.

Cherry,* Fertile de Palluau,* Versaillaise,*

BLACKBERRIES.

FOR GENERAL CULTIVATION.

New Rochelle (Lawton,) Dorchester,

RASPBERRIES.

FOR GENERAL CULTIVATION.

Fastolff, Franconia, French, Knevet's Giant, Brinckle's Orange, Red Antwerp, Yellow Antwerp,

RASPBERRIES PROMISING WELL.

American Red, Allen,* Cope, Catawissa, Thunderer, Walker,

STRAWBERRIES.

FOR GENERAL CULTIVATION.

Boston Pine (in hills), Hooker's Seedling,* Hovey's Seedling, Large Early Scarlet, Longworth's Prolific,* Wilson's Albany,*

STRAWBERRIES PROMISING WELL.

Genesee, Le Baron, McAvoy's Superior, Scarlet Magnate, Walker's Seedling, Triomphe de Gand.*

GRAPES.

FOR GENERAL CUTTIVATION.

OUT-DOOR CULTURE.	UNDER GLASS.
Catawba,	Black Hamburg,
Concord,*	Black Frontignan,
Delaware,*	Black Prince,
Diana,	Chasselas de Fontainbleau
Isabella,	Grizzly Frontignan,
	White Frontignan,
	White Muscat of Alexandria,

GRAPES PROMISING WELL (Open Culture),

Hartford Prolific,* Logan,* Rebecca, Union Village.*

GOOSEBEERRIES FOR GENERAL CULTIVATION (Old List not revised).—Crown Bob; Early Sulphur; Green Gage; Green Walnut; Houghton's Seedling; Iron-Monger; Laurel; Red Champagne; Warrington; Woodward's White Smith.

APRICOTS FOR GENERAL CULTIVLTION (Old List not revised)—Breda: Large Early: Moorpark.

NECTARINES FOR GENERAL CULTIVATION (Old List). —Downton; Early Violet; Elruge.

There were several emphatic "*rejections*," such as the Charter Oak Grape, Strawberry Grape: and of pears, the Long Green of Cox, Brande's St. Germain, Delices d'Hardenpont, Doyenné Goubalt; and Soldat Laboureur, was hard ruhbed. When this last was under discussion, Mr. Barry, of Rochester, dropped a significant remark viz., that "if we undertook to revise the list of pears on the Quince stock, so as to cut off all which were objected to, not more than two would be left."

Some forty or fifty varieties of strawberries were rejected; the rules require at least three votes to save any fruit from rejection. Of the strawberries proposed for excision, by the committee on rejected fruits, the following only were saved by three or more votes, viz.: Boston Pine, Black Prince, British Queen, Buist's Prize, Crescent Seedling, Cushing, La Reine, McAvoy's Extra Red, Monroe Scarlet, Pensylvania.

Other varieties of fruits were treated in a similar manner, the number of rejections, by general consent, amounting in the aggregate to several hundreds. The publication of this list is unnecessary, since none, except those in the adopted lists, were deemed of sufficient value, or at least well enough known or tried, to be commended.

We have given above, the entire list of commended fruits as they will stand upon the American Pomological Society's catalogue, for two years to come. As this list is made up entirely from our own notes during the lengthy discussions and hundreds of votes taken, there may be a very few errors; we have, however, devoted much time and careful labor to its preparation, and think it will be found very nearly accurate, at least.

The lists of Cherries, Gooseberries, Plums, Apricots and Nectarines were not very thoroughly gone over with —the attention devoted to pears, having left but one day for other fruits, which was mostly occupied with Apples, Peaches (briefly discussed), Grapes (for open culture), Raspberrics and Strawberries.

For want of space we must omit further notes, at the present, except a brief reference to the

EXHIBITION OF FRUITS,

Which was very fine, the display being, probably, the largest and best ever brought together, on a single occasion, in this country. Among these, we noted 200 varieties of pears, and 37 varieties of plums, by Ellwanger & Barry, of Rochester; 144 varieties of pears by Hon. Marshall P. Wilder, Boston; a large collection also by Hovey & Co., Boston; 124 varieties of pears by Thorp, Smith & Hanchett, Syracuse, N. Y.; 104 varieties of pears by Wm. Reid, Elizabeth, N. J.; 55 varieties of pears by Wm. L. Ferris, Throgg's Neck, N. Y.; 27 varieties of pears by Wm. Lyon, Plymouth, Mass.: 72 specimens of Island, Bergen, and Englebert Lott pears by Jno. G. Bergen, Brooklyn, L. I.; 8 varieties Summer and Fall sweet apples, 10 Fall and Winter sweet apples, 24 Fall and Winter sour apples, 30 early and Summer sour apples by E. M. Warren, Chelmsford, Mass.; 14 varieties of pears by Dr. J. F. Boynton, Syracuse, N. Y.; 27 varieties of pears and apples by Mr. Lyon, Plymouth, Mich., (of Michigan Farmer); 13 varieties of pears and 14 varieties of apples by W. H Mitchell, Harlem, N. Y.; 1 seedling pear by C. H. Moore, New-York; 3 varieties of pears by E. Ware Sylvester, Lyons, N. Y.; 20 varieties of apples and 10 varieties of pears by James M. Paul, North Adams, Mass,; 3 new varieties of pear, originating in Westchester County, by S. P. Carpenter, New Rochelle, N. Y.; 10 varieties of apples by E. G. Studley, Claverack, Columbia County, N. Y.; 38 varieties of pears by W. P. Townshend, Lockport, N. Y.

One of the most beautiful and unexpected displays of apples was by Westbrook & Mendenhall of Greensboro, North Carolina, consisting of 77 varieties of apples and 13 varieties of pears.

Joshua Pierce, Washington, D. C., 5 enormous canteloupe melons, 18 to 22 inches long.

Charles Denning and Dr. Grant exhibited very fine specimens of the Delaware and Catawba grapes.

J. D. Ingersoll, Illion, Herkermer Co., N. Y., 3 species of Delaware grapes, 2 Logan grapes, 1 unknown.

Several fine speeimens of the Hartford Prolific Grape were shown, (name of contributor lost).

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

Anonymous Letters.—Letters of this kind are usually passed into the kindling basket, as we hear from known readers all letters that can be answered. Names need not necessarily be published, though it is better that they should be, but there is no pleasure in replying to a letter of the alphabet, or a fictitious name.

A String of Questions—We *very often* receive single letters containing five, ten, fifteen, and some times twenty different questions, to answer which, in full, would require a whole paper, and the repetition of page after page of the very things we have published within the preceding twelve months. We by no means wish to discourage any amount of questions and suggestions, but would simply remark, that it is an utter impossibility to respond to so many questions, and particularly "in the next number," as we are usually requested to do. There are articles in the present paper, for example, which were suggested by questions received from two to fourteen months ago, and not a few articles answer queries in a score or more of letters. Probably, two hundred thousand persons, or more, of active, inquiring minds, peruse each number of this journal, and in making it up we must keep in mind *general*, instead of *individual* wants.

Kind Words are those indited to us by Dr. Fulton, of Logan County, Ohio. Many such cheering letters are carried home to be read in our family circle, and then stored in our archives to be read, perhaps, by our children's children, as mementoes of a grandsire's labors. Friends, may not only the success and happiness you wish us, be granted to you, but ten-fold more.

Potatoes in Iowa for 21 Years.—T. Davis, Dubuque, Iowa, writes: I have resided in Northern Iowa 21 seasons, and this is the first season of a failure of the crop to any considerable extent in this part of the State.

Vermillion Co., Ill.—Wm Bowman. Your notes on crops came too late for Sept. No., and are out of date now. Thanks for your appreciation.

Grasshoppers in Cataraugus Co., N. Y.—"Rusticus" writes: "We have enough grasshoppers for all the turkeys, and some to spare." The turkeys have had enough at home, almost everywhere, the past season. We hope they were not as bad in your county this season as they were a few years ago, when, according to one of the farmers "out there," they eat up every green thing, and one of them, which sat upon a stump surveying the ruin, had the impudence to ask him for his "chaw of tobacco" as he passed by.

Millet.—A. B C., White Pigeon, Mich. The seed you sent us is apparently an imported millet, but not the German millet. It is much sold in this city under the name of Bird Seed. The Hungarian Grass and German millet are possibly one and the same thing.

Unloading Corn.—Geo. Hill, of Lycoming Co., Pa., recommends filling one end of a wagon bed with the ears, then laying over them a board, having a beveled end to fit upon the bottom at the empty end. The remainder of the load is piled over this board. In unloading, the corn is easily shoveled down this inclined board. The board to be placed in the middle of the load, need be but 14 or 15 inches wide, and six or eight feet long. A simple contrivance like this will greatly facilitate shoveling out the corn. He adds: "If once tried it will not be abandoned."

Stump Puller.—R. M. Doty, Michigan City, Ind., writes that he has used a Stump Puller (like that figured on page 300) and finds it to work first-rate. His implement has but 5 links, and a ring taking an 8 inch lever, the lever 18 feet long. The iron part weighs 50 lbs. On one day, with one team and a man to help, he took out 80 stumps, "which any one would gladly have paid a shilling apiece to get rid of."

Hybrydizing the Grape.—R. K. Kuhn, Bucks Co., Pa. A cross or hybrid may be obtained by impregnating the pistil of the fox grape with pollen from an exotic (foreign) variety, and planting from the grape so treated, as you propose. Some of the vines thus raised may be good, while more will be poor. To produce new

varieties, we would rather plant seeds from some of our natives, such as the Isabella, Catawba, Diana, Rebecca, &c. We know of no work that will give you more information on "cross-breeding of fruits and flowers," than you find from time to time in the *Agriculturist*.

Apples.—J. Williamson, Hunterdon Co., N. J. The Garretson Early is a recognised apple of merit in the Flushing nurseries, though little known elsewhere. The other is probably only known in the nursery where it originated. It would be well to let both come into bearing, and if not found desirable, they may be grafted on the limbs.

Grinding Corn for Stock.—F. Hoover, Marshall Co., Ind., asks whether the King Philip Corn is not too hard to feed without grinding. In our opinion, any well ripened corn is too hard to feed without grinding or soaking, but we would as soon feed the King Philip as any. Where whole kernels of corn are found in the fœces of stock, it is evident they have imparted very little nutriment to the animal.

Auriculas, Verbenas, &c.—E. D. Sturtevant, Essex Co., N. Y. Seed of the auriculas should be sown in March, or very early in April, in your latitude. Sow in pots or boxes, and place in a hot bed to form good, strong growing plants. They seldom grow well in the open ground. They are best protected during Winter by placiug the pots containing them in a cold frame, covering them with straw or mats. Verbenas and petunias kept over should have the light.

Egyptian Corn.—G. W. Murphy, Allegany Co., Pa. The sample you send under the above name is more generally known as "Dourra or Durra Corn." It is also called "Indian Millet," and is *by some* considered a very good grain for cattle, hogs and poultry. In the east it is ground for food, especially in Africa. We are not yet prepared to recommend or condemn it for general culture. Some of our Texas correspondents have written very strongly in its favor.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE, }
NEW YORK, Sept. 21, 1858 }

The Wholesale Produee Markets, have been moderately active, during a month past, with pretty free arrivals of leading Breadstuffs. Most N. Y. State flour has been rejected as unsound, and the prices have been too diverse to admit of classified quotations. Sound, standard brands have been in moderate supply, and really desirable lots scarce and higher. Recently the chief demand is from home dealers, though shippers are buying a little. ....Wheat has been in moderate request for home dealers and for speculation and export; the supply ample, and prices declining during the month, but firmer recently, it being now believed that the crop was a short one. We have seen samples of Spring wheat from Illinois and elsewhere West, which do not speak well for this crop... Corn was at first freely offered at reduced prices, and bought largely for distilling, and for regular home trade, and for export; but latterly the stock being diminished prices have risen a little. The incoming crop promises finely in most places, and will in part make up for the deficiency in Wheat and Oats....Foreign news has now comparatively little effect, as but little is doing in exporting Breadstuffs....The well-known Statistician of British Agriculture, Mr. James Caird, member of Parliament from Dartmouth, has just arrived and started on a first tour of inspection through the great wheat and corn growing districts of the North-west, probably to report his views thereon, which will be looked for with interest.... Rye and Oats have declined, and Barley advaneed during the month....Cotton is dearer, and in fair request....Provisions only moderately dealt in....Hay and Hops more sought after; the hop crop especially promises poorly.... Hemp and Seeds sparingly inquired for....Rice and Tobacco attract more attention—in part for export....Wool less active; home-grown not plenty; prices well sustained ...The transactions in other domestic Produce have not been specially important.

CURRENT WHOLESALE PRICES.

	Aug 23.	Sep. 21.
FLOUR—Superf to Extra State	$4 85 @ 5 30	$4 90 @ 5 60
Common to Fancy Western..	4 85 @ 5 30	4 95 @ 5 30
Extra Western..	5 20 @ 8 00	5 35 @ 8 50
Fancy to Extra Genesee.....	5 40 @ 7 75	5 80 @ 7 50
Mixed to Extra Southern.....	5 50 @ 8 50	5 40 @ 8 50
RYE FLOUR—Fine and Super.	3 50 @ 4 35	3 40 @ 4 25
CORN MEAL	4 25 @ 4 75	4 15 @ 4 75
WHEAT—Canada White.....	1 19 @ 1 37½	1 18 @ 1 35
Western White	1 18 @ 1 52	1 18 @ 1 45
Southern White	1 23 @ 1 62½	1 20 @ 1 45
All kinds of Red.....	96 @ 1 35	85 @ 1 25
CORN—Yellow.....	90 @ 93	94 @ 96
White.....	85 @ 88	84 @ 87
Mixed.....	76 @ 83	71 @ 80
OATS—Western.....	51 @ 53	48 @ 50
State.....	50 @ 52	45 @ 47
Southern.....	33 @ 41	34 @ 40
RYE.....	81 @ 83	76 @ 78
BARLEY.....	60 @ 65	70 @ 81
White Beans.....	1 00 @ 1 15	1 06½@ 1 12½
HAY, in bales, per 100 lbs.....	40 @ 70	45 @ 70
COTTON—Middlings, per lb....	12¾@ 13	13½@ 13¾
RICE, per 100 lbs.....	2 87½ @ 3 75	2 75 @ 3 75
HOPS, crop of 1857 per lb.....	5½@ 8	7 @ 10
PORK—Mess, per bbl.....	@17 00	17 00 @17 40
Prime, per bbl.....	14 80 @14 85	15 00 @15 25
BEEF—Repacked Mess.....	14 00 @14 50	13 25 @14 50
Country mess	11 75 @12 00	11 50 @12 00
HOGS, Dressed, per lb...	5¾@ 6½	
Lard, in bbls, per lb	11½@ 11¾	11¾@ 11¾
BUTTER—Western, per lb.....	12 @ 18	12 @ 17
State, per lb.....	14 @ 23	14 @ 23
CHEESE, per lb.....	4 @ 8	4½@ 7½
EGGS—Fresh, per dozen.....	11½@ 12½	
FEATHERS, Live Geese per lb.	44 @ 50	44 @ 52
SEED—Clover, per lb	7¾@ 9	9 @ 10
Timothy, per bushel..	2 25 @ 2 62½	1 75 @ 2 75
SUGAR, Brown, per lb.....	6½@ 9¼	6½@ 9
MOLASSES, New-Orleans, prgl	50 @ 52	50 @ 52
COFFEE, Rio, per lb.....	9¾@ 11½	9½@ 11½
TOBACCO—Kentucky, &c. pr lb	6½@ 14	7 @ 14
Seed Leaf, per lb.....	6 @ 25	6 @ 25
WOOL-Domestic fleece, per lb.	27 @ 46	27 @ 46
Domestic, pulled, per lb	25 @ 38	25 @ 38
HEMP—Undr'd Amer'n pr ton.	105 @125	105 @125
Dressed American, per ton....	180 @195	180 @195
TALLOW, per lb..	10 @	10½@
OIL CAKE, per ton.....	33 50 @38 00	33 00 @42 00
POTATOES—Mercers, per bbl..	2 00 @ 2 25	1 50 @ 2 00
Junes and Dykemans, per bbl.		1 12 @ 1 37
Sweet Virginia, per bbl	4 50 @ 5 00	2 00 @ 2 75
Sweet Delaware, per bbl.....		2 50 @ 2 75
TURNIPS—Rutabagas, per bbl.	1 00 @ 1 25	
ONIONS, per bbl.	2 25 @ 2 50	1 25 @ 1 50
CABBAGES, per 100.....	2 00 @ 5 00	2 00 @ 5 00
LIMA BEANS, per bushel.....	62 @ 75	50 @ 56
CORN, per 100 ears.....	20 @ 40	37 @ 50
SQUASHES, Marrow, per bbl..	75 @ 1 00	1 00 @ 1 12
TOMATOES, per bush.....	25 @ 37	18 @ 25
WATERMELONS, per 100.....	14 00 @16 00	8 00 @15 00
NUTMEG MELONS, per bbl....	2 56 @ 3 00	75 @ 2 00
APPLES— Per bbl.....	2 50 @ 4 50	1 50 @ 3 00
PEACHES per basket.....	1 50 @ 2 50	1 25 @ 4 00
PLUMS, per bushel.....	2 00 @ 3 00	3 00 @ 7 00
POULTRY—Fowls, per lb.....	15 @	12 @ 15
Chickens, Spring, per pair.....	37 @ 63	37 @ 63
Ducks, per pair.....	62 @ 1 00	62 @ 1 00
Turkeys, per lb.....	14 @ 16	16 @ 18
Geese, each.....	1 25 @ 1 50	1 25 @ 1 50
Pigeons, wild, per doz.....		1 00 @ 1 25
Partridge, per pair.....		62 @ 75

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
25 bus days *this* mon ,	416,500	497,700	903,500	27,675	5,700	365,800
26 bus. days *last* mon,	361,689	934,938.	1,033,595	42,440	9,000	238,058

SALES.	Flour.	Wheat.	Corn.	Rye.	Barley
25 business days *this* mon,	313,150	771,000	1,122,000	100.000	*25,000
26 business days *last* month,	305,937	1,367,170	1,295,675	88,450	8,450

* Includes 5,000 bush. from California, sold at 80c. per bushel.

We present below several carefully prepared and *important Tables*.

EXPORTS FROM N. Y., FROM JAN. 1ST, TO SEPT. 13.

	1857.	1858.
Wheat Flour, bbls	587.955	1,046,653
Rye Flour, bbls	3,084	4,683
Corn Meal, bbls	37,471	47,959
Wheat, bush	1,384,858	2,895,027
Corn, bush	1,621,965	1,265,963
Rye, bush	81,446	12,487

Exports to Great Britain and Ireland, Sept. 1st 1857, to Sept. 1st, 1858, and for eleven years previous.

From	*To Date.*	*Flour, bbls.*	*Wheat, bu.*	*Corn, bu.*
New York	Sept. 1, 1858..	764,355	5,434,319	1,709,107
New Orleans	Sept. 1, 1858..	282,149	610,251	851,184
Philadelphia	Sept. 1, 1858..	94,043	170,400	493,383
Baltimore	Sept. 1, 1858..	96,805	217,076	251,288
Boston	Sept. 1, 1858..	3,667	———	8,920
Other Ports	Sept. 1, 1858..	54,411	128,597	3,920
Total to Sept. 1, 1858,		1,295,430	6,550,643	3.317,802
To about same period, 1857,		849,600	7,479,401	4,746,278
To about same period, 1856,		1,641,265	7,956,406	6,731,161
To about same period, 1855,		175,209	324,427	6,679,138
To about same period, 1854,		1,846,920	6,038,003	6,049,371
To about same period, 1853,		1,600,449	4,823,519	1,425,278
To about same period, 1852,		1,427,412	2,728,442	1,487,398
To about same period, 1851,		1,559.584	1,496,355	2,205,601
To about same period, 1850,		574,757	461,276	4,753,358
To about same period, 1849,		1.137,556	1,140,194	12.685.260
To about same period, 1848,		182.583	241,309	4,390.255
To about same period, 1847,		3,155,845	4,000,359	17,157,659
Total for 12 years		15,316,639	43,240,334	71,628,530

To the Continent.

	Flour, bbls.	Wheat, bush.	Corn, bush.	Rye, bush.
From N. Y., to Sept. 1, '58.	126,186	237,953	10.818	13,100
From other ports to latest date,	176,914	152,475	6,030	——
Total to Sept. 1, '58,	303,100	390,428	16,848	13,100
Total to Sept. 1, '57,	483.344	2,875.653	513,590	216,162
Total to Sept. 1, '56,	748,408	2,610.079	282,083	1,975,478
Total to Sept. 1, '55,	7,763	4,972	308.428	35,569
Total to Sept. 1, '54,	791,028	1,904,893	90,556	318,880

COMPARATIVE COTTON CROP STATEMENT—35 YEARS.

1857—8..3,113,962	1845—6..2,100,537	1833—4..1,205,394	
1856—7..2,939,519	1844—5..2,394,503	1832—3..1,070,438	
1855—6..3.527,845	1843—4..2 030 409	1831—2. 987,477	
1854—5..2,847.339	1842—3..2,378.875	1830—1..1,038,848	
1853—4..2,930,027	1841—2..1,683,574	1829-30.. 976.845	
1852—3..3,262,882	1840—1..1,634,945	1828—9.. 870,415	
1851—2..3,015,029	1839-40..2.177,835	1827—8.. 727,593	
1850—1..2,355,257	1838—9..1.360,532	1826—7.. 957,281	
1849-50..2.096,706	1837—8..1,801.497	1825—6.. 720,027	
1848—9..2,728,596	1836—7..1.422.930	1824—5.. 569,949	
1847—8..2,347,634	1835—6..1,360,725	1823—4.. 509,158	
1846—7..1,778,651	1834—5..1,254,328		

RECEIPTS OF COTTON AT SEA PORTS.

At	1858.	1857.	1856.
New Orleans	1,576.409	1,435 000	1,661.433
Mobile	532,364	503,177	659 738
Texas	145.286	89,882	116,078
Florida	122,351	136,344	144,404
Georgia	282,973	322.111	389.445
South Carolina	406,251	397,331	495,976
North Carolina	23,999	27,147	26,098
Virginia	24,705	23,773	20,458
New-York, overland	3,363	2,022	2,086
Philadelphia, overland	3,275	1,236	7.938
Baltimore, overland	2,986	1,406	4,191
Total crop in bales	3,113,962	2,939,519	3,527,865

NEW-YORK LIVE STOCK MARKET.—The Cattle Markets have been very largely supplied during the past four weeks—more so than at any similar period since November, 1856, when the receipts scarcely varied from the present figures. Of course prices have ruled low. Receipts for the four weeks ending Sept. 15, are 19,482, or a weekly average of 4,870, while the weekly average of all last year was but 3,334. Receip's and prices varied as follows: Aug. 25, 4,161 head, a shade higher; Sept. 1 5,040, ¼c. lower; Sept. 9, 5,778, (the largest we have ever known), ¼@¾c. lower; Sept 15, 4,503, rates unchanged. Prices, Sept. 15, were: First quality, 8¼@8½c.; medium, 7¼@8c.; poor, 6@7c.; poorest, 5@6c; average price 7¼@7½c.

SHEEP AND LAMBS.—Receipts for the past four weeks 51,900, which varies but little from last month. Prices are about as four weeks ago, or 3¼@4c. per lb gross; good Lambs are worth 4¼@5¼c.

HOGS.—Arrivals have been heavy until the past week Receipts for the past four weeks 39,518. Prices ruled low until the 15th, when lighter receipts and cooler weather advanced corn-fed to 5@5¾c.; and still-fed to 4¼@4¾c. gross.

THE WEATHER has been fine during most of the past four weeks, and very favorable for the ripening of late crops. There were one or two slight frosts in some low places, but nothing in this vicinity to injure vegetation.—Our WEATHER NOTES read: Aug. 24, clear and cool: 25 and 26, fine clear weather; 27, cloudy and light rain; 28, fog A. M., heavy rain P. M.; 29 to 31, clear and mild; Sept. 1, clear and warm, showers at night; 2, clear and fine; 3, cloudy with high wind, and rain at night; 4 to 10, clear, fine and warm; 11, rainy day; 12 to 14, clear and chilly; 15, cloudy, with rain at night; 16, rain A. M., clear P. M.; 17 and 18 clear and cool; 19 to 21, fine, warm, and pleasant.

☞ **The actual circulation of the Agriculturist to regular subscribers, is believed to be much larger than that of any other Agricultural or Horticultural Journal in the world.**

WHEELER & WILSON'S SEWING MACHINES.

NEW AND VALUABLE IMPROVEMENTS.

SEND FOR A CIRCULAR.

Office 343 Broadway, New-York.

DIAGRAM OF THE LOCK STITCH

This is the only stitch that can not be ravelled and that presents the same appearance upon each side of the seam. It is made with two threads, one upon each side of the fabric, and interlocked in the center of it.

JENK'S KITCHEN PRESS—To press corned beef, tongue, and head-cheese.

It renders meat tender, expels the superfluous grease and keeps it juicy and in snug shape.

To press potatoes, squash, turnips, etc., renders them dry and mealy.

To squeeze oranges, lemons, or other fruit to make water ices, syrups, etc.

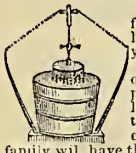
To squeeze currants, grapes and berries, to make jelly, wine, syrups, etc. Apples, to make cider.

To press roots and herbs to make extracts, tinctures, press curds, etc.

The most useful and economical article you can have in your kitchen.

Prices—5 inches $1 75. 6 inches, $2. 8 inches, $3.
Manufactured and sold by S. W. SMITH,
Sign of the Golden Tea Kettle, 534 Broadway.

THE METROPOLITAN WASHING MACHINE.



LADIES—It is nonsense and extravagance for you to wash or have your washing done by hand. Send for a Machine or a Circular, and you will say so too.

You will soon save the money in the saving of wear to the clothes—to say nothing of the pleasure of having your work better done with less than half the labor, and in less than half the time. We make them honestly, and don't exaggerate its merits—try us and see. Every family will have them where they are known.

LE ROY & CO., Hartford, Conn.
DAVID LYMAN, Middlefield, Conn.

Cane Mills and Distilleries.

GENERAL COPPER-SMITH WORK.

Distilleries of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills, syrup pans, skimmers, dippers, syrup guages and pumps, brewing apparatus, by steam or fire. JOHN W. REID, 11 Old-slip.

Pusey's GOVERNER FOR **Railway Horse Powers.**

Fig. 1.

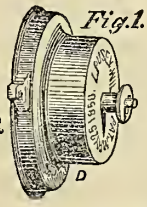
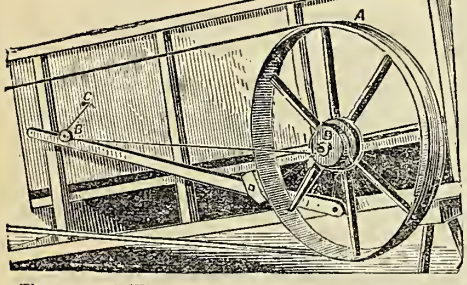


Fig. 2.



The above cut, (Fig. 1) represents the Governor separate, and Fig. 2 the mode of attaching it to the Power on the Fly-wheel, with the brake properly arranged.

Something new, cheap, durable, and efficient.

It operates on the brake of the Power, drawing it against the Fly-wheel when the speed is too fast.

It restrains the speed only when in excess, leaving the Power free at other times.

It does not prevent the brake being used by hand.

It is easily attached to the Power, suitable directions accompany each Governor.

It is not liable to get out of order.

It will afford the much needed security and regularity in sawing wood, shelling corn, &c. *And is certain to prevent a dangerous excess of speed when the belt breaks or flies off.*

Every intelligent Farmer who once sees it in operation will be convinced of the truth of the above, and will see in it that which will make his Power more safe and complete.

The serious accidents that are of frequent occurrence show the necessity of an efficient preventive, which this Governor is.

Call and see the Governor.

For sale at many of the H. P. Manufacturer's and Ware-houses. State and County rights for sale—an admirable chance for enterprising young men

For further particulars address the Patentee,

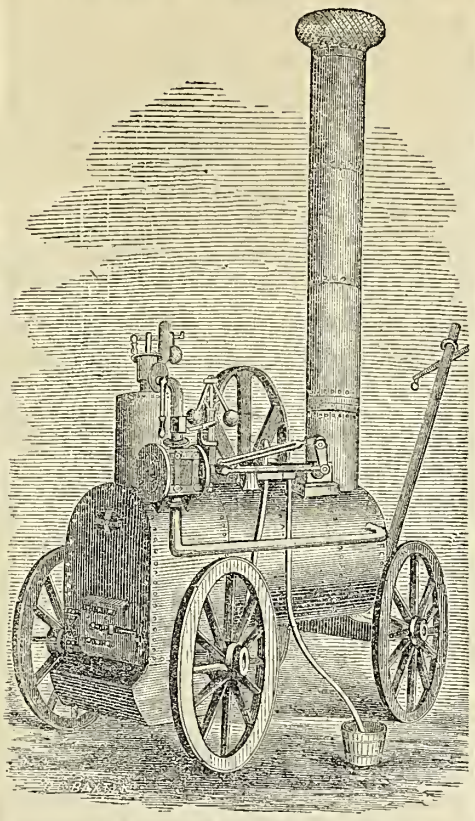
LEA PUSEY,
Of J. PUSEY & SONS, Wilmington, Del.

Catch The Tree Insects.

A NEW, SIMPLE and EFFECTIVE apparatus for catching all kinds of INSECTS, Canker Worms, Measure Worms, Aphides, &c., &c., has just been invented by Capt. Wm. W. Taylor, of South Dartmouth, Mass. The immediate home demand is now exhausting all that can be made, but arrangements will soon be completed to manufacture them fast enough to meet the wants of a wider demand. For further particulars address

WM. W. TAYLOR,
South Dartmouth, Mass.

Portable Steam Engines,



Built upon an improved plan, adapted to plantation work, Driving Threshers, Saw Mills, Pumps and agricultural purposes generally.

They are economical on fuel, very compact, and strong, easily managed, and readily moved from place to place. We build from 4 to 40 horse-power.

For prices and further information, address

HARLAN & HOLLINGSWORTH,
Wilmington, Del.

TO THE FARMERS, HAY DEALERS, AND PLANTERS OF THE UNITED STATES—INGERSOLL'S IMPROVED PORTABLE HAY and COTTON PRESS, combines greater power and portability, requires less labor, occupies less space, and costs less money than any other hand power machine for baling HAY or COTTON ever offered to the public. It has recently been much improved, and is warranted to give satisfaction.

We have numerous letters from those who have seen and used these presses during the past season similar to the following from Wm. Thompson, Esq., South Londondary, Vt., who writes Feb. 8, 1858, as follows:

GENTS: "I think your press, with the improvement you have made recently, will exceed anything of the kind yet got up, for it will press more in a day, with only two hands to work it, and do it easier, than any other press in New-England."

No. 1 Press—Weight of Bale 150 to 200 pounds.
No. 2 Press— " " 250 to 300 "

Presses constantly on hand and other sizes and for other purposes made to order. For further information call or address the

FARMERS' MANUFACTURING CO.,
Greenpoint, opposite New-York.

N. B.—The Brooklyn and Williamsburg City Cars run up to Greenpoint, and the New-York Dry Dock stages go to the Greenpoint Ferry.

EXCELSIOR FAN MILL

Will clean 60 Bushels of Grain per hour.

COMBINED POTATO DIGGER AND DOUBLE MOLD BOARD PLOW, will turn out from 10 to 15 acres per day.

HORSE POWERS AND THRESHING MACHINES, the best and easiest working powers in use.

CLOVER HULLERS with SEPARATORS.
SAW MILL AND SAW. DOG POWERS.
CIDER MILLS AND PRESSES HAY PRESSES.
CORN SHELLERS, HAY AND STALK CUTTERS, &C.

At Wholesale and Retail at the

NORTH RIVER AGRICULTURAL WAREHOUSE,
GRIFFING, BROTHER & CO.
60 Cortlandt Street,
New-York City.

Potato Digger.

This is a new and highly improved Implement, got up by myself, after *long experience of working it in the field.* It is by far the best thing of the kind in use. One man and a pair of horses will dig faster than twenty men can pick up. It throws all the potatoes, (even the smallest), clean out of the ground, and leaves them clear of dirt on the surface R. L. ALLEN,
191 Water-st., New-York.

PERKINS' Corn Husking Machine, $5 50. Agents wanted to solicit orders in every Town and County. Terms usually liberal. Address J. PERKINS & CO.,
West Killingby, Conn.

THERMOMETERS, BAROMETERS, &c., of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by D. EGGERT & SON, 229 Pearl st.

SCHOOLEY'S PATENT PRESERVATORY.

FOR PRESERVING MEATS, FRUITS, VEGETABLES, the products of the Farm and Dairy, and all perishable articles, WITHOUT DAMAGE from heat and moisture in SUMMER, OR COLD IN WINTER.

Invaluable for Farmers, Grocers, Butchers, Candle and Oil Makers, Hotels, Restaurant Keepers, AND IS THE BEST DAIRY OR MILK HOUSE IN THE WORLD.

Milk can be kept sweet for weeks in Summer, and Butter made with equal facility the entire season.

A MILK HOUSE on this plan can be kept at 41° the entire season, causing a perfect yield of cream, and the purest butter known.

For rights, plans, or estimates, apply to the undersigned.

H. C. Getty, at John Gehney's, West Street, New-York, is acting in the City of New-York.

J. L. ALBERGER,
Buffa'o, N. Y.

CAUTION.

All persons are hereby cautioned against using, making or vending any machines in violation of CHAS. W. CAHOON'S Patent for SOWING SEED and GRAIN BROADCAST, issued Sept. 1st, A. D. 1857, and re-issued on the 11th day of May last. Suits have already been commenced against A. Leach the assignee of Aaron Ring, for using and selling machines under the Ring patent; and also against the manufacturer of the Ring Machines. And any person who shall hereafter be found using or vending any of the Ring Machines, or in any way violating said Cahoon's patent, will be prosecuted immediately.

June 1, 1858. D. H. FURBISH, Proprietor.

D. H. FURBISH, Esq. BOSTON, May 21, 1858.

Dear Sir:—I have examined with care the model of a broadcast sower, deposited in the Patent Office by Aaron Ring, and am clearly of the opinion that machines made according to that model would be infringements of the Letters-Patent re issued to the assignees of Charles W. Cahoon, on the 11th of May instant. Yours respectfully,

GEORGE T. CURTIS.

D. H. FURBISH, Esq PORTLAND, June 1, 1858.

Dear Sir:—Having seen the machine of Aaron Ring in operation, I entertain no doubt of its being an infringement of the patent issued to C. W. Cahoon's assignees.

Yours truly, EDWARD FOX.

To Practical Farmers and Dealers in Fertilizers.

The ***NATIONAL FERTILIZER***, a modern compost, is prepared under the direct superintendence of L. HARPER, LL.D., formerly Professor of Analytical Chemistry and Agriculture in the State University of Mississippi, as also State Geologist. Its ***basis*** is the GREEN SAND MARL OF NEW-JERSEY, which is chemically combined with ***fish and pure animal bone.*** Letters Patent for this and foreign countries have been granted. It is unhesitatingly accredited ***superior*** to Peruvian Guano, strengthening the soil, and beyond the possibility of exhausting land where applied. ***The increase in the yield of plants and all cereals is largely augmented;*** while it supplies a ***continuous*** source of fertility. ***For sandy, barren and abandoned lands, and where other manures*** have failed, we ask but ***one trial,*** trusting ***solely*** upon the ***rare*** constituents which this Fertilizer abundantly possesses, and which are ***so wholly and peculiarly essential*** in an article of Fertility, such as is here ***reliably*** represented. We would beg the attention of Farmers to its use the coming Autumn for Winter grain, and to the fact that it has arrested ***the rot*** in potatoes ***after*** decay has commenced. Price per ton of 2000 lbs., $35. For all detailed particulars, analyses, directions and recommendations, apply or send to the office of ***The National Fertilizing Co., 37 Fulton-Street.***

JOS. C. CANNING, Agent, New-York.

We would distinctly give notice (as abortive imitations and attempted infringements upon our Patent have already been made) that we have ***no connection whatever*** with other Fertilizing Companies of ***any character or name.***

TO FARMERS, MARKET GARDENERS & OTHERS,

DRIED BLOOD AND WOOL MANURE.

I have recently introduced this new and valuable fertilizer, which after a thorough test is proved to be fully equal to the best Peruvian Guano in all respects. In some cases, where a change, or more permanent results are required, it is much better than Guano, while it is to be had for one half the price. It is peculiarly valuable for starting early crops, being active and stimulating as well as permanent in its effects. This Manure has been used in England for years with the highest success, and it needs only to be known among intelligent American Agriculturists to be fully appreciated here.

Besides the saving in cost and the increase of crop, there are two other great advantages of almost universal interest to Americans. It will keep the money at home which is now paid out to a remote foreign government; and it will disinfect the atmosphere of otherwise offensive matters, which are now suffered to pollute it and generate disease. By the mode of manufacturing, these materials are so combined as to render them entirely inoffensive.

Professor Jas. W. F. Johnston, of England, who is our best authority on this subject, gives 6 pounds of wool, or 8 pounds of dried blood, as fully equivalent to 100 pounds of ordinary farm yard manure, or to 50 pounds refuse charcoal from the sugar works, or ammoniated carbon, from which much of the superphosphate of lime is made.

MODE OF APPLICATION.—For Grass, 400 lbs. mixed with earth in a compost. For Wheat, Corn, Oats, Barley, Rye, Tobacco, Cotton, Sugar Cane, Flax, Potatoes, Turnips and other Roots, &c., 250 to 400 lbs. thoroughly mixed with soil.

Price $30 per ton of 2000 lbs packed in barrels of 200 lbs. each.

For sale in large or small quantities by R. L. ALLEN,
191 Water-st., New-York

ELIDE ISLAND GUANO

at $40 per ton of 2000 lbs. Farmers will find it to their advantage to try this valuable fertilizer. Send your orders early.

GRIFFING, BROTHERS & Co.
60 Cortlandt Street, New-York.

Bone Manure.

SAWINGS, TURNINGS AND CRUSHED BONES FOR Sale by the Manufacturers in large or small quantities.

A. LISTER & CO.,
Tarrytown,
Westchester Co., N. Y.

Contents for October, 1858.

PREMIUMS! PREMIUMS!!

We propose to make the next volume of the *Agriculturist* far superior even to the present one, in greater variety of topics, in more and better engravings, in short in *every* respect. We also desire to extend its circulation into tens of thousands of families where it is now unknown. To accomplish this, we offer to those who will assist in the work, the following premiums, which are certainly liberal, if the cost of the paper, and the low price at which it is furnished be taken into account.

☞ It will be seen that the Premiums in each case (except No. X) depend upon a given number of names, and not upon competition between unknown persons; so that every person knows exactly what he or she is working for.

Premium I.—A liberal distribution of *valuable seeds* will be made during next Winter, to ALL regular subscribers alike, whether single or in clubs, and whether received from agents, or otherwise.

Premium II.—We have 200 pieces of the genuine Atlantic Cable—each piece being *four inches* in length, with the ends secured by brass ferules. One of these will be presented to each of the first received 200 clubs of six subscribers at $5. (N. B.—Twenty-five cents extra must be sent to pre-pay postage on the Cable.)

Premium III.—Any person sending in a club of 10 subscribers at $8, may order a free copy of either Vol. XVI or Vol. XVII, which will be sent in numbers post-paid.

Premium IV.—Any person sending 15 subscribers and $12, will be entitled to 16 copies (that is one extra copy), for the coming year.

Premium V.—Any person sending 25 subscribers and $20, will be entitled to *both* Volumes XVI and XVII, sent in numbers post-paid. (N. B.—If $21 be sent, the two Volumes will be bound neatly in one cover, and forwarded post-paid.)

Premium VI.—Any person sending in $24 for 30 subscribers, one-third or more of them *new* ones, will be entitled to a *silver* cased Microscope, with the celebrated "Coddington lens"—the same as fig. 4. in July No., page 219. Price $4. (It will be safely packed and sent by mail, post-paid.)

Premium VII.—Any person sending $32 for 40 subscribers, (one-half *new* names,) will be entitled to the large *unabridged* Webster's Dictionary, containing 1,376 3-column pages—the best and most complete work of the kind in the world. Price $6. (It weighs 7 lbs, and can be sent by express or by mail at the expense of the recipient, after leaving the city.)

Premium VIII.—Any person sending in $80 for 100 subscribers, (one-half *new*) will be entitled to each of the six above premiums, numbered 1, 2, 4, 5, 6 and 7.

Premium IX.—Any LADY sending in $200 for 250 NEW subscribers will be presented with one of Wheeler & Wilson's best $100 SEWING MACHINES, new from the manufactory. Here is a fine chance. A less amount of labor than is often required to get up a "Ladies' Fair," if expended in two or three neighboring towns, or even in one large town, would secure 250 subscribers. We now send nearly 100 copies to single *country* Post Offices. There are few thickly settled towns where there are not 250 families who ought to be glad to pay $1 a year for such a paper as the *Agriculturist* is, and is to be next year. If the names are taken at $1 each, there will be $50 extra, for the trouble. We have put them at the lowest club price, 80 cents each. (Two or three ladies might work together and secure the premium, and own the Sewing Machine in common.)

Premium X.—If five or more ladies obtain Premium IX, the one sending the highest number above 250 subscribers, will be entitled to a $125 Sewing Machine—the working parts being the same as in the $100 instrument, but put into an extra case.

Premium XI.—The above premiums are for yearly subscribers. *All* names for 1859, (Vol. XVIII) will be entered upon the books from the time of reception to the close of next year; that is, those received before November 1st, will have the November and December numbers of this year free; and those received during November will receive the December number free. ☞ This applies to all subscribers, single or in clubs, from agents, or from Agricultural Societies.

Remarks.—It will be noticed that any person trying for one of the higher premiums, and failing to get names enough, can still take one of the lower ones, according to the number of names obtained

Every person collecting names for premiums can send them in with the money as fast as received; but if designed for premiums, a double list of the names should be sent, one of them marked at the top, "For premiums," and with the name of the sender. These duplicate lists will be kept on file by themselves to be referred to in making up the premium lists, when any person has completed sending in names for Volume XVIII.

We do not set any time for the completion of the lists, it being understood that these premiums are only for subscriptions for volume XVIII (1859), whenever received. The premiums will be paid as soon as the names are received.

☞ Our offer of extra numbers to those subscribing now, renders it practicable to begin the canvassing *at once.*

The Market Review and Weather Notes.

These are very valuable, though necessarily given in a condensed, concise form, and in small type. It will be seen that they involve great care and a large amount of labor. They are prepared for the *Agriculturist* by a gentleman who has for many years devoted his whole time and attention to this special department. The *tables* given in this month's report will be found valuable for reference, both now and in after years. The *Weather Notes* in the successive numbers give a record of the weather for every day in the year.

Agricultural Editorial Convention.

This proved more of a success than we had looked for; indeed we hardly expected that over half a dozen would be able to get together at this busy Exhibition Season, while nearly three times that number were here. A brief report, all we have space for, will be found on page 291.

The Pomological Report, on pages 314-15, will be found valuable, as it contains the list of fruits recommended for general cultivation, and those promising well, in the opinion of the most prominent association in the country. It will be well to preserve this list, as it will only be found, elsewhere, in the published transactions of the Society, which will be printed, hereafter, chiefly for the members.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

ORANGE JUDD, A. M., EDITOR AND PROPRIETOR. | ESTABLISHED IN 1842. | $1.00 PER ANNUM, IN ADVANCE. SINGLE NUMBERS 10 CENTS.

VOL. XVII.—No. 11.] NEW-YORK, NOVEMBER, 1858. [NEW SERIES—No. 142.

☞Office at 189 Water-st., (Near Fulton-st.)

☞For Contents, Terms, &c. see page 352.

American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of Uniform size, and contain as nearly as possible the same Articles and Illustrations. The German Edition is furnished at the same rates as the English.

November.

"And is there found a wretch so base of mind,
That woman's powerful beauty dares condemn,
Exactest work of Heaven? He ill deserves
Or love, or pity; friendless let him see
Uneasy, tedious days, despised, forlorn,
As stain of human race; but may the man
That cheerfully recounts the females' praise,
Find equal love, and love's untainted sweets
Enjoy with honor." PHILIPS.

We are far from supposing with the poet, that woman's position upon the farm, as described last month, is owing to any special depravity developed by rural life. Facts warrant the belief, that the tone of morals is higher in the country than in the city. It is as much the result of inattention and ignorance as of any rural cause, and woman is oftentimes as culpable as man for her position. It can hardly be expected that the young husband, after the romance of courtship and the honeymoon is over, will be more thoughtful of her welfare than she is herself; or, that he will assign her a place in the household that she has no conoeption of, and that she is not prepared to fill.

In a new country, like our own, where the great majority are intent upon the struggle to live, it is not strange, that many grave errors are committed. Woman is oftentimes as much concerned in this struggle as her husband, and is quite as ambitious of bearing her full share in the burden of achieving a pecuniary independence. In the great majority of cases, the young farmer and his wife begin life poor. They have not capital enough to purchase and stock the land they cultivate. They must incur debt for a part of both these objects, and the farm is mortgaged to give security to the capitalist who accommodates them. The most they can hope for, with the blessing of Providence, is, to raise this mortgage by the time they reach middle age. They have stout hands and strong hearts, and with a prospect of enjoying a competence at no distant day, they are willing to work.

The young wife and mother knows, that success in life depends quite as much upon her good management in the house, as upon her husband's on the farm. She is willing to assume great responsibilities, to overtask her powers for the attainment of the common object—a home free from debt. This willingness to peril health and life, social cultivation and enjoyment for wealth, is common to all pursuits in our country. We do not regard it, then, as any indication of want of affection on the part of the farmer, that the wife and mother in his home is overtasked with the drudgery of procuring a living; that her energies go more for the development of muscle than to the cultivation of the higher graces that adorn the female character. If she is too much a mere servant, so is he. If she uses her mind too little in the great work of life, so does he. They both have imperfect views of economy, and need a stronger faith in their capacity to *direct* labor, and make it pay.

This, we imagine, is to be the beginning of the improvement of woman's condition upon the farm. She must understand her position in the family, and define the limits of her own peculiar work. One woman can not do everything that needs to be done in the household. Beside the ordinary duties of housekeeping, the farmer's wife, oftentimes, has superadded the dairy, which is legitimately a part of farm business, and ought to be made to pay for its own labor. It will, if properly managed, and the woman who has upon her mind the cares of a growing family should be relieved from this drudgery, as much as from the labors of the hay-field—at least, in a great majority of cases. If it is economy to have all the help that is needed in the field, it will pay quite as well to have help in the milk and in the cheese rooms. No course, in the end, is found to be so expensive as the overtasking of the physical powers. Whatever needs to be done in the house or the field, will pay for all the labor required to accomplish it. Labor bills never impair a man's fortune so seriously as doctors' bills.

As upon the farm, so in the house, every advantage should be taken of labor-saving expedients. These are already numerous, and constantly multiplying. The corn-sheller, in a brief time, will do up the work which once required a whole week of Winter evenings. The thresher accomplishes, in a day, the labor of weeks. The mower and reaper is equal to a half dozen men in the field, in the busiest season of the year The husbandman who attemps to do without these improved implements, will find himself distanced by his neighbors. They will grow their crops cheaper than he can, and crowd him out of the market.

In the single invention of the sewing machine, mechanical skill has probably done as much for the relief of household toil, as it has done for the labors of the field, in all its inventions combined The drudgery of the needle is painfully felt, for it comes after other exhausting toils, and is always present to fill up any moment that might otherwise be taken for the recreation of body or mind. The sewing in a family is always a great burden, and presses its thousands into the grave, every year The want has long been felt, and has occupied the inventive genius of the country for a score of years. The amount of inventive talent concentrated upon this object may be judged of by the fact, that some two hundred patents for sewing machines have been issued within the last few years. Some of them fulfill all they promise, do the work of twenty sewing girls, and cost nothing for board and clothing. They never tell tales out of the family, are always modest and well-behaved, and bear any amount of hard work without breaking down. Such an institution is a godsend in any family, and, without doubt, is destined to do a great work for the elevation of woman upon the farm, as elsewhere. It would immediately relieve one of her greatest burdens, and give her opportunities for that recreation, and social cultivation, which, alas! to multitudes never come. This friend in need is now within reach of almost every thriving farmer in the community, and while he is availing himself of everything that saves labor in the field, he should tenderly consider the wants of his helpmeet in the house. A small expenditure here will give her fresher health, more cheerful spirits, brighter children, a happier home, and a longer lease of life. We are sad to think that this friend will come too late to multitudes who are sinking under the burden of life.

There are other improvements in the wash-room and kitchen, important in their places, that should have the farmer's consideration. If he would practice a true economy, he must think more of his wife, *as the mother of his children*, and as a member of society, and must so plan her household industries that her great life-work shall not be sacrificed. "A wise woman buildeth her house," says Solomon. The materials for that superstructure are to be gathered, in part, from abroad. She has a social life to be fostered, for herself and for her children, and her skill as an architect in the home structure will very much depend upon the freedom and fulness of this social life. She must have the command of her time to do her work in the best manner, and to throw around her fireside those charms which shall make husband and child home-sick for her society, wherever they go.

We are glad to know that this work is more and more appreciated in the rural homes of our happy country. We hail with joy, every invention that relieves her burdens and ameliorates her condition. Let the husbandman avail himself, to the fullest extent, of everything that contributes to the happiness and elevation of his social life. We offer these suggestions as appropriate to the return of our only social holiday—Thanksgiving.

Calendar of Operations for Nov. 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, earlier for the North, later for the South.

This table will be much fuller, and more important, during the planting season when there is a greater variety of work to be done.

EXPLANATIONS,—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated; thus, work marked *fm*. indicates that it is to be attended to from the *first* to the *middle* of the month.]

Farm.

If the operations calendared last month have been well attended to, there is now little left for the Northern farmer to do in order to be prepared for Winter frosts and snows, which generally come on in November or before. In the Middle sections farmers are still busily engaged in husking corn, taking care of the fodder, harvesting root crops, threshing grain, collecting manure and underdraining wet lands. Further South, frost has not yet made its appearance, and the ripened crops of Cotton and Sugar cane are being harvested, and the busy season of "Sugar boiling," is about commencing.

Fattening animals, in all latitudes, should now receive much attention to prepare them for early slaughter.

Buildings of all kinds that were not closely inspected last month should be looked to now, and made storm and cold proof. Painting may very properly be done at this season. See directions of last month.

Cabbages will mostly need housing, or burying with roots up, m, l. See article.

Cattle are now receiving most of their food from the barns, and should not be stinted at the commencement of Winter. Use a straw or hay cutter, that nothing be wasted. Allow no cabbage or turnip tops to decay upon the ground. They make good feed for cattle. Fatten those animals intended for beef as early as possible, before cold weather comes on. Let all animals be housed during cold nights.

Cellars continue to receive important stores. Arrange the fruits, roots and vegetables in a neat convenient manner, and keep the atmosphere dry and as cool as can well be maintained without danger of frost. Apples especially need a cool airy cellar.

Cisterns for house or barn purposes may now be built, ff, m, if not already done.

Corn—Harvest and husk the remainder as early as possible—before hard freezing. Save seed as directed last month if omitted till now.

Draining is always in season, when the ground is not frozen or wet, until all swales, swamps, or low grounds are made the most productive portions of the farm.

Forest Leaves—Collect a large quantity for present use in the yards and stables, and also to dry for Winter bedding. Besides furnishing the elements of an excellent manure, they make a better absorbent than straw.

Grain—Thresh any omitted last month, and carefully save the straw for feed and bedding. See that vermin do not prey upon it in the bins.

Hedges—Plant, ff, m, if the soil is dry; otherwise leave till Spring.

Hogs—Pay particular attention to their fattening, ff, m. Have them ready for killing before the cold weather, when they take on fat slowly. Allow the male to run with breeding sows, ll, if early pigs are wanted. See article on killing hogs on a subsequent page.

Horses and Mules—Feed with cut hay and straw, adding a little meal or carrots. Have them well shod as icy weather approaches, at the North.

Ice Houses—Construct, f, m, so as to receive the first well formed ice. Descriptions will be found on page 251, Vol. XVI.

Manures—Resolve to make a large portion of your own for another year, rather than pay away money for an imported article. If you have no muck, marl or peat deposit upon your own land, buy the privilege of digging upon a neighbor's premises. Keep the hogs supplied with turf from the road sides, and leaves from forests. Look about for a manufactory of some kind and see if there is not a heap of manure going to waste—wool, bones, offal, fish, hides, leather, ashes, lime, tan-bark, &c., are all capable of being composted and applied to the soil with advantage. See articles elsewhere.

Muck—Keep yards, stables and pens well covered with it, and provide a large heap for Winter use.

Permanent improvements may now be made to good advantage while waiting the approach of Winter. A few rocks need sinking or blasting, and stumps taking out. Stones may be picked up and laid into permanent fences, hedges cleared up, &c. These labors can profitably use up all the spare time.

Plow heavy lands before the ground freezes, thus turning up the soil (and grubs) to the influence of frost. Stiff clays are better left in ridges for the frost to act upon the sides.

Potatoes are supposed to be in the cellar or pits before this. Keep from the light and air as much as possible, and as cool as they will bear without freezing. Pack Sweet varieties in *dry* sand, if kept in the cellar. See directions of last month relative to burying them in boxes.

Poultry—Provide them with warm quarters for Winter. A barn or other cellar where they can have gravel to scratch in is desirable, allowing them access to the sun. Give them animal food, refuse meat, with boiled potatoes and raw cabbage. Keep roosts clean and neat.

Schools are about commencing for the Winter, in many places. Have the out door work in condition to spare the boys at the *beginning*, to take their places at once in classes.

Sheep are still grubbing upon the hills and pastures, but need some feed, m, ll, at night. Keep them in good flesh to begin the Winter with. In mild climates, where early lambs are desired the buck may be turned with them, f to l. Allow about five months for gestation.

Stack Yards—Instead of making them *cattle yards*, save time, labor, and your reputation for humanity, by carting the contents to the barn to be fed under cover.

Stone Fences may be built as long as the ground remains open.

Sugar Cane—Cut, ff, any remaining and complete manufacturing into sugar or syrup before hard freezing.

Tools—Put away, under cover as directed last month, as fast as they are out of use. Keep them collected each night, especially where there is danger of snow.

Turnips and Carrots—Dig the remaining crop, m, ll, or earlier if the ground is liable to freeze. Store in cellars, or make pits for them, as directed on page 203 of last volume.

Water pipes—Give an extra covering, ll, where there is danger of freezing.

Winter—Provide early against all its wants. If produce is to be marketed it is often better to do it now while the traveling is good. Some of the Fall work perchance is not done—don't let Winter find you "napping." Have the oxen and horses sharp shod and sleighs and sleds in readiness for snow traveling.

Winter Grain—Permit none of it to be eaten off at this season. The late growth is needed for protecting the roots. See that no water stands, or can stand upon the field.

Wood for fuel, especially "down stuff," may be collected and piled this month, much better than after a covering of snow. Pile it convenient to load upon a sled.

Orchard and Nursery.

Unless set out last month, the earlier the orchard is now planted the better, if it is to be done this Fall. See remarks on planting, page 305 October *Agriculturist*.

In the nursery the busy season of selling, taking up and resetting small trees and shrubs still continue.

Apples and Pears—Gather late fruit with care and lay away for Winter keeping, ff, m. Set out rows of trees by lanes, roads and about yards at the same time. They furnish both shade and fruit. Plant seeds for nursery stock, f, m, or put in boxes of earth until Spring.

Cherries—Plant, ff, m, both standard trees and any pits not previously used for seedlings.

Cider—Complete making. ff, m. See directions on page 274. Sept. No.

Insects—Unless the borers were vanquished last month, attend to them, ff. Full directions have already been given.

Manure, plow and subsoil, or trench, underdrain if needful, and otherwise prepare grounds for Spring planting, either as orchards or nurseries. Spring will bring with it sufficient labor even when all is done now that can be.

Mice—Do not forget the mischief they have sometimes done. Avoid it this season by clearing grass and weeds from the trunks, hanking up with earth, using lime or ashes, and in particularly exposed situations, cover a foot of the tree at the surface with closely fitting bark, oil cloth, or sheet lead. Where mice are abundant use *poison*, traps, or cats to thin their numbers.

Nursery—Prepare early for Winter, and after the season of sales is over, go through with a plow and turn furrows *towards* the rows of trees thus opening drains to carry off surplus water. Now is a good time to transplant young trees from the seed bed to nursery rows. See that no mistakes are made in sending out trees; that they are carefully taken up, correctly labeled, and properly packed. Extra care in this respect will save you *vexation*, which is the only guarantee of future success.

Orchards of old trees should receive due attention to prolong their usefulness as much as may be, or until the younger trees come into bearing. Scrape off the moss and rough bark, dig about and manure the roots, pruning the tops at a proper season and you give them a new lease upon life for which they will amply repay you.

Pruning may be done at the South. Mid-summer is a preferable season at the North.

Quinces—Gather before freezing, and lay away carefully if for keeping. Plant trees, ff, m.

Scions—Cut at any time during the month, when not frozen, and bury in dry earth, either out doors, or in the cellar.

Seeds of Apples, Pears, Quinces, Plums, Cherries, Peaches, and the various nuts and hard shelled seeds—if not already in, plant, ff, m, as directed last month.

Tender Seedlings, especially evergreens, need some protection in the nursery. Sift in dry sand to protect the stems, and cover with forest leaves, straw, or evergreen boughs, for the first Winter.

Transplanting generally, both in orchard and nursery, should be industriously prosecuted ff m

Kitchen and Fruit Garden.

The gardener's chief attention is now directed to saving and marketing the remaining crops.

Asparagus beds will be benefitted by giving a good coating of coarse manure, or litter from stables, m, ll. This enriches the soil and also protects the roots. Make new beds, f, m.

Bean and Hop Poles—Collect all of these, m, ll, and house for another season.

Beets bear but little freezing. If still in the ground, harvest, ff.

Blackberries do best planted early, although they may be set as long as the ground is open.

Cabbages and Cauliflowers—Harvest the late crop, m, l, or before hard freezing. Cauliflowers not headed will often form heads when transplanted to a cellar. Set remaining plants of both in the cold frame, ff; airing well during mild weather. Cover with mats or straw before hard freezing.

Celery—Unless very frosty continue to earth up late crops, ff, harvesting and putting in trenches as severe weather approaches.

Cold Frames will need filling, ff, with the remaining plants requiring Winter protection, such as recent sown cabbage, cauliflower, spinach, lettuce, radishes, etc. See that they are set so as not to touch each other, and keep them uncovered whenever the weather is not freezing, especially until they are accustomed to the change. Cover with boards or glass during frosts and spread mats, or straw over, before hard freezing.

Compost and Manures for Spring use—Prepare a good supply as opportunity offers.

Corn Salad—Thin, keep free from weeds, and cover lightly with straw, m, ll.

Currants and Gooseberries—Plant, ff, m. Prune old bushes at the same time, if not done last month. Make cuttings and plant at once or bury in the cellar, or open ground until Spring. Remove a portion of the earth from bushes preyed upon by insects and replace it with distant fresh soil and compost. The larvæ will thus be destroyed or hatch where they will do less injury.

Drain and trench stiff heavy soils, to facilitate early working in Spring. They may be planted a week earlier, if thoroughly drained.

Figs—Bury as Raspberries, or cover with mats or evergreen boughs.

Fruit Trees—Plant on borders and about the yards, ff, m, as noted under "Orchard."

Grapes—Prune old vines, ff, saving cuttings for Spring planting. Lay tender varieties upon the ground and cover with earth or litter. Even Isabellas and Catawbas are better laid down than exposed upon the trellis to all the sudden changes of Winter. Set out roots, ff, m. See articles on following pages.

Lettuce sown the latter part of September will need transplanting to cold frames, ff. Air daily in mild weather.

Mice—Allow no brush, weeds or rubbish to afford harbors for these. Set traps or introduce poison into the cold frames if they make an entrance there.

Mushroom Beds may still be made, ff, m, in the cellar, or under cover. Examine former beds, protecting those in the open air from frost.

Parsneps—Dig and bury in the cellar only what are wanted for Winter use or market. The Spring crop is better left in the ground.

Raspberries—Transplant and set out new plantations, ff, m. Lay down and cover tender varieties before the ground freezes, cutting out any old canes and shortening in long shoots at the same time.

Rhubarb—Plant, ff, m, instead of leaving until Spring. A covering of coarse manure will protect the roots from sudden changes and give them an earlier start in Spring. Take up a few roots and put in the cellar for early forcing in a hot bed or green-house.

Roots and vegetables should be perfectly dry when put in the cellar, and be kept from the light as much as possible. A covering of mats or straw spread over the bins will assist in keeping them fresh. Ventilate the cellar when practicable.

Salsafy—Treat in all respects as Parsneps.

Seeds—Save the remaining late kinds and clean out those already collected. Label and mark the date upon each kind and put in a dry place out of reach of rats and mice.

Spinach—Cover with straw or sedge, m, l, previously thinning and weeding. It Winters much better when well thinned out. Allow no water to stand upon the ground.

Squashes—Remove to a cool dry cellar before they freeze. Handle with care, and if properly managed they will keep till January or February. Save seeds of the best specimens for planting.

Strawberries *may* still be set out, ff. Clean and thin out old beds previous to covering with coarse manure, straw or forest leaves, m, l.

Tools—Repair any needing it previous to putting away for the Winter. A tool-house or room is a necessary apartment for the garden.

Turnips—Harvest as directed under the "Farm."

Flower Garden and Lawn.

As cold weather approaches the remaining tender plants will require housing or out door protection, and the grounds should be put in a neat condition, that they lose not all of their attractiveness during the "dreary Winter."

Annuals—Some of the more hardy kinds sown in Sept. and Oct., will now require a slight covering of leaves or evergreen brush. A few may still be sown, ff.

Bedded Plants—Lift and take to the houses, ff, before they are injured by frosts.

Bulbs should all have been put in last month. Plant, ff, any remaining. A covering of straw, coarse manure, tan-bark, saw-dust or leaves, spread over the beds will cause a finer bloom next season, especially of ranunculuses, anemones, and hyacinths.

Carnations—Layers may now be potted and taken to houses or pits, f, m.

Chrysanthemums—Many of these like "the last rose of Summer, are blooming alone. All their lovely companions having faded and gone." With the exception of a few asters, they are about the only bloom unkilled by the frosts. Keep neatly tied to stakes. Divide and reset, m, ll.

Dahlias and Gladiolas—Take up as soon as killed by frosts, remove the tops, labelling and packing away in dry earth or sand, secure from freezing.

Daisies—Cover, or otherwise protect, m, l. See article on a following page.

Dielytra Spectabalis—Divide and reset roots, ff, m, in preference to leaving until Spring.

Flower stalks and rubbish of all kinds should be removed from the grounds; walks, beds and lawn raked, that clean, neat premises may welcome the sight at all times.

Frames and Pits—Place the remaining plants requiring protection in these, ff, m, and secure them from freezing by extra covering as severe weather comes on.

Hedges—Plant buckthorn, althea, privit, acacia, &c., ff, m.

Lilies -Transplant, ff, m, any requiring it, dividing the roots or bulbs.

Manures will be wanted in the Spring. Procure or manufacture them at this season.

Pæonies, foxglovcs, hollyhocks, and other perennials may be divided and reset, f, m.

Roses—Plant hardy varieties, ff, m. Low growing, tender sorts may be bent over and covered with earth as a Winter protection, or potted and taken to pits or houses.

Shrubs—Plant, ff, m, those varieties alluded to last month, unless they were attended to at that time.

Stakes and Dahlia Poles—Collect and lay away under cover for future use.

Tender shrubs will require protection during this month. The more common plan is to straw them up, which perhaps gives them the nearest appearance. We rather dislike the pressure and lack of air when straw is used, and prefer small evergreens fastened around them.

Trees—Plant shade trees, ff, m, about the yards and lawns.

Green and Hot Houses.

These are now supposed to be full, and fire heat already in use for collections of tender and tropical plants. It is important that they suffer no check from a cool atmosphere, which is sometimes allowed between the waning heat of an Autumnal sun, and the starting of Winter fires. It is also presumed that water pipes are used to generate heat, as these, after numerous and oft repeated trials are almost universally decided to be the best. With the more hardy green-house plants fires need only be started when there is actual danger of frost inside the houses.

Air all of the houses as much as practicable. Half hardy plants recently carried to the green-house, especially need abundance of air while becoming accustomed to a change of situation. The more tender collections of the hot-house will need a frequent change of air, which, in very cold weather, must be admitted through the upper ventilators.

Annuals—Commence potting those sown last month, using pots of a blooming size.

Borders—Fork in manure, ff, covering with straw or litter at the same time, and bank up where necessary to exclude frost.

Bulbs—Pot a quantity and take to the green-house, to be brought forward from time to time for Winter blooming.

Cactuses—Keep cool and water sparingly at present.

Calceolarias and Cinerarias—Pot and shift for blooming.

Camellias are now in a fine growing state, and, where forced last month, are nearly ready to bloom. Place in a light airy situation and water and syringe more freely.

Crysanthemums in flower need frequent waterings and an airy stand.

Fires—Keep these as even as may be, both by day and night, in the heated apartments. Avoid starting them among the more hardy plants of the green-house unless frost is likely to enter. There is more danger from excess of heat when plants are first brought in, than after they have become accustomed to their situation. From 35° to 40° of heat is sufficient for the green-house, while forcing rooms need from 50° to 60°, and 75° with tropical collections.

Fuchsias—Cut back those which have been growing freely, to form a compact, bushy head. They should now be kept cool and moderately dry, and allowed a season of rest.

Grapes—This is a good time to prune, now that the growth is completed. Allow bearing vines to rest during November, even if they are to be forced to early fruiting.

Insects—Keep them down by syringe and with tobacco fumes. It is far better and much easier to keep them in check, than to exterminate them after they have got a strong foothold.

Ixias, Sparaxis and other bulbous plants require very little water at this season.

Pelargoniums—Shift to pots of a blooming size, watering moderately.

Pots and Tubs—Examine the soil and loosen the earth when necessary, removing weeds, and moss which are found growing. Change the surface occasionally, adding rich potting soil, manure, &c. Pick off any decaying leaves from the plants, prune where needful and arrange them on stands or shelves in a neat attractive order.

Roses—Keep most of them in the green-house, watering moderately at present. A few may be brought forward, pruned and forced for early blooming. Take in ff. any remaining out till now.

Soil for Potting—Have a large quantity mixed under cover, and in readiness for use.

Verbenas—Cuttings may still be made. Shift those intended for Winter blooming to pots of a larger size.

Water—As few of the plants are now growing rapidly, only moderate waterings will be needful.

Apiary for November.

BY M. QUINBY.

St. Johnsville, N. Y.

If the directions of last month were followed, there is little to be done in the apiary this month, further than looking around occasionally, to see that there has been no mistake made by leaving some stock for Winter that is unsuitable. But there are matters in the house to be finished up, such as straining honey, making wax, &c. The honey in the hives taken up last month, and not taken care of, should be attended to before it begins to candy in the cells, because after that it can not be strained without trouble in warming it. Mild or warm weather is best for this purpose. In taking honey from the hive, if the combs are not too old, the best pieces may be selected for the table. Combs near the top and side of the hive have the best bee-bread stored in them—the drone cells are usually entirely free. The inferior combs are near the middle and bottom, and are usually broken up and the honey drained out. In doing this, every cell should be broken, but avoid stirring it unnecessarily afterwards, as this might mingle too much bee-bread with it. It may be subjected to pressure, or simply laid on a wire, or colandar, or put in a cloth and suspended over a suitable vessel. Any particles of comb rising on the top are readily skimmed off. Honey exposed to extreme cold will become very hard, to prevent which, it may be scalded, or a very little water added and thoroughly mixed; a little less than a teacupfull to ten pounds is enough, if prefered hard, it may be made very nice, and come to the table in solid form, by standing in flat dishes a little more than an inch deep, and exposed to the air and extreme cold a few weeks. When only small quantities of wax are to be made, the pieces of old dry combs and that which remains after straining the honey, are put into a sack or bag of loose texture with a small stone to make it sink, and kept in a kettle of boiling water, frequently pushing it about, till the wax ceases to rise. It is skimmed off, remelted and cooled in any vessel that will conveniently hold it.

Apples Half Sour and Half Sweet.

A TREE NOT KNOWN BY ITS FRUIT, BUT ITS FRUITS.

To the Editor of the American Agriculturist:

I send you samples of apples from a tree in my orchard, which may be familiar to you, but are a novelty with us. There first matures a small, yellow apple, of mild, sweet flavor. In a week or two there is, on the same tree, a larger apple matured—one side of which is yellow and sweet, the other side green and decidedly tart.

Lastly, and later, there matures a larger apple, having something the appearance of the greening, which is sour and a good Winter apple. Thus we have three kinds from one branch.

JOHN DUNNING.

Beemerville, Sussex Co., N. J.

REMARKS—We received the above letter after making up the pages where it properly belonged, and therefore insert it here, as it is a matter of no little interest. We have often heard of apples half sweet and half sour, but always supposed there must be some mistake We are no longer in doubt, for here we have, in the samples sent us, apples which are positively sour on one side, while the other side is as decidedly sweet We have also the apples entirely sour, and those entirely sweet, which exactly resemble the two sides of those half sour and half sweet. The sour apples are every way like R. I. Greenings, and the sweet apples resemble the old "August Sweet." The two parts of the compound apples are very distinct on opposite sides, in color and flavor, but run into each other at the division line, which is imperceptible, however. There is no external or internal mark to show where the sweet and sour portions join.

We further learn from the son of Mr. Dunning, who brought the above letter and specimens of apples, that scions taken from the tree, and grafted into other trees, have produced the triple varieties of fruit.

The above are the facts in the case. We have, as yet, no theory to advance to account for the phenomenon.

Flowers in Bloom, October 16.

Stepping into the garden before breakfast this morning, we were quite surprised at the number of flowers in vigorous bloom in the open ground, so late in the season. We noted down the names of several, which we will put on record here, as example of some kinds valuable for late blooming, and also for comparison with other years and other localities. Our list now in bloom embraces; Asters (China and German), Double Balsams, Canary-bird Vine (*tropœolum peregrinum*), Candytuft, Chinese Pink, Clarkia, Cockscomb, Dahlia, Escholtzia, Four O'Clock, Geranium, Yellow Hawkweed, Hibiscus, Scarlet Honeysuckle, Marygold, Morning Glory (of various colors), Nasturtium, Petunia, Portulacca, Phlox Drummondii, Scabious, Schizanthus, Sweet Pea, Sweet Alyssum, Tassel Flower, Thunbergia, Tuberose, Verbenia, Virginia Stock, Zinnia, etc. Is not this a sufficient variety for a garden houquet, gathered at this late date?

Grape Humbug.—A new and very valuable wine grape, said to be obtained by sending "two dollars" to a certain address in this city, has been announced by advertisements and communications admitted into certain agricultural papers *out of the city*. The thing we suspect to be a sheer humbug—at least we do not know anything about it; nor, after diligent inquiry, can we find any one hereabouts who does. Where is the advertiser? Who is he? Why has he not mentioned his grape to the papers *at home*, or exbibited it somewhere here? Why has he not responded to letters of *inquiry* sent to his advertised address? How many persons have sent in their "two dollars?" What returns have they received? *Verbum sap.*

Cranberries.—P. McLain. This subject was pretty fully treated of in our last volume. May is a good month in which to plant. Eastwood's "Cranberry Culture," (50 cents) is, perhaps as good a treatise as there is upon this subject, indeed it is the only one in this country, specially devoted to Cranberry Culture. The best work on fruits in general is "Downing's Fruit and Fruit Trees of America," new edition. Price $1 50.

The Hydraulic Ram Explained.

From frequent inquiries and conversations with different persons on the subject, we are convinced that this very useful, and we may say beautiful apparatus, is not generally understood, and, therefore, not appreciated. It may be used with decided advantage by a large class of farmers, and others, where a spring or running stream or brook is some distance below the level of their premises, or place where water is required for use, as by means of it a portion can be raised to almost any elevation with a very small head or fall. A plain description of its peculiar mode of operation will be interesting to all, even to those who have not the facilities for using one. We will therefore introduce some simple sketches and explanations, which will, we hope, be understood by even our youngest reader.

When any body is in motion, it acquires what is called a *momentum*, or force, which can never be instantaneously overcome. The amount of this momentum depends upon the *rapidity* of motion. Thus: a musket ball, though but a small thing, has sufficient momentum when in rapid motion to drive it through a thick, strong oak plank. So light a body as air, when moving with great rapidity—as in winds or hurricanes—has so much momentum that it will bend and break the largest tree which stands in its way.

Remark—*No body at rest can be instantaneously set into rapid motion, and no moving body can be instantaneously stopped.*

Water, when once in motion, can not be suddenly stopped. Suppose, for example, we have a lead pipe carrying water into a building. If we place a stop-cock exactly in the end of it, and when the water is flowing out rapidly, we sudden-

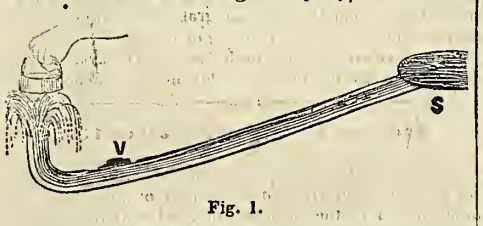


Fig. 1.

ly turn the stop-cock, the water, being in motion, will rush forward with such momentum as often to burst open the strongest lead pipe. To prevent such an occurrence, it is customary to let the pipe extend above the stop-cock, and keep the projecting part filled with air, which acts as a spring or cushion to *gradually* check the momentum of the water. If there be but little air above the stop-cock, the water will strike against the upper end with a *chug*, as it is often heard to do.

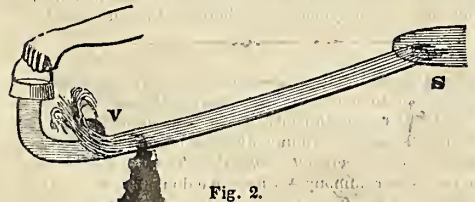


Fig. 2.

Figs. 1 and 2 will help to understand what we are aiming at. In *fig.* 1 we have water flowing from the spring, or pond, *S*, through the pipe, and out at the lower end. *V* is a valve held closed by a strong steel spring. When the water begins to flow rapidly, let the weight held in the hand be suddenly closed down over the open end of the pipe, as in *fig.* 2. The moving water being thus instantaneously checked in its course, its momentum will force up the spring-valve, *V*, and shoot out with great velocity for an instant, but the spring will *gradually* close down and stop the flow. The operation may be repeated by again raising and lowering the weight.

In *fig.* 3, we have a similar arrangement, but here we have a heavy metal impetus-valve, *i*,

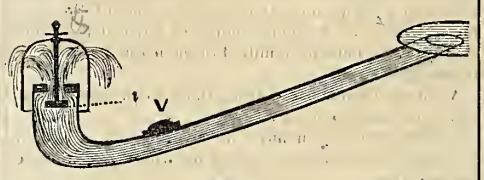


Fig 3.

upon the lower end of a rod which plays loosely through a ring above. When the water is at rest, this valve will fall down by its own weight, but as soon as the water flows out fast enough to carry up this heavy valve, it suddenly closes the opening above it, as seen in *fig.* 4. As in the former case, the water will now, by means of its momentum, drive open the spring-valve, *V*, with

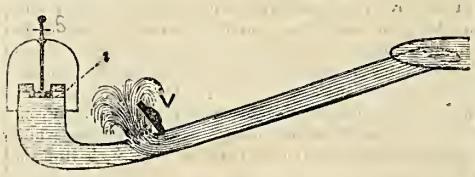


Fig. 4.

great force. But as soon as the velocity of the water has been slackened, or suddenly stopped, the valve, *i*, will fall of its own weight, and the water will rush out around it, until its velocity again lifts *i* to close the opening. It will readily be seen, then, that the floating valve, *i*, will continually rise and fall, the spring-valve, *V*, being forced open at every sudden checking of the current along the pipe.

Figs. 5 and 6 illustrate the same operation, with the addition of a receiving vessel, *A*, to catch the water forced out at *V*. When *i*, in *fig.* 5, is suddenly closed, as seen in *fig.* 6, the water is forced into the receiving chamber, and out through the small pipe extending upward from it. The great power or momentum acquired by the water in the large pipe, though it falls but two or three feet, is sufficient, when suddenly checked, to drive a portion of it through the valve *V* to a great hight. The greater the fall in the large, or *driving* pipe, the greater will be the velocity, and, consequently, the greater the momentum or the power with which the water will be forced through the valve, *V*.

But suppose the smaller upright *discharge*-pipe were made to fit directly over the valve, *V*. In this case (see remark above), the *rest* momentum of the water in the discharge-pipe would overcome the *moving* momentum of the water in the drive-pipe, and some portion of the pipe, say near *V*, would be bursted, or at least only a small quantity would be forced out of the discharge-pipe, and that only in spirts, corresponding with the rising and falling of the movable valve, *V*. This difficulty is completely and beautifully overcome by taking advantage of the elastic property of common air. Thus, the space, *A*, above the water, is filled with air. Every injection of water at *V* compresses this air; but owing to its elasticity it exerts a constant pressure upon the water, and forces a continuous stream out through the discharge-pipe.

In a single second the water of the large pipe may be started into motion by the falling of the movable valve, *i*—be stopped by its closing—and again set in motion.

The rapidity of this alternate opening and closing of the valve, *i*, will depend in part upon the amount of fall in the drive pipe, and in part upon the distance *i* moves up and down. This distance may be varied or adjusted at will, by a screw and nut upon the rod attached to *i*, which is turned up or down to allow it to rise a less or greater distance. We have omitted this part of the apparatus, and simplified its construction, in order to better show the principle of the implement.

These rams are usually made of iron, except the valves, which are made of brass; so that we cannot see the internal arrangement. When in action, there is a short flow of water out at *i*, then a sudden cessation, and a slight noise made by the closing of the valve, *i*, and an instant after, the falling of this valve, and a sudden flow of water; then a cessation again, and so on—at each stoppage of the water a portion of it being forced into *A*, as when a wave dashes against a rock, a portion of it is thrown higher than the crest of the rock.

Practical Suggestions

It will be seen that a slight fall of water in the drive-pipe, sufficient to give some degree of motion is all that is needed to render the Hydraulic ram available. Two feet fall, or even less will drive one of them, if the moving valve, *i*, be well constructed and adjusted, the latter being an easy matter.

The drive-pipe should be from 25 to 50 feet in length that it may contain a sufficient body of moving water to produce the required momentum.

The drive-pipe needs to be larger than the discharge pipe, as the former conveys not only the water discharged above, but also that wasted at *i*. The relative amount of water wasted and carried into the discharge pipe will depend upon the hight it is to be carried, the fall and consequent velocity of the driving steam. The greater the velocity, the quicker will *i* be raised, and the greater will be the momentum force exerted through the valve *V*. The *length* of the discharge pipe also affects the amount of water forced through it, as there is more or less friction against its sides to be overcome. This friction would of

Fig. 5.

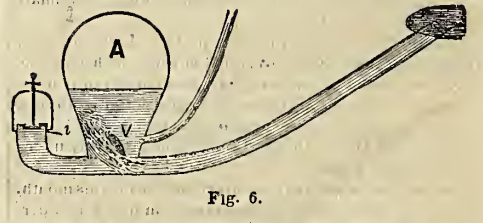


Fig. 6.

course be less in pipe carried directly up 30 feet, than if the pipe extended 1,000 or 1,500 feet in rising to that hight.

Example.—If the discharge pipe be 800 to 1,000 feet long, about *one-seventh* of the water will be carried *five* times as high as it descends in the drive-pipe. Thus: 7 gallons of water falling 3 feet in the drive-pipe, would carry up 1 gallon 5 times 3 feet, or 15 feet *high*; the other 6 gallons being wasted. If the fall be 12 feet, 7 gallons will carry 1 gallon 5 times 12 feet, or 60 feet high. And so for any amount of fall, multiplying the fall

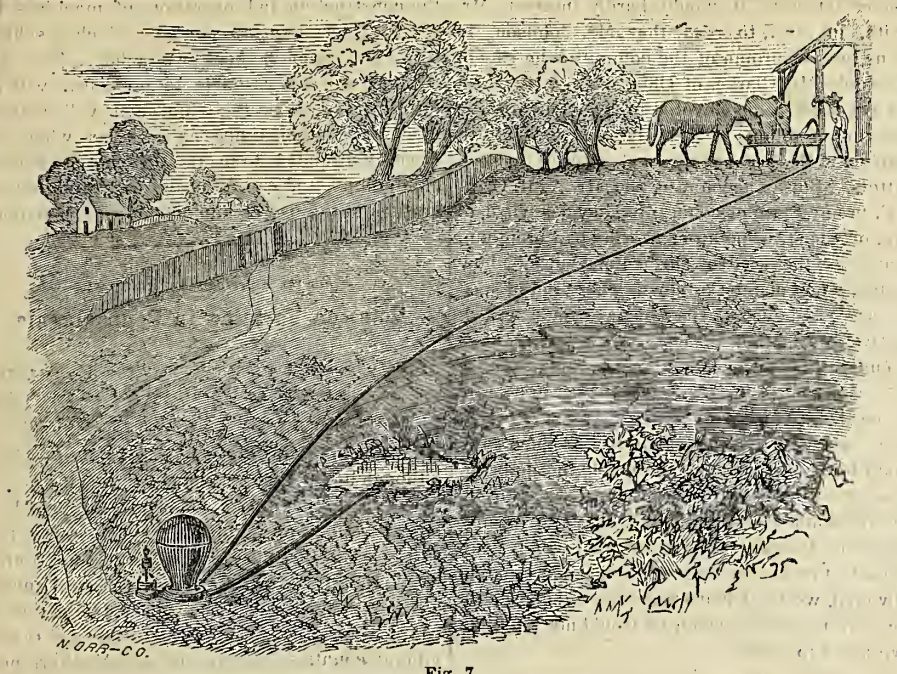


Fig. 7

by 5 for the hight, and take one-seventh of the water as the amount to be discharged. Of course, with a discharge pipe of only 200 or 300 feet in length, but carried to the same hight, the greater would be the proportion of the water conveyed upward. In like manner, the amount of water discharged will be greater if it be carried up less than 5 times the amount of fall in the drive-pipe.

For great distances the larger the discharge pipe, the less will be the friction against its sides to be overcome.

The drive-pipe should not exceed 50 feet in length, as the whole body of water within is to be set in motion and brought to rest at every motion of the valve *i*. It is desirable to have it at least 20 or 25 feet long, to give sufficient momentum.

When the supply of water does not exceed 2 gallons per minute the smallest size ram, weighing 22 lbs., will answer to drive the water to any desired hight and distance. The drive-pipe, 25 to 50 feet long, may be ¾ inch, and the discharge pipe ⅜ inch, internal diameter. If the fall be not over 10 feet, the drive-pipe need not weigh over 2 lbs. per foot. If the water be carried not over 50 feet in hight, ½ lb. per foot will be strong enough for the discharge pipe. When there is a larger amount of water, or a greater fall, and when the water is to be carried to above 50 feet, the size of the ram, and the size and strength of the pipes will need to be increased.

Persons proposing to adopt this implement who may desire further information in regard to the exact requirements for particular circumstances, will do well to address Messrs. W. & B. Douglas, Middletown, Conn., who manufacture Hydraulic rams of superior excellence. They will doubtless furnish any information desired. We have taken up this subject without any suggestions even, from any one interested in the sale of the implement, believing that its importance and interest would be appreciated by all our readers.

We will simply add that the cost of the Hydraulic ram is but little. They are sold as low as $5 00 for the smallest size. The only other expense is for the lead pipe, which will of course depend upon the amount required in every case. To put them in operation it is only necessary to set down the ram, and screw in the ends of the two pieces of lead pipe. The ram and pipes will of course need to be covered, to protect them, if to be kept in operation during freezing weather. A strainer should be placed over the upper end of the drive-pipe to keep out coarse materials.

We have drawn a larger engraving, (fig. 7,) to illustrate the practical working of the Hydraulic ram. For convenience, we have represented the parts a little out of proportion, in the perspective. By a similar arrangement water may be carried to almost any required hight and distance.

The Steam Plow Firing up.

"What are American farmers doing towards applying steam to soil tilling? Here is a fine field for some one. Steam, and not animal muscles is speedily to become the moving power before clod-breakers, and the man in this country who first successfully yokes the steam-chest to the plow-beam will reap a rich reward. Notwithstanding the present interest awakened abroad, we predict that that man now lives on this side of the Atlantic."

The above we wrote three years since, in closing an article on this subject. The prediction is near fulfillment we believe. The nearest approach to a practicable STEAM PLOW has been made by Mr. Wm. Fawks, of Christiana, Pa., and the Keystone State promises to steal the march upon Yankeedom this time. Mr. Fawks' steam plow was exhibited at the recent State Fair, at Centralia, Illinois, and awakened no little admiration and hope in the minds of all who saw it tried. Some changes in its arrangement were found to be necessary, which are being made, when it is confidently expected that its operation will be successful. It is built on the *locomotive* principle, and draws half a dozen plows, more or less, after it. Further changes and improvements will of course be needed, but the thing is now more nearly perfect than the first railroad locomotive that went into operation. It requires but a little stretch of the imagination to bring before one the important results to be looked for, when—as will be the case in less than three years we think—the steam-horse will be driven at will over the broad Western Prairies, doing the work of a dozen or twenty horses, at a cost for food, drivers, etc., little above the expense of a couple of teams. As soon as the implement is sufficiently perfected to go into successful and continued operation, we shall present a complete engraving and description.

Agriculture in Ohio—State Fair for 1858

Without disparaging or being insensible to the claims of other districts of the country, we can say, Ohio is a grand and glorious agricultural State—an opinion which received, if possible, additional force on the occasion of our recent visit to the annual State Fair at Sandusky, Sep. 14-17. We congratulate the people of Ohio on the long career of prosperity which, with an intelligent eye to their own improvement, lies open before them. Forty years ago, when but a boy, we first saw Sandusky, with two solitary buildings in it—one, a framed store-house, to receive the occasional packages which a stray coasting vessel left at its rickety wharf; the other a log cabin, tenanted by a solitary family—and a rich back country, sparsely settled by a poor, but industrious population. Now, it is a city of twenty thousand people, or more, with several railroads terminating in it; a flourishing agricultural country in the rear, abundant in resources and productions; and a lake commerce at its doors, of millions in amount per annum. We have attended sundry of the State Agricultural Exhibitions of Ohio, and nowhere do we meet a more hearty welcome, by its open-hearted managers, nor see stronger progressive signs in the great staples of industry which enrich, or the high tone of morals which exalt a nation. We were about to say, that *when* we move west of New York, we think our residence will be *somewhere* in Ohio—*provided* some one of the mighty young amazonians beyond her Western borders do not forcibly lay their grappling fingers upon us.

The Great State Agricultural Exhibition, this year, was successful, as usual. As with its predecessors, the grounds were extensive, thoroughly fitted up, and well filled with choice specimens of agricultural excellence and mechanical ingenuity, demonstrating a constantly increasing improvement in the one, and a persevering skill in the other departments of industry. The farm stock was well represented, on the whole; but we think the horses were not quite equal to those at Cleveland two years ago, nor the Short-horns so numerous, nor, as a whole, quite so choice, although some equally good specimens were present. The breeders of the latter assured us that the various changes of the cars on the different railroads necessary to get them there, prevented many of the large breeders in Central and Southern Ohio—where the largest herds are found—from bringing their stock, so great is the risk of accident. The few Herefords on the ground—to the extent of nearly a dozen—were the best we ever saw, anywhere. They belonged to Messrs. Aston and Humphrey, of the adjoining county of Lorain, who imported their original stock some years ago, direct from Herefordshire, its native county, in England. The Devons were more numerous than we had ever seen them at any previous show in Ohio, and generally of better quality—an evidence of their increasing popularity in that region of the State, as they were chiefly owned in the northern counties, among the Yankees. There were some remarkably good fat cattle, principally grade Short-horns, and Devons, and a passable yoke or two of working oxen, only—Ohio not working many catttle, in comparison with her horses.

The sheep and swine department were full, and each superior of their kind. The Cotswold and Southdowns were excellent, the Merinoes and Saxonys, choice, and in goodly numbers Better pigs, of both large and small breeds, we never saw anywhere—all the distinct breeds, from the immense Leicester, through the medium Berk-

sbire, down to the fat and punchy Suffolks, thronging the pens. But the Ohio pork-feeder prefers, best of all, a *cross* between the larger and smaller breeds, as best adapted to his use; and of such were the choicest specimens that we saw—a hog, which at fifteen to eighteen months old will fat three to four hundred pounds net weight. In poultry, the specimens were not numerous, but showed some excellent varieties. They should have more choice poultry in Ohio, where corncribs are so large and abundant.

Trec fruits were excellent, both in variety and specimens, but comparatively few in number, as the season has been a scant one in that department. But the grapes were especially fine, in the native kinds. Of the Isabella, Catawba, and Delaware, we never saw better specimens than those shown by Charles Carpenter, of Kelly's Island, just out in Lake Erie, opposite Sandusky, and some other specimens from the main shore, near the lake—a very paradise for grapes, in its shallow, clay-loam, porous, lime-stone soil. The wine from Mr Carpenter's Catawbas, is probably equal to any native wine produced in the United States. The Delaware is a delicious table grape, and destined, as we think, as it becomes better known, to be exceedingly popular as an out-door vine, from its early ripening, as well as choice flavor. But the Isabella, as a household grape, is the most popular in all Northern Ohio. Almost everybody who has a garden, both farmer and villager, grows it in abundance. It requires little care, and no protection, always ripening in that mild climate, running at will over a fence, out-house, tree, or arbor, and producing a profusion of the richest clusters, with little or no attention, just as the largest and best of water and musk melons grow in their rich soils, under their ripening suns. There is no better fruit country in North America, for all that is native to its climate, than the south shore of Lake Erie, in Ohio, so finely tempered by that large body of water, and shielded from untimely frosts.

The other miscellaneous departments were creditably filled, and with the multitudinous attendance from all quarters, the exhibition may be pronounced decidedly successful, both in its character and money receipts. In one thing we could but rejoice, over any other of the kind we have ever attended. Not a drop of spirituous liquor—unless sweet cider and lager beer can be called so—did we see or hear of, either on or off the grounds; and, of course, not a single intoxicated person did we find to invade the perfect decorum everywhere prevailing.

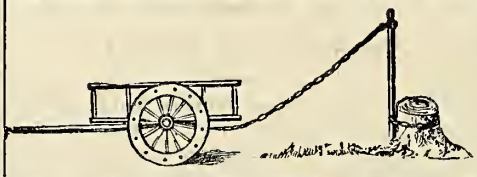
A female horse-race was got up on the last day, after the society had abandoned the grounds, which we intended to "notice," but it was a sufficient criticism upon itself for those who were present, and as we could not learn that the managers were responsible for it, and the same subject is treated elsewhere, we drop it here.

Reports on Fairs.

A very large number of our readers have taken much pains to send us full reports of the agricultural fairs in their several localities. We hope they will take no offence at our omitting the publication of them. They would all have a local interest, and we would gladly publish them on this account, but a sheet ten times the size of this, devoted to nothing else, would not suffice to contain the reports our friends desire us to insert this present season. The *Agriculturist* circulates in every State, and we believe in every county, if not in every town, in the United States. Its reading matter must necessarily be that which is of *general* interest. It would hardly interest Mr. Smith, in Iowa, to read that Mr. Johnson, in Maine, was chairman of the committee on sheep; nor would Mr. Clarke, of Ohio, wish particularly to have these pages devoted to a list of persons receiving premiums in New Hampshire or North Carolina. He has no personal interest in such matters. But an account of *how* Mr. A, B, C, D, or E, in any State or county, produced a yield of corn, or wheat, or potatoes, worthy of a premium, what was the kind of surface and subsoil, how treated, when planted or sown, what kind of seed was used, and such like particulars, would furnish positive information, or at least, *suggestive hints* to cultivators the country over. Such details, condensed and to the point, are what are desired and needed. Our own view is, that a variety of topics, such as we endeavor to introduce from month to month, will, on the whole, not only interest, but also convey useful information to the largest number of individuals, old and young. While the *Agriculturist* may not treat wholly upon precisely the topics that would interest any one individual, we trust that every one will find many things in its pages which he would not willingly have failed to read.

Another Stump Puller.

The engraving below we make from a sketch sent us from a "Jamaica Plains Farmer," Mass., who thus writes: "The Stump Puller illustrated in the *Agriculturist* (page 295, Oct. No.), is a very good one for extracting stumps, when not too firmly rooted, as I know from experience—having taken out many in that way, twenty years



ago. There were, however, some elm stumps that would not yield to all the team power I could put on, and one of my men wished me to allow him to try a "down east" plan, to which I reluctantly consented, after vainly trying to twist them out. He dug a hole between two roots, set up the lever, "but end" down, as shown in my sketch, and fastened a chain to the top and to the axle of my ox cart, started the oxen and over went the stump with roots many feet in length."

We do not see the necessity of the cart. Why not hitch the oxen directly to the chain, though it may help to keep the chain horizontal and prevent an upward draft upon the oxen's necks. With a strong lever and powerful chain, we do not see why this is not a practicable plan in many cases.—Ed.

Take Care of the Implements.

All kinds of farm implements and machinery are expensive, and with the best of care and use must often be replaced by new ones. But their durability depends a great deal upon the manner of using and keeping them. If never sheltered or painted they will work and soon rot. The woodwork of all tools, if kept well painted and housed, will outlast much of the iron work. Whenever the sun opens cracks in the timber they should be filled with putty and paint. Manufacturers declare that not half the farmers know how to use machines, and it is too true for the interests of the latter; and even the maker of a machine is liable to suffer by the want of knowledge how to manage on the part of those who use them. Farmers should understand the principles upon which the construction and operation of machines depend. Every part of a machine which is subject to friction should be kept well oiled. This will render it much less liable to breakage, will reduce the draft upon the team, and will make a machine last four times as long as when not properly attended to in this respect. Shelter, paint, oiling, and careful usage are the chief requisites in the use of implements and machines.

For the American Agriculturist.

Notes on Farming in Pennsylvania.

Wheat Crop in Southern Pennsylvania—Changing of Seeds—Swiss Wheat—White Bearded Mediterranean—Mexican Potatoes—Corn Crop.

Wheat in our fertile *Cumberland Valley*—which, although under different names, extends from the Delaware in Eastern Pennsylvania, through Maryland, Virginia, and North Carolina—is *less* than half a crop this year. The heavy *rains* during blossoming time, and the *rust* and *weevil* (midge) have greatly damaged the yield as far South as heard from, although less than in this and the adjoining counties. Even the red Mediterranean wheat, in good limestone soil, and where it was sown early, suffered from rust and other causes. The *white bearded Mediterranean*,* of which I had the greater part of two lots sown, yielded double the quantity of some adjoining lots with the ordinary white wheats—although the yield of that is less than one-half the yield of previous years. But the flour from it is of the choicest quality. The next best, if not equally good yield, in my own experience, was that of a small patch of smooth-eared wheat, which Judge Kennedy and myself procured from Basel, in Switzerland, two years ago. We obtained two kinds—one white, the other a light yellow wheat. The judge sowed the former and I the latter, but I regret that, after he had his barn stored with his harvest, the whole of it, including this white wheat, was destroyed with fire. Mine did *very well*, considering the unfavorable season. Neither rust nor weevil affected it, while in the same locality, in an adjoining lot, my white wheat was almost totally destroyed by rust and weevil. The yield was in the proportion of 16 bushels to the acre—which is here considered very good this year. I have sowed all of it, except a few bushels which I sold to a number of farmers, who, with myself, are hoping that the coming year will give it a fair and favorable test.

Never before has there been such an exchanging of wheat in this community, as this year Wheat from Canada, from Italy, from New York—in fact, from almost every quarter, was bought up, to the amount of thousands of bushels, by the farmers in this county, at prices ranging from $1.50 to $5.50 per bushel. This change will be of great advantage, no doubt. All the ordinary white wheats in use have been discarded this season, as it was found, that in almost every instance, they have been much more affected by rust and weevil than the earlier kinds. In some instances the yield did not pay the expenses of harvesting.

Our *corn crop*, however, is better than was expected. It may be called an average crop. Potatoes are good, but the yield is rather short The crop of hay was abundant, almost beyond prece-

* This is a new kind—a white ear being discovered by one of our esteemed farmers, Mr. John Rae, five or six years ago, among his red Mediterranean. It has a red stem and chaff, ripens as early as the red, and makes prime flour. Two years ago it yielded 61½ bushels on two acres, for me—land in tolerable order. It weighed 65 lbs. It has been my *stand by* for four years. Others think it does not yield quite as well as the red.

dent. Clover seed, also, is likely to turn out well. This county (Franklin) is generally regarded as the most productive in this article in the State.

I might also state, that I planted two pounds of the *Mexican potato* in my garden, and am so well pleased with both the quality and the yield of this new article, that I intend to plant all I have the coming season. I obtained half a bushel from those two pounds. In quality, they are fully equal to the Mercer for table use—of good size (although the seed was small), and, like the Mercer, of oblong form. The eyes are very little indented—less so than any potato I know.

Our agricultural exhibitions, which promised so well a few years ago, have been suspended, owing to some local difficulties, and perhaps also to some mismanagement. B. S. S.

Chambersburg, Pa., Oct. 11, 1858.

[We are glad our esteemed correspondent, though having editorial duties to perform for two periodicals (German), delights in the employments of farm life. His suggestions respecting the frequent and extensive exchange of seed among farmers are specially important. This should be more generally practiced.—Ed.]

Waste Manure in Cities—Home-Made Fertilizers.

To the Editor of the American Agriculturist:

I am aware that you have, from time to time, deplored the loss, to farmers, of so much of the very best fertilizing materials, now yearly washed, or carted into the rivers, from the great cities. But the subject should not be dropped, so long as we are paying the Peruvian Government so many millions of dollars each year for guano, to say nothing of the expense of getting it home.

The Chinese, whose ideas of "outside barbarianism" we are accustomed to "reciprocate," are capable of instructing us on this point, as you appropriately showed in the September *Agriculturist*. Who would pretend to say, that one-half the money now annually expended upon foreign ferlilizers would not, if rightly applied, secure much more real value from the waste of cities, besides contributing materially to their sanitary condition?

As land in the vicinity of market towns is almost yearly increasing in value, and the products of the soil advancing in price, so is the demand made upon the compost heap, which those towns are abundantly able to meet; and that city, or corporation, will well earn the title of benefactor, which first moves in this matter, and, by a system of sewerage, vats, and deodorizers, manufactures, and turn over to the farmer, in proper shape, its now worse than wasted manures.

A Farmer turned Citizen.

Remark.—This subject is an important one, and may well claim attention, as it has always done in these pages, and elsewhere. But we have this much to say: there is not one farm in two thousand, on which there is not a great waste of animal excrements, human and other, as well as of vegetable matters, which might be turned to very profitable account, as fertilizers. That is a fine theory which embraces the idea of gathering up and returning to the soil, the organic materials wasted by the thousands inhabiting our cities and villages—it would be still better in practice, if the millions living on farms would begin at home the work of saving and using the solid and liquid excrements, the offal, the decaying vegetables, the muck and swamp mud now going to waste. The first movement towards saving home manures must begin among cultivators themselves. Let the work begin then, in and around their own dwellings, and it will very soon extend to the cities—to the manifest advantage, sanitary and pecuniary, of all classes.

Bees and Bee Culture.

The sight of large buckwheat fields in full flower, as we were journeying in August last, led us to wish that bees were cultivated on a more extensive scale in every place where white clover and buckwheat are grown in large quantities. Bee-keeping, like every other branch of domestic economy, has its successes and its failures, and requires care, intelligence and prudence. Bees left entirely to themselves can, without doubt, usually provide for themselves; but it is quite as true, that bees left to themselves cannot provide for their owners. They need to be taken care of as much as poultry need it. And if profit is to be derived from bees, it must be from *bee culture*. There is no more need of trusting to luck than there is in *agriculture*. A rainy season, like the last Summer, may be unfavorable to swarming, and to a large ingathering of honey. And so drought may injure corn or grass. Of course the products of the hive vary in amount from year to year, but so do the products of the orchard, the garden, and the farm. If bee-culture, as some suppose, were merely a matter of *luck*, we should have nothing to do with it in the *Agriculturist*; but viewing it in a different light we have devoted to it, and shall continue to devote to it, no small part of our attention. The past numbers of this volume will always be valuable for reference in this department, as well as in others, but we have by no means done with the subject. The topic is not only one of the most interesting connected with rural life, but also one of no small importance as regards profit. As we said a year or two ago (volume 16, page 83), "here is a creature that works for nothing, and finds itself; that needs no superintendence in its foraging excursions; that asks only for shelter and occasional supervision and protection from its enemies, and that furnishes an indefinite number of pounds of costly sweets, all ready for the table, or packed for market, in an attractive form, all of which is absolutely *saved* from utter waste." What can be more profitable? What can more richly repay the owner for the care and outlay required on his part.

We take it, that the great secret of successful bee culture consists in *knowing what to do, and doing it at the right moment*; and this secret we shall try to divulge openly in our columns, without extra charge. There are also some things about bees and bee-hives that call for *experiment*, and respecting which diversity of views prevails. These also may be discussed profitably, for the comparison of views of intelligent men on such subjects is surely desirable. We therefore solicit from our regular contributors, and from our correspondents and readers, hints and suggestions which may be instructive and interesting, concerning the care and treatment, as well as the habits of the honey-bee. Our ample pages will afford the room required by those who would otherwise desire to have a journal devoted entirely to the apiary.

Though we do not often undertake to moralise on this subject, we cannot forbear to quote the following well-told story, from the Worcester Spy, which has its practical lesson appended:

A Donkey among the Bees.

A laughable occurrence took place a day or two since upon a farm in the outskirts of the city, in which a donkey occupied a very prominent part and showed himself to be a far less intelligent animal than the one "we read of," who, when penned up in the farm-yard with the chickens, remarked, as he trod them under foot, "Every one for himself and God for us all."

This modern donkey being penned up in a yard, under circumstances quite similar to those of his ancient prototype, undertook the more dangerous experiment of treading on the bees; so he thrust his ugly nose against the hives, and made a determined onset upon the whole row, as if each individual hive was a trough of meal. Not relishing such familiarity with their domestic arrangements, the bees rushed out in swarms and commenced their assaults upon him in such a savage manner as made the poor beast think he must leave in a hurry, which he accordingly did. But the bees, not content with acting merely on the defensive, seemed determined to punish him for his temerity, and give him a lesson which should last him through life. Literally covering his whole body, they stung him on his nose, they stung him in his ears, they stung him in his eyes. Upon his back and upon his belly, upon his neck and upon his legs, they fastened themselves by hundreds and by thousands, and wherever a sting could penetrate, the poor donkey had to take it.

Frantic with rage and pain, the animal brayed and bellowed, and ran and jumped, and lashed his sides with his tail; and finally, as if in utter despair of getting rid of his assailants, he threw himself upon the ground and rolled over and over in an agony of pain. Finding this to be of little use, and that his assailants seemed to multiply rather than diminish, the poor donkey picked himself up again, and seeing the kitchen door open, with ears and tail erect, and eyes glistening with *tears* and terror, he made a rush into the house. Thither the bees followed him; and such a scene as then ensued has seldom been enacted. In vain the donkey rolled upon the floor—in vain he jumped over the cook-stove, overturned the chairs, and upset the table, the bees had not done with him yet, and it was not until the whole household, summoned by the noise, had worked vigorously for some minutes with napkins and dusting brushes, that poor Jack Donkey was sufficiently rid of his enemies to be able to leave in safety by another door than that which he had entered.

This is no fable reader, but a veracious narrative; yet there is a moral to it just as good as if it were a fable, and one which the strong, who attempt to oppress the insignificant and apparently weak—and the meddlesome, who are inclined to poke their noses into other people's business, and the covetous, who hanker after that which does not belong to them, would do well to consider—for all such are liable to the same experiences as the donkey met with among the bee-hives.

What Manures Shall I Buy?

This is not so essential a question with Western cultivators, where there is an abundance of rich organic matter in a virgin soil, though, as we have already shown, and shall still further show, it behooves those having even the best of soils to husband the wealth already in their land, instead of wasting it and thus impoverishing their estates. But in all the older States, and in the newer regions where the soil is only moderately good, the preservation as well as the procuring of manures is a matter of the utmost importance. Scarcely a day passes during the entire year, in which we are not asked by a greater or less number of persons: "Which one of the many fertilizers offered in market—all backed up by abundant certificates—would you advise me to buy?"

On this point we are somewhat radical, and consequently not in very good odor with the manufacturers and sellers of artificial manures, who, as will be seen, generally steer pretty clear of our advertising columns. We know also, that our views do not accord with those of the great mass of so-called "scientific writers;" but having devoted, perhaps, quite as much time and expense as most of them, both on the farm and in the laboratory, to the careful investigation of this subject, we must adhere to our own views on the matter unless they can be shown to be erroneous.

Our invariable rule is, to inquire of any new fertilizer, *first*, how much *organic matter* does it contain; that is, how great a proportion of it is animal or vegetable material? *Second*, how nearly does the organic matter approach, in its composition, to lean flesh; or in other words, how much *nitrogen* does it contain. Others lay great stress upon the phosphates and other mineral matters; we attach comparatively little value to these, for reasons formerly set forth and to be discussed hereafter.

Judging by these rules; we rank first, *finely ground unburned* bones, not those merely broken—we buy nothing else, except for fruit trees or vines, when those well broken are good.

Next, we rank genuine Peruvian guano—but no other kind however high sounding a name it may bear

Of course substances resembling the above named two, are good; such as, blood, flesh, wool, hair, fish, solid and liquid excrements of human and other animals, *when these substances are not mixed up with too great a quantity of worthless materials*, as is often the case when they are put up for market. But of this subject more hereafter.

Experience in Draining.

A subscriber in Carroll Co., Ohio, writes: Having a 6-acre meadow, a part of which was very wet and produced in the driest weather nothing but rushes and coarse grass, I determined to put in practice what I had read in the *Agriculturist* for two years past; so I set about draining it in August, by cutting one drain across the lowest part, and another above striking into the first at right angles. There being no tiles in this section, I used stones, which were drawn on a sled one-fourth of a mile. This was a serious job, but besides getting draining material, I was clearing off a hundred loads of stones that had been greatly in the way. While we were working at the drain, I could not help thinking of Tim Bunker, at Hookertown, and Jotham Sparrowgrass, for being near the public way, every passer-by stopped to take a look and have his say about what was a novelty in these parts. The Sparrowgrasses as they rode along not unfrequently told me I was 'spileing my medders.' But I let them have their opinion and I kept mine. Well, my drains are done, the wet bog is dry land, and the clear stream running out of my drain, even in this 'dry time' is not only pleasant to behold, but it is prophetic of a great corn crop next year where only useless rushes formerly flourished. So much for 'book farming,' from New Hagarstown, Carroll Co., Ohio."

[We should like to be present next Autumn, when the Sparrowgrasses come over to reckon up with you the interest your corn crop will pay on the expense of the drains, to say nothing of the increased value of the land cleared of stones. ED.]

The Dairy—Butter and Cheese.

Our recent offer of a prize of $100 or more, for the best articles on Butter and Cheese, has awakened attention to the subject, and set many of those best acquainted with the subject practically to collecting their thoughts. We have propositions and preliminary chapters from several persons. We are therefore prepared to announce that in our next volume, we shall give a valuable series of most thorough and understandable articles on Butter and Cheese making from the pens of those competent to discuss them. To a multitude of persons, this series will alone be worth many times the small subscription price.

Innumerable tons of both butter and cheese are made in the United States. Much of it is of the best quality, some of it passably good, other portions of it inferior, and much of it execrable. We admit that it can not *all* be of the best, for neither the climate, nor soil will admit of it, which may be a new idea to some people; but that most of it can be good, and all tolerable, simply by a knowledge of the best modes of manufacture and after treatment, there need be no question

Like some other American staples, our best butter, and our richest cheese have their own climate, and their peculiar soils which produce them in perfection, where the necessary process of manufacture is understood, and practiced. That these articles should, in such localities, occupy almost the exclusive industry of the farmers is the fact, and but demonstrates the policy of directing our attention, in any part of the country, to that pursuit which, once well understood, is the most lucrative in the long run. Many of our best dairy districts, from being rugged and poor at first, hardly attracting the attention of dairymen at all from the apparent poverty and repulsiveness of their soils, are now equal in value and productiveness for dairy purposes alone to the choicest of wheat and corn lands, and still growing better. The dairy interest is but partially developed, as yet, in the United States, and in our wide progressive range of population and pursuits, its importance and advantages are to be developed to an extent of which those engaged in it little dream. We hope to throw such light on the subject as may be both valuable and interesting to our readers.

Hints on Butter Making.

A lady in Schuyler County, thinks, and rightly too, that there is no necessity for there being so much trash thrown upon the market under the name of butter. She asks why can not the Western and Middle Counties of New York, produce as good butter and cheese, and get as good prices for it as Orange County. *Ans.*—Some of them can and do, though not a little of the Western product is sold under the name of "Orange County butter." The truth is, the Orange County people for so long a time sent *uniformly* good butter and cheese that a reputation was established. Our correspondent is right, in conjecturing that most of the trash (amounting to about three-fourths of all butter sold in the country) results from ignorance of the method of making it well. A little more *knowledge* on the part of the makers would, from the *same* milk, produce butter worth, to-day, in the New York market, 25 cents per lb., wholesale, whereas their butter is now sold at 14c. @16c. per lb. Our correspondent says she has obtained for her butter the same price that has been paid for the Orange County product. We do not quite understand her description respecting "churning the *whole milk*," and yet "adding one quart of boiling water to the *cream*." Any hints and suggestions on this topic will be gladly received. Let us have a large amount of experience from different persons, as all hints received will add to the value of the proposed discussion which we hope will furnish the best views, and practical directions yet published.

Cattle Poison in Pastures.

To the Editor of the American Agriculturist:

Having obtained a great amount of useful information from your valuable paper, I have taken the liberty of addressing you upon the subject of poison, or what is supposed to be poison, growing in pastures and meadows. Upon the farm which I own a number of cattle have lately died, it is said, from eating something that grows in the pasture. The fields have been examined and nothing could be found that was known to be poison. Horses do not seem to suffer in the same fields We dare not let our cattle occupy the suspected fields and it is a great trouble to us. Now, Mr Editor, if you or some of your numerous correspondents could give any information concerning vegetable poisons cattle are liable to eat, you would confer a favor, as well as a blessing, upon your humble writer, and no doubt upon many who are suffering from the same cause. The farm is situated in Washington Co. Nothing was known of the kind until last Summer and Fall.

Troy, N. Y. W. C. BADEAU.

REMARK.—With only the above brief description, we can form no definite conclusion as to the cause of the death of the cattle. Perhaps some one can, and for this reason we give the letter. [ED.

Lima Beans Sixteen Feet High.

To the Editor of the American Agriculturist:

My experience is different from that given on page 275, Sept. No., where it is recommended to cut the poles down to "six feet high at the North, as the upper part of the vines do not mature, and only exhaust the nourishment from the lower parts." I generally select poles which when inserted in the ground, are 14 to 16 feet high. I do not experience any difficulty in obtaining early matured fruit, extending from the latter part of July to the first of November, and once or twice, I picked as late as Nov. 15th."

THOMAS KEARNS

Staten Island, Oct. 12, 1858.

REMARKS.—Mr. Kearns left at our office a splended lot of Lima beans, taken 15 feet from the ground, which certainly go far to substantiate his views and practice. But his soil is warmer and earlier than the regions further North to which the remarks on page 275 particularly referred.—ED.

"My party has thrown me overboard," said a disappointed politician, "but I have strength enough to swim to the other side."

Feeding Horses—A Common Mistake.

The practice of regulating the food of horses by the amount of work they are required to perform, is a good one, if properly followed. For example, a horse when lying comparatively idle, as in Winter, should have less solid food than amid the hard work of Spring and Summer. Again: if a horse is about to be put to a work of extra labor, it is well to fortify him for it by a little extra feeding beforehand. But the mistake we refer to is the practice of over-feeding him an hour or so before putting him to work. If an extra service is required of a horse, on any particular day, and an extra feed is to be given him, let him have it the evening beforehand, rather than in the morning an hour or two before being put to work. Why so? Because, if he is put to work so soon after eating, his food does not become digested, and he is obliged to carry about with him a large mass of undigested fodder, which is rather a burden than a help to him. If he is well fed the evening before, the food is assimilated—changed to flesh and blood—and sends health and vigor through all the system. As a general rule, a working horse should be fed regularly, both as to the time and the amount.

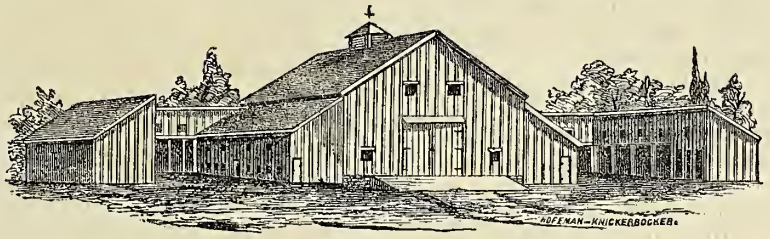
Farm Buildings....IX.

A GROUND-LEVEL BARN.

On page 265, September number, we gave the plan and arrangement of a "Side-hill Barn," and as then promised, we now proceed with the ground-level structure. We have studied the plans of a great many barns for ordinary farm use, theoretically as well as practically, and, taken altogether, the one we now present is as good as any, if not the best that we have seen. As we understand it, when the whole of its accommodations are not required, this barn may be built, in a part of its arrangements, by sections, with equal facility and convenience as the entire structure; and the remainder added at a future time, if needed. This barn received the first prize at the meeting of the New York State Agricultural Society a few years ago, as the best for all purposes, and we avail ourselves of a drawing and description made by the proprietor at the time; and as we have carefully inspected the barn and the application to which it is devoted, we recommend it to general examination. It is understood, of course, that all the numerous plans of farm buildings which we give from time to time, are designed to be *suggestive* only. No single plan will be likely to suit any individual taste, in all its details.

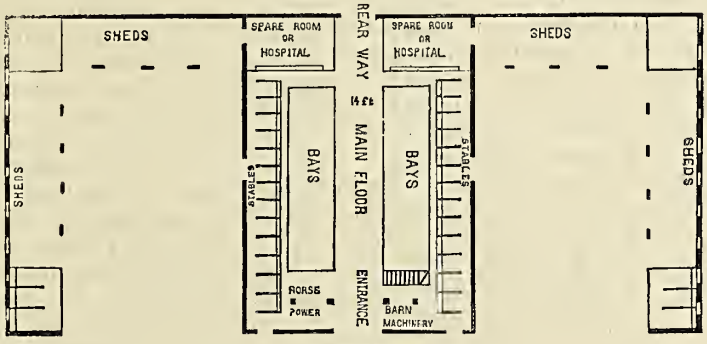
This barn is a large one—much larger than is usually required on small farms, but the plan admits of its being made of much smaller dimensions, and it may be so contracted as to serve the desired purposes. Or, when required, it may be made larger, to accomodate, in its extension, any area of room required, and for any purposes of grain, stock, or dairy farming, or a combination of all together.

The body of the barn, 100 x 50 feet on the ground, is placed four feet above the surface, on wooden posts of a durable kind, or on stone piers, or on a continuous wall of under-pinning. The posts are 18 feet high, from sill to plate, with a roof of 17 feet, or one-third pitch, to give the water a rapid passage off, and admit more storage underneath. In the center of the roof is a ventilator, to pass off the moisture inside, if any. An inclined plane of plank, or earth, at each end, leads to a floor, which is 14 feet wide through its whole length. When the bays on each side are filled with hay, or grain, or both, poles are laid on the supporting girts on each side, 9 feet above the floor, with boards across them for temporary flooring, which receives the crops of hay or grain clear up to the peak of the roof, if necessary—thus increasing the amount of storage nearly or quite fifty per cent. over that already taken in by the bays. The bays on each side are 18 x 70 feet. This allows 25 feet (the width of two bents of 12½ feet each) at the front entrance, on each side, for machinery, threshing-floor, &c., with a flight of steps on the right hand side to the granary overhead.



GROUND-LEVEL BARN—ELEVATION.

Around the whole building, three feet below the barn sills, and one foot above the ground, is a line of stables, 16 feet wide, with the outside posts 12 feet high, tied by beams, 7 feet from the floor, into the main posts of the barn. The upper ends of the stable rafters rest on a line of girts between the barn posts, one foot below the barn plates. These stable roofs have an 8-feet, or one-quarter pitch, and under them, on a scaffold, is large storage for hay, or other cattle fodder. The stables have passages of four feet next the bays, which connect with the barn floor by a passage of five feet at the further end, to receive the hay thrown down from the rear side of the bays. The mangers are 2½ feet wide. The stalls are double, or for the accommodation of two animals each; they are constructed as in our plan of an underground barn already given. The end stables can be devoted to miscellaneous stock uses, as may be convenient. The doors will be seen by the open spaces on the floor plan



FLOOR PLAN.

GROUND PLAN.

The lines of sheds may be either built or not; though for stock purposes, they may be considered indispensable; they may be omitted, either in whole, or in part, or extended as the wants of the farm require. In this plan, they are thrown out 64 feet, at right angles to the barn, in the rear, and extend 116 feet on a parallel with its sides. They are 16 feet in width—of the same hight with the stables. They may be partitioned partially into stables, as in the plan, or used without. The barn has two large cisterns to hold the water from the roof, to accommodate the stock.

The main objection to the barn we are describing, is lack of manure storage. The proprietor's theory is, that the sooner the manure can be applied to the land the better. Our advice is, provide ample space for all manure to be kept *under cover* until taken to the fields. If a barn of precisely the above structure be erected, rooms for manure may be set apart in the stables or sheds.

One chief object in placing the stables against the barn, as "*lean-to's*," is, that their sills and floors are liable to decay by the continuous moisture from the animals, and if thus arranged, they can, when necessary, be replaced cheaply; and being so attached, the entire length of side covering to the barn is saved. There are, of course, many minor details, which might be given in the way of conveniences, yards, and other accommodations; but as farmers are supposed to be familiar with their own wants in that line, we prefer to give only general outlines and suggestions, leaving them to fill up, add or subtract, as their demands may require. *Cellar Storage* for example, is not provided for in the plan here given. The proprietor is not an advocate of root-growing. We advise, in all cases, to construct a cellar for these, when building a new barn, for though their culture has not been everywhere satisfactory, it is annually coming more into vogue. A cellar should always be provided for potatoes, turnips, etc., designed for feeding to stock. In the above plan, as the main barn is placed four feet above the surface, there is ample room to construct a cellar under a part, or the whole of it, as may he needed.

COST.

This barn, including cisterns, cost about $3,000 built in a very complete way, of good timber, and in a very thorough manner. Its expense, however, may be much lessened for one of the same size, where timber is cheaper, or when the *finish* is less complete. As a general rule, however, *cheap* barns—that is, those shammily built—are poor things, and poor economy for any farmer; and we believe that a thoroughly built barn will earn all its extra expense, for economical purposes only, in a five years' use of it by any man who properly understands his business. Our views upon this subject have already been given at length, in connection with our last plan.

Ik Marvel—The Right Kind of Talk.

Everybody, and the rest of mankind, have heard of Ik Marvel's "Reveries of a Bachelor," and those who have *read* it may imagine Donald G. Mitchell (Ik Marvel) still a dreary bachelor. But such is not the case. He is established on a good farm near New Haven, Conn., and has (we suppose) a growing family around him. He works at home, but sometimes is called out to talk. Hear him. (We quote the closing paragraph of his address before the State Agricultural Society, in Hartford :)

But there is something worth living for besides money. That is *very* good, but is not all. With the rest let us raise a crop of good ideas. While you are a farmer, remember that you are a man, with duties and responsibilites. Live down the old brutal notion that a farmer must be uncouth, uneducated, and unthinking—a mere plodder.

You are brought into immediate contact with the great heart of civilization. You cannot get out of the buzz of the toiling world. The trill of the wonder-working wires, and the rumble of the locomotive (the thunder threat of nations) come to your once secluded hill-side.

Move toward a better life. Do not keep your boys corn-shelling in the long winter evenings. Make your farm a place that your sons and daughters cannot help loving. Cultivate the trees—they are God's messengers. Don't say that you care nothing for looks. You *do care*, else why did you build that two-story white house, with blinds, and a cupola into which you never go. Or why did you, years ago, carefully brush your coat, and pull up your shirt collar, when you were starting on a Sunday evening to visit the good woman who now shares your home?

Care much more for books and pictures. Don't keep a solemn parlor, into which you go but once a month, with the parson or sewing society. Hang around your walls pictures which shall tell stories of mercy, hope, courage, faith and charity. Make your living room the largest and most cheerful in the house. Let the place be such that when your boy has gone to distant lands, or even when, perhaps, he clings to a single plank in the lonely waters of the wide ocean, the thought of the still homestead shall come across the desolation, bringing always light, hope and love.

Have no dungeon about your house—no room you never open—no blinds that are always shut.

Don't teach your daughters French before they can weed a flower-bed or cling to a side-saddle. And daughters! do not be ashamed of the pruning knife. Bring to your door the richest flowers from the woods; cultivate the friendship of birds; scorn the scamp that levels his murderous gun at the blue-bird or the robin. Study botany, learn to love nature, and seek a higher cultivation than the fashionable world would give you.

The Farmer's Mine.

Not on the Frazer river, nor in California, but on his own land, and near his own barn. Guano, and other good marketable fertilizers are all well in their place, but they should not be his chief dependence. It should be his daily object to manufacture as much manure as possible *within* his laboratories. His cattle, swine, horses and poultry must he kept constantly at work with this in view. If they have the requisite materials given them to work upon, and are wisely managed, they can be made self-sustaining animals by the quantity of manure they will create. The farmer should keep as much stock as his farm will sustain, and the more he keeps, the more he will be *able* to keep. His means of doing so will accumulate annually. It is chiefly by husbanding every particle of manure, that many farmers, beginning with sterile or worn out lands, have gradually reared up around them a luxuriant vegetation of orchards and waiving fields of grasses and grain.

The following paragraphs, from a European work, confirm our view: "The real source of the great fertility of the great Lombardian plain is now known to he its high cultivation. In the triangle included between Milan, Lodi and Pavia, each side of which is little more than twenty miles in length, there are, it is estimated, not fewer than 100,000 head of cattle, 100,000 pigs, and 25,000 horses, in addition to the human population. It is to the immense supplies of manure, solid and liquid, obtained from these sources, and not to the refuse of the towns themselves, that the richness of the soil is mainly attributable."

Blinks from a Lantern..... V.

BY DIOGENES REDIVIVUS.

A DESPONDING FARMER.

It is said to be a constitutional infirmity of the Englishman to grumble. He is under a terrible despotism, unless he can give full license to his tongue, and find fault with everything that he knows anything about, and especially with matters that he knows nothing about. In the latter, his genius culminates. In this respect the Anglo-American shows his lineage. There is, however, this difference, that the American feels special license to find fault with his own personal enterprises, while the Englishman rarely allows his grumbling to disturb his own self-complacency.

Higgins loves to find fault with himself and his farm management better than any man I know of. He owns a grand farm, in the suburbs of the city, which now means anywhere within six hours ride by rail. He does business in the city—going home once a week to spend a day or two upon the farm, to give directions, and to supervise improvements already projected. Considering that he is not a farmer "to the manor born," he has really done a good business, and made fewer mistakes than might have been expected. I lately went over to Higgins' place to inspect improvements, and, by invitation, to offer a little advice on farm matters, though I am not yet duly advertised as a "consulting agriculturist." The fact is, the samples of my counsel before the publie are not particularly attractive. The medicine is bitter, and people do not love to take it.

I found Higgins rather "down in the mouth," about a recent importation of English swine. He is engaged in the shipping business, and frequently imports rare animals from abroad. He was in one of his bluest veins, and had evidently been "done for," and was just now waking up to the fact.

"I thought agricultural writers recommended pork-raising as a pleasing and profitable branch of husbandry, the pig as an industrious artizan to manufacture manure; his body, a living crucible, wherein all manner of coarse matters could be purged of their dross, and come out clean fat, solid pork, and tender hams, fit for use. I am sorry to say, O Diogenes, that gentlemen of the press draw too much upon their fancy, and lead us, solid men, to a great many unprofitable investments. Their view of pork-raising is all moonshine. Every pig kept in the country is a dead loss to the owner, and the manure he makes costs, at least, five dollars a cord. I want you to go over to my barn, and look at a sow that I imported from London last Spring. The order was for 'a rare breed—something extra.'"

I looked into the pen, and thought the artist must have visited the same place for the original of his likeness of the "land pike" in the October *Agriculturist*. He has left off nothing but the bristles, three inches of the tail, and a splendid row of teats along the belly. If I had been anything else but a cynic, I should have burst into a horse laugh at that interesting specimen of "*a rare breed of English swine.*" What added to the forlorn prospects of the gentleman farmer was, thirteen juvenile pikes, as much like the mother as possible. I had to remark:

"My good friend, your order has only been too literally fulfilled. Search all the styes in Great Britain, and you will hardly find the match of that animal. It must have been picked up in some of the back alleys of London—probably taken for debt by some hard faced landlord, and sold to your captain for ship stores. All the ancestors of that animal, for ten generations back, have been half starved, and it will take at least ten generations to come, with judicious crossing, to get decent hog out of that stock. Smother those animals to-night, friend, unless you have corn and meal moulding for want of a market."

Higgins saw that he had heen badly "sold," and with a very expressive whistle, led me off to the cattle pens, where he had a dozen oxen stall-feeding for market.

"I don't feed with turnips this year· the men of the quill have ridden that hobby to death. I tried turnips last year—raised four thousand bushels—and tried to fatten cattle with them; satisfied myself entirely, and have not planted a turnip this season. I meant to see if there was any fat in them, gave them three bushels a day a-piece. It scoured them badly, and they lost flesh instead of laying on fat."

"You don't mean to say, that you gave them nothing else but turnips?"

"Yes, I do."

"And a great fool you were, too. You remind me of the man who went into the country to eat strawberries and cream. He ate nothing else for a week, and the result of the trip was, that the bare mention of strawberries afterwards affected him very much as water does a mad dog. Turnips, alone, never fattened an animal; and I never saw this claimed for the article. It only shows with how little discrimination you have read agricultural papers. Butter would probably make almost any man lean, if he ate nothing else. It hardly follows, that it is not a very useful article in its place. Turnips should he given in connection with other fodder—grass, hay, meal, or oil cake. An animal demands a variety of food, especially while fattening, and you can hardly find anything better than turnips to sharpen the appetite, and to keep the digestive organs in a healthy state. If fed in the Winter, the animals should be kept in warm stables, and the turnips in a root room inaccessible to frost. Not even turnips will save a bullock from colic, with a bushel or two of ice in his stomach."

Higgins raised his heaver, and scratched hi head, as if several new ideas had crawled under his wool all at once. Like a sensible man he did not respond "it's no use to raise turnips," but led the way to his fruit yard.

"I can't raise pears on my soil; have tried it

time and again; have nursed them, and the result is, always, like what you see here."

He pointed out fifty or more deplorable looking dwarfs, that had never had any training, covered with scale-bugs, moss, dead limbs, and as barren of fruit as in December. They were in sward, and had apparently been so for years.

"And this you call nursing dwarf pears, do you? You have not learned the alphabet in this business. These trees are already spoiled. Dwarf pears will not grow in sward land, nor in poor land, with any amount of nursing. Make your ground rich, to begin with. Plant dwarfs two years from the bud, train them in pyramid style, give them alkaline washes twice a year, keep the soil under generous cultivation, and in due time you will have fine trees, and pears fit for a king."

Give us More Mutton.

Mutton, we said; not that mass of thin, wiry muscle, tough enough for raw hides, that is sometimes offered to us in the shambles as the product of a sheep's carcase. This article, if designed for tiller ropes, is admirably adapted to its office; but if destined for the table, it is a notable perversion of the gifts of Providence. We have quite enough of this article.

But of mutton, well grown and stall-fed, the fat nicely distributed through the flesh, as well as upon the outside, we have far too little. Of all meats, as a standard dish, commend us to this. The saddle, well stuffed, makes a splendid roast; the fore quarters are available for soups and stews; and the leg, boiled with a piece of pork, and comely surroundings of cabbage, beets and potatoes, is the prince of farmers' dinners. *Steaks* are no *mistake*, particularly if a good cook holds them—just long enough—over a wood coal fire. In all the forms of approved cookery, it is a popular and wholesome dish—probably the most healthful of all meats for habitual use.

It ought to be cheaper, and can be. The sheep is a wool-bearing animal, and it is mainly for the fleece that our flocks have been cultivated, until within twenty years. The South Downs and the coarse wooled varieties—so large and so highly esteemed for their flesh—have not been in favor. The article now is increasing in estimation, and there is inducement enough in all the older States to grow sheep, mainly for their flesh. Mutton, we believe, can be produced at much less expense than either pork or beef. During the Summer, they will thrive in pastures where cows would grow thin, and in the Fall, and in Winter, they will give better returns in flesh, for the roots and grain, than any other animal.

Most of the sheep killed are simply grass-fed. Stall-feeding improves the flesh as much as that of beeves. It pays well to buy up a lot of South Down grades, or other large bodied sheep, in the Fall, and fatten them for market. They want a dry, airy place, with good shelter against the storms. The staple feed may be good clover hay, and turnips. Give, in addition—if you can get it—half a pound of oil cake and a pint of barley per day, to each animal. They should have constant access to good, clean running water.

If you play with a fool alone, he will play with you in society.

Politeness is the just medium between ceremony and rudeness.

Lose no opportunity of doing a good action; time is short.

Little and often fills the purse.

Sheep on Mowing Lands.

Good farmers differ in opinion as to the policy of Fall pasturing their mowing grounds, and as to the description of animals to do it with, when practiced. Some object to pasturing at all, assuming that the after-math is better to decay on the ground unfed, and serve as a top-dressing for the next crop. Others object to Fall feeding the meadows with large stock, as horses and horned cattle, by reason of their heavy tread, "potching" the ground, and injuring the roots of the grass, besides leaving them bare and cold during the Winter. Others, again, say that sheep, although light in the carcase, and not injuring the land by treading over it, cut the grass so close as to materially lessen the coming crop. Now, they may all be right, so far as their own particular lands be affected, provided they have *properly* experimented with horses and cattle; but in the writer's own observation, Fall pasturage of sheep on meadows of any kind has not injured them; on the contrary, it has proved a decided advantage, after many years practice. Our own farm is upland clay-loam soil, chiefly, of uniform quality, well *surface* drained, and all suitable to the growth of the small grains, Indian corn, and the grasses of all kinds grown in a Northern climate. The mowing lands are well seeded, and have a good bottom of timothy, red-top, blue-grass, and the clovers—red and white. Some years they alternate in their growth, some of the kinds predominating largely over the others. One year, the timothy is the principal grass, with a share of red-top and blue-grass; another year, the clovers push up heavily, and divide the crop with the spire-grasses, more or less varying, from some cause or another not apparent at the time. We occasionally top-dress in the Fall of the year, applying chiefly to the meadows the manure of the barn-yards. But we Fall pasture them all, more or less, and with both cattle and sheep—keeping off the cattle when the ground is soft, to prevent treading in, or potching them. But as the sheep never injure them in such way, we let them range at will. Nor have we ever seen that the meadows are damaged by the sheep, even when fed bare; but, on the other hand, they are materially benefited by it. In the Summer of 1857, we had a large mowing field, which had been laid down several years with timothy and clover, and had uniformly yielded a crop of about one and a-half tuns to the acre. That year the crop of timothy and blue-grass was light—less than a tun to the acre, on an average. Yet the after-growth was good, and we fed it closely with our sheep from the first of September until December; and last Spring, turned early lambing ewes upon it early in April, and kept them there till May. The past Summer, the field was full of red clover, timothy, and red-top, so lodged that our mowing machine would cut but little of it, and we had to use the scythes in cutting the grass.

We have a smaller lot, of eight or nine acres, near the farm-house and barn, never plowed nor top-dressed, which we have used, for fifteen years, as a calf pasture, turning in our working teams, our stock rams, and such miscellaneous feeding as might be convenient. It gets no wash, or drainage from the yards, and during Winter, our sheep have run over it at will, and fed it so bare that not a blade of grass could be seen on it. Yet the grass grows ranker every year, it has a bottom close as wool, and we can cut two or three tuns of hay to the acre, if the stock are kept out of it. On the whole, our experience is decidedly in favor of sheep feeding on our mowing lands, and for these reasons:

Sheep nibble the grass closer, and more uniformly than any other animal, excepting the horse, they drop their offal in small parcels, or uniformly, during the day, and at night always herd upon the higher parts of the ground, if it have any, where their deposits can wash off upon the lower parts, while enough remains to fertilize the higher, and usually poorer parts where they lie, thus restoring, by way of manure, in a more available shape for enriching purposes, the grass they consume, than if it were left to bleach, and freeze, and thaw, and decay upon the land. They leave the ground soft and light, with a close, smooth bottom, from which the succeeding young growth springs fresh and thick.

If there be seeds in the grass, those seeds are distributed in their manure over the ground, in small parcels, so that it grows readily, and takes easy root in the soil, and thus keeps it continually re-seeded. As an instance of this, the highest side of one of our meadows had run out, or "bound out," as the saying is. It lay partially sheltered by a wood. We laid up a few temporary feeding pens—made of rails, cob-house fashion—along this high ground, and fed our sheep there for some weeks in the mild dry weather of Winter, occasionally moving the pens, to distribute the movements of the sheep more uniformly over the ground. In the Spring we gave the land so thorough a harrowing, that the sod could scarcely be seen; the next hay crop was a heavy one, and we have since cut the best grass of the field on the ground so fed over. That was as perfect a top-dressing as could be given; the ground was thoroughly re-seeded, and put in the best possible condition, although the sheep had eaten closely every blade upon it, while bare of snow.

Where sheep are kept, we know of no better method of top-dressing mowing grounds, than in *dry* Winter weather to have a lot of feeding cribs distributed on such parts of them as require it, turn in the sheep, carry out the fodder, and there feed them. They will not suffer from the cold, even if snow be on the ground, if not exposed to the storms; but they will be all the healthier for the pure, dry air. This method saves labor, distributes the manure where most wanted, and is eminently good for the sheep—minding, always, that in cold and wet storms, the flock be driven in and sheltered at the barns.

We seldom hear complaints, that close *Fall* feeding injures a common pasture. It is the early and close *Spring* cropping that does the mischief. So with Spring feeding of mowing lands. We never do that, as a common practice, unless there be a coat of after-math not fed off the previous Autumn, and then only until the young grass begins to sprout. Grass intended for hay, requires every blade the soil can yield; and the earlier, and stronger, and thicker they grow, so much heavier will be the crop, and better the quality of the hay. Every farmer knows how superior the hay of an old, well stocked meadow is, to that of a new seeding; or the feed of an old pasture to a new one—on *good grass lands*. Of land unadapted to the continued growth of grasses, we are not speaking; but in such as yield the cultivated grasses kindly, the less disturbance you give them by the plow, the better, provided they are fairly treated otherwise.

Little minds, like weak liquors, are soonest soured.

Levity in manners is succeeded by laxity in principles.

When flatterers meet, Satan goes to dinner—they will do his work.

WOMAN ON THE RACE COURSE

The above is a pretty accurate sketch of a portion of the "Union Race Course," Long Island, on the occasion of the recent "Ladies' Equestrian Convention." It would require but few changes in the picture, however, to render it a true representation of scenes at several recent so-called Agricultural Fairs. The betting and gambling going on among the "gentry," seen in the foreground, is not wholly confined to regular race courses. If there is still any one who would be willing to have a sister, wife or relative, take active part in these "Exhibitions," he ought to be present at one of them, and hear the coarse, rihald jests, and the vulgar, low-life expressions addressed to the fair riders—language too foul to he repeated here.

Tim Bunker on Women Folks and Horse Racing.

HOOKERTOWN SCANDALIZED.

Mr. Editor—You never did see such exciting times as we have had up here at the County Fair. It has been the town talk ever since. Who would 'a thought it, that we should have a horse race in Hookertown, and a women horse race, too. It is enough to make a man sick at the stomach to see what women folks are coming to. I thought it was had enough when my John got caught down to Boston, two years ago, at one of those "fair" races, called an Agricultural Association. I never thought the business was coming home so quick.

But I'll tell you just how it happened, and you'll see that the Hookertown people are not so much to blame as they might be. You see, last Winter, the members of the county agricultural society had to choose new officers. Dea. Smith had been president for some time, and wanted somebody else put in. So they chose Colonel Lawson, up to Smithville, and most of the managers were up in that neighborhood. The colonel is a smart fellow, but ha'n't no more respect for public morals than a cow has for a milking stool. He goes in for making money by the shortest cut possible, keeps tavern, farms considerable, trades cattle, jockeys horses, and, they do say, attends the races in the neighborhood of your city, and has brought home considerable money that he don't like to tell exactly how he came by it. What in the world folks were thinking of, when they put him into office, I don't see.

But they put him in, and the colonel being a military character, and famous for riding a horse well on a general review day, was bound to make a sensation, and throw Deacon Smith's administration all into the shade. There was folks enough up in Smithville, just like him, that had just as lieves scandalize our place, as not. You see, Smithville is a sort of Nazareth up here, in the land of steady habits, was settled in the beginning by the fag end of creation, and has always drawn that kind of people since. If a man got broken down in character, idle or dissipated, he was pretty sure to fetch up in Smithville, or vicinity. There he found congenial company, and could race horses, Sunday, to his heart's content. It is not until within ten years that they have had any meeting up there, and though they are somewhat reformed, the old odor sticks to them like pitch.

The great trouble with the colonel, was to find any decent woman that would put herself on exhibition before five thousand people, and make a fool of herself. He tried all the towns around, and everybody told him it would not do in Connecticut; that our young women were well educated and modest, and knew what belonged to their rights and to their sex, as well as a militia colonel could tell them. We all thought he had given it up as a bad job.

But it seems the creature went home, and persuaded his oldest girl to show off on horseback. You see, Tom Wilcox, the same fellow that took the premium, last year, on a horse with the heaves, had a young horse that he wanted to sell for a big price. His daughter, Matilda Wilcox, offered to ride, if Tom would get her a new silk dress, and a new bonnet, with feathers—and get Letitia Lawson to ride in company with her. Nobody knew anything about it out of Smithville until all the arrangements were made, and the handhills were out, announcing a "grand female

equestrian performance," to come off at Hookertown on the last day of the fair.

It made a sensation in these parts, you may depend. Every grog shop in Smithville was emptied to the dregs, and, I guess, every gambler and blackleg in the county was on hand to see "Tish Lawson and Till Wilcox have a set-to." Every negro fiddler and ragamuffin in the neighborhood was drawn out to see the fun There was a chance for betting, and a good deal of money changed hands on the occasion. I pitied the poor girls from the bottom of my heart, and, I guess, if they could hear the coarse, brutal remarks made by the crowd, they would never be caught in such a scrape again.

"A most scandalyous affair," said Seth Twiggs, as he stopped into our house next morning, the smoke rolling up in a cloud of excitement. "It beats the Dutch, Esq. Bunker. I wouldn't have my darter make a show of herself so for all outdoors."

"The thing is agin natur," responded Mrs. Bunker. "But it is just what their fathers might expect from their bringing up. They make Tomboys of all their girls in Smithville."

You see, these girls, and Tom Wilcox's horse, that won the race, are the county talk, and will be for a month. The grand object of the fair was lost sight of, and I don't suppose, one person in ten took any notice of the fruit and vegetables that were on exhibition. They did not care a cent for porkers or calves. They had paid their quarter, "to see them galls run the hosses," and Tom Wilcox's horse was "the elephant of the day." I never heard so much swearing and blackguardism in all the fairs I ever attended. It was "cuss and discuss," as Deacon Smith said, from the beginning of the race to the end.

I rather think the scrape will do us good on the whole. There are some evils that cure themselves. Every decent man and woman that I have seen since is disgusted, and I guess the annual meeting of the county society will be better attended next January, and Colonel Lawson will have liberty to attend to his military duties unmolested. We have seen enough of women folks riding at the fair.

It is all well enough for girls to learn to ride on horseback at home, or in a riding school, but it is agin natur for a woman to make a "show" of herself, any way. The business is just putting up a woman's modesty at auction, and it is because the thing is unwomanly that it draws such a crowd of low, indecent people to see it. Sure, it makes large receipts for a single fair; but the next time a good many respectable folks won't come. They don't want the modern Camillas held up before their families as models of female character. The whole thing is out of character, and demoralizing, and they won't support the Society, if the thing is kept up. It is clap-trap and humbug—a kind of chaff that don't catch old birds but once. It is a sneaking way of getting up a horse race, and imposing it upon a decent community. Let every tub stand upon its own bottom, and when it has none, let it cave in.

Yours agin horse racing in general,
and women racing in particular,
TIMOTHY BUNKER, Esq.

Hookertown, October 1st, 1858.

"I don't care so much about the bugs," said Mr. Wormly to the head of the genteel private boarding-house in which he dwells, "but the fact is, madam, *I hav'nt the blood to spare*—you see that yourself."

To reconcile enemies, and cement friendship is noble.

The Flail vs. the Threshing Machine.

Who does not remember the pleasant sound of threshers in the olden time, coming up from the barn in the clear frosty mornings of Fall and Winter. It is associated in our minds with heaps of golden wheat, bags of oats, and bins full of rye. We have been accustomed to regard the flail for a few years back as a doomed institution.

"Gone, glimmering gone among the things that were,
A schoolboy's tale, the wonder of an hour."

But we begin to hear murmers of discontent in regard to the threshing machines, and statements well backed with figures, showing that the flail is still in the ascendant, on the score of economy. A farmer up in Connecticut, where they will cypher as well as whittle, states, that his rye cost him twenty-one cents a bushel for threshing, *i. e.*, about one bushel in five. Under the old regime of the flail, one bushel in ten was a common share for the same work. Others frequently make the broad statement, that it costs them more to get out their grain by the machine, and the only advantage of its use is, in getting it out earlier, when the grain sometimes sells for a higher price. The man who owns the thresher, though receiving but six cents a bushel, more or less, for his work, requires the attendance of three or four hands, and a boy or two, to be furnished by the farmer, which doubles, or trebles the cost. The man of the flail takes care of himself, puts his bundles on to the floor, and cleans up his own straw and mows it away. There are no ingenious little items to swell the cost of the work. It is one-tenth of the grain, or its equivalent in money, and no more.

If this is a fair representation of the threshers, it is high time we had a little more genius applied to this invention. There ought to be something brought out, that will enable horse-flesh and steel to distance human muscles and the flail. Though loth to part with the music, we have long thought the flail rather slow for this age. Are the threshers all perfected? Can we not have something that will clean the farmers' grain, for about one-fourth the cost by the primitive method? A little light is wanted upon this point.

NOT AN "OLD FOGY."

Clearing Rocky Lands—Does it Pay?

It is a common impression, that it will not pay to clear rocky lands, and thus, many fields used as meadows are left encumbered with boulders, always in the way of the plow, the cultivator, and the scythe. A still larger class of lands are given up hopelessly to pasture, yielding only scanty herbage, and not paying the interest on ten dollars an acre. There are, undoubtedly, many lands so full of boulders and outcropping ledges, that they can never be cleared for cultivation, economically. But there are others, in the vicinity of good markets, and not too full of boulders, that can be cleared immediately, and will pay a better per cent. on the capital invested, than railroad stock, or almost any of the public enterprizes that invite capitalists

A neighbor of ours has recently finished an undertaking of this character, and given us the statistics of the investment. The plot of land cleared up was in the rear of his farm, and consisted of six acres of rocky pasture, with a few trees upon it, and patches of briers and huckleberry brush. The soil was a gravely loam, of good quality, strewn with boulders, from two to ten feet or more in diameter. It fairly belonged to that class of lands which most men would pronounce hopeless But he had energy and capital waiting for profitable investment, and was willing to be contented with small safe returns.

The object to be accomplished with the stones was threefold. 1st. To fence the land; 2nd. to fill up some low places; and 3rd, to make a smooth surface The smallest and most available stones were taken for the walls, which were designed to cut the plot of ground into two-acre fields. A deep trench was dug, six feet broad, affording plenty of soil to fill up holes in other places. This was filled in with boulders and small stones, answering the purpose of a deep drain, as well as the foundation of a wall. The wall was run up about four feet high, and used up an enormous quantity of stones. There were still boulders left, some of which were blasted and drawn off for walls on other parts of the farm, and others were sunk by digging deep holes at their sides. This last is a cheap method of disposing of a large rock. Sometimes three or four adjacent boulders were tumbled into one hole, and covered with soil about two feet deep. Only a few very large rocks were left, as a sample o what had been.

The amount of all the bills for labor, teaming, powder, &c., was about six hundred dollars. This gave him three two-acre lots, walled for a century, thoroughly cultivated, and stocked down to grass. The land, as it stood originally, did not pay him the interest on ten dollars an acre. This season, two of the lots have been in grass.

Estimated yield 12 tuns, worth, at $15 a tun	$180
The other lot in Oats, 100 bushels	50
Four tuns of Straw sold for	40
Total	$270

The first cost of the land was sixty dollars an acre, making for land and improvements, $960. Every one acquainted with the cost of gathering crops, can see that a gross product of $270 from six acres, must leave an interest of at least twelve per cent, after all expenses are paid. Or estimating the products at only half the price named above, we still have six per cent. interest, clear, which is more than a majority of the public stocks pay—saying nothing of the risk.

There was never, probably, so much idle capital waiting investment, as we have in the Eastern States this Fall. We are glad to have the opportunity to call the attention of capitalists to this very safe and profitable stock. There is a plenty of it, it does not run away, and it always makes good dividends.

Swamp Land—A Good Investment.

"A thing of beauty is a joy forever." This is true, we suppose, of everything, without reference to its past history. But there is a special beauty about an object, redeemed from positive waste and ugliness, and made to minister to human wants. There is a bit of swamp land in view from our window, where three years ago we could not walk without wet feet, and which, from the creation down, had only borne brush and sour grasses. It is now thickly covered with a beautiful sod of herds-grass and white clover. It has been drained, and the surface is now as dry as upland. Last year the acre and a half cut three tons of good hay, and this season it has pastured two cows from June to September, giving them a full flow of milk, and the feed is still good. The pasturage is worth at least twenty dollars. Muck enough has been taken from the ditches to pay for the whole cost of reclaiming. Three years ago it was not worth thirty dollars It is now worth three hundred, and will pay the interest on that sum while grass grows and water runs.

What's the Price?—Will it Pay?

When traveling on the lower Mississippi a few years since, we fell in with a company of 'good fellows' on board a slow river steamboat, and among other modes of passing away the time, a discussion of sectional characteristics was entered into. When the Yankee character came up for dissection, an intelligent Louisianian remarked that: "He could always tell whether a man was from New-England, by showing him any article from his pocket, or referring to any garment he happened to have on. If the man was a Yankee, about his first remark would be, '*What did it cost?*'" Most of the company agreed at once that this was a perfect description.

In less than two hours after, a plan was started to hire our captain to "lay up" a few hours at Baton Rouge, and give the company an opportunity to examine the public buildings and other objects of interest. Scarcely had the project been proposed, when the aforesaid delineator of Yankee character asked: "Well, fellows, will it *Pay*?" In other words he wanted to know the cost, and whether the sight seeing would pay the expense, or as the cant phrase has it, "was the game worth the powder."

We have often thought of this incident since. Here was a representative of one class laughing at another class for invariably asking respecting any article or enterprise, 'what it costs,' as one of the items to be considered in estimating whether it would pay; while the other class as invariably put the second part of the question first, viz. "will it pay," in order to settle the question of cost. What is the cost and will it pay are, after all, the main questions in any enterprize, and particularly is this the case with the great mass of cultivators of the soil. Moneyed men may try every new thing in Agriculture. They can bear any losses that befall them, and these will not be few. It is well that there are those who will undertake a risky experiment, for in this way improvements and new discoveries are made. But the majority of farmers are so situated that they must *look ahead*, and learn beforehand, as nearly as possible, the result of every operation. They must adopt no system which has not been already proved to be practical and profitable. The great question must be: Will it pay, and pay down? Settle that, then go ahead.

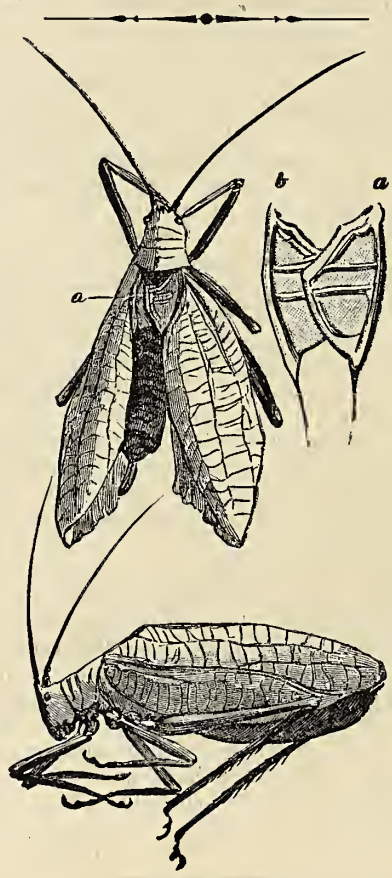
One may get great crops at great expense, but if the labor and cost do not pay a profit, the crops are ruinous; it is no real improvement in husbandry, if the increase of expense keeps tally with the improvement. What though one enlarges his farm, and gets the name of being a great land-holder, if the interest, labor and taxes eat up the income, he is growing poorer every year. He is heaping upon himself a burden of care, of slavish toil and of debt. He would be better off with less land.

Ditch Banks—How to use them.

The dry part of the season has probably been used to drain swamps, and oftentimes the muck thrown out is left upon the sides, in long unsightly banks occupying much valuable room, and affording a seed bed for a glorious crop of weeds. The land nearest the ditch is most perfectly drained, and will bear the heaviest crops. Usually the first season will start many seeds of weeds into a luxuriant growth. This is especially the case with muck of the best quality.

No more profitable fall work can be found than to clean up these ditch banks, and save the room they occupy. If the muck is not needed for immediate use, it can be carted to fields which are to be planted next Spring, and dropped in heaps of five or six cords each. During the winter compost them with stable manure, two parts of muck to one of manure.

If the banks are not all used up in this way, draw them to some convenient spot, and make a large heap, the larger the better. The action of the elements will keep this constantly improving for two or three years. To hurry up the decomposition, put on lime or ashes, two bushels to the cord. A few thousand cords of ditch bank piled up on a farm, will be found to change to solid gold in a few years. The days of Alchemy are not gone.



The Katy-did.
Platyphyllum concavum.)

"Ka-ty-did, she-did." "Ka-ty-did'nt." "Ka-ty-did, yes-she-did." These are familiar sounds to most people, yet comparatively few persons have ever seen the insects, which in such great numbers keep up their shrill notes the live-long night in the shade trees around our dwellings, and in the forests as well. So little is the katy-did known, that at the West we have frequently heard its notes attributed to some kind of a "tree-toad." During the day-time these insects conceal themselves among the leaves of the trees, which they resemble in color so much as not to be seen without close observation. We have often noted small trees where they appeared to abound at night, and yet failed to discover a single insect after a long search the next morning.

DESCRIPTION.

To gratify the curiosity of those not familiar with the katy-did, we have made accurate sketches of a full-grown insect caught near our dwelling the last of September. The engraving represents the exact size. Its body is about an inch long, the entire length from the head to the ends of the wing-covers being nearly 1¼ inches. The lower figure gives a side view, with the wings closed. The upper figure shows the back, with the wings spread apart to exhibit the abdomen. The color is a light green, the wings and wing-covers being somewhat darker than the body. The thorax (that is the "chest," or part between the head and the abdomen), is rough, and has the form of a saddle, rounded, slightly elevated behind, and marked by two furrows. The wings are shorter than the wing-covers, the latter being large, concave, and enclosing the body like the shells of a pea-pod.

The MUSICAL ORGANS, found only in the *male*, are two *taborets*, attached to the wing-covers, and lapping over each other, as shown in the upper figure, at *a*. The smaller side figure, *a*, *b*, is a magnified representation of the tahorets. They consist of two frames, with mid-ribs like those of a leaf, and a thin, nearly transparent membrane, stretching over them like a sounding-board or parchment. The right taboret, *a*, laps over the left one, *b*, and each opening and closing of the wing-covers rubs the surfaces together, and the friction produces the peculiar notes resembling the articulate sounds which have given the insect its name.

During the day-time, the katy-dids lie concealed in the upper branches of trees, but at night quit their lurking places, and the males enliven their silent mates with their noisy bahhle and tell-tale call. We suppose all have read the story of Katy kissing her lover, and the all-night dispute over it by the insect watchers in the trees, part asserting that "Katy-did, she-did," and the rest as loudly proclaiming that "Katy-didn't." The structure of the taborets, and the hard concave, wing-covers reverherate the sound to such a degree, that on a still night it may he heard nearly half a mile. They were so numerous during September last, in two thick rows of maples along the street in front of our dwelling, that it was sometimes difficult to converse near them, on account of the shrill music they kept up during the entire night.

We were somewhat surprised on looking for a scientific description of this very common insect, to find it nowhere pictured; and the only mention of it in any book at hand, is a brief description hy Harris, in his Treatise on Insects. He classes it with the *orthoptera* (straight-winged) insects, with the specific name, *Platyphytlum concavum* (broad-winged. concave). It is allied to the grass-hopper (*grillidæ*). In October, according to Harris, "the female lays her eggs in two contiguous rows on the surface of a twig, the bark of which has been previously shaved off or made rough with her piercer. The eggs are slate-colored, full one-eighth of an inch long, and resemhle tiny bivalve shells. There are eight or nine in each row, overlapping each other a little, and fastened to the twig with a gummy substance. In hatching, the egg splits open at one end, and the young insect creeps through the open clefts."

We hope the above engravings and description will make our readers better acquainted with the katy-did, and add to the pleasure of listening to its evening notes.

The Farmer's Library.

It need not be large nor expensive. It need not be purchased all at once. The reading of it need not detract one hour from the important labors of the field. But every farmer should by all means *have* a library. He needs one for his own benefit. He should have some scientific knowledge of the various operations he is daily performing, both for his own enjoyment, and so as to he able to give a reason for every thing he does on his land. His children should be taught the philosophy of agriculture more or less thoroughly, that they may be attached to the calling, and may make improvements in it.

What Air do you Breathe?

Is it the hot, impure air of a close, unventilated room, or the pure air of heaven? Much is said, and truthfully, of the superior vigor of our mothers and grandmothers over wives and mothers of the present day. It would be interesting to know, how much of this is due to the kind of rooms they *stay* in—they can not be said to *live* in such habitations. It cannot be denied, that many farm-houses, as now constructed, are unfavorable to health. They are more "comfortable" than those of our fathers, and have many more conveniences and elegancies, but in one particular, at least, they are less conducive to the preservation of health. The old-fashioned farm-house had low ceilings, it is true, but then it had large rooms, especially the kitchen, and it had a broad, open fireplace, making abundant ventilation. The doors and windows, too, were not so scrupulously tight at the joints, as though the external air were poisonous and must be shut out. The moderns walled up our fire-places, listed every crack, and then put into them huge, air-tight stoves. Then we have sat down in our "comfortable" rooms, expecting to enjoy good health!

It is no wonder that farmers' families, everywhere, are becoming less robust every year. The *men*, who are out of doors most of the time, suffer comparatively little injury; but the females, confined as they are, day and night, to these close apartments, are growing pale, and sallow, and nervous, and are breaking down prematurely.

Every one should look at this matter, and, if possible, apply a remedy. A partial one, at least, is easily obtained. Make an opening in your fireplace, as large as a stove-pipe, and another in the chimney-breast, near the ceiling, for the escape of foul and over-heated air. Then, to supply the room with fresh air, and to promote a good circulation, attach springs or pulleys to the upper sashes of your windows, so that they can be dropped a few inches from the top. It is well to hang a curtain before the opening, to prevent too sudden drafts of air upon the occupants of the room. This, or some other contrivance for introducing *fresh* air, and carrying off the impure, will do much to promote the health and comfort of our families.

New Remedy against Rats and Mice.

A correspondent of an exchange paper is overjoyed at an accidental discovery he has made of a means to repel rats and mice from his houses. For many years past, he says that he had shelled his corn by hand—a very slow process. Last Fall, he purchased a corn-sheller, and was well pleased, not only with the dispatch it gave to his business, but also with the effect of its music on his rats and mice. *It charmed them all away!* Formerly, they had infested his corn-house and dwelling; and all the Yankee traps he had set for them, and all the French antidotes he had baited them with, had failed to subdue them. But the music of his new corn-sheller banished them entirely from his premises! As the sagacious coon succumbed to the Kentucky hunter before he shot, so these varmints heard in the corn-sheller the march of improvement on that farm, and made off into some more old fogy region.

That will do.

Much coin, much care—much meat, much malady.

Party is the madness of many for the gain of few.

Pure religion is the very foundation of peace.

Plant Potato Balls.

The success which has attended the cultivation of seedling potatoes leads us to anticipate better days for this indispensable crop. Seedlings, originating from whatever stock, are almost always stronger and less liable to rot than their parents. They rarely equal them in their good qualities. For some reason which we are not able to define, every variety of potato seems to increase its proportion of starch, the longer it is cultivated. The black Mercer, which fifteen years ago was raised mainly for stock, is now an excellent late keeping variety, and by some is preferred to all others for Spring use. A seedling that is productive, hardy, and every way desirable, except in quality, should be kept a few years before it is discarded. If only one in a hundred proves desirable, it will amply pay the amateur for all the time he spends, in propagating new varieties.

The process is so simple that any man of ordinary intelligence can raise seedlings. We have sometimes found Nature attending to this business herself, without human agency. Where the vines have been thrown in a heap, in the Fall, the seed is sometimes washed out of the balls, and falls into the soft mold beneath, and survives the Winter. The balls may be gathered any time after the vines are mature, and the seed be washed and dried, and laid away for Spring planting. A gentle hot-bed, covered three or four inches deep with a very fine soft mold, is much the best to start them in, though they can be planted in the open soil, without difficulty. But the forcing gives you the plants early, and you can frequently get potatoes of the size of a hen's egg the first Summer; you can determine the character of some of them the first season. Select the most promising and hardy for seed and keep sifting them down for four or five years, and you will probably find one or more varieties that will be worth disseminating.

This crop is so essential in every household that it has claims upon every intelligent cultivator for these experiments. Save a few balls, and raise seedlings.

Keeping Cabbages.

There are a variety of good methods of keeping them for family use. Storing them in the house cellar is the worst. It is always too warm for them, the outer leaves drop off, they crack open and rot, making an unpleasant odor from cellar to garret. Better throw litter over them and let them stand in the garden, than to do this.

Where you want to keep them only a few weeks the heads may be cut off and put in a common flour barrel, sunk half way in the earth. The top of the barrel should be kept as closely covered as possible to prevent changes in the temperature inside. The heads will bear a very hard freezing, if the frost is drawn out gradually.

They may be kept in a trench laying the heads upon a board in the bottom, and covering with earth a foot deep or more. The objection to this method is, that they are inaccessible, when the ground is frozen hard.

The best method, on the whole, is heeling them in, on the north side of a fence or building, where they will have as little sun as possible.

Dig a trench a foot deep by the fence, the length proportioned to the number of cabbages you desire to store. Put in the cabbages, and cover roots and stumps with earth, making a second trench for a second row of heads, and so on, until the whole is finished. The nearer square they are left, the less it will take to cover them. Place rails or small poles over them, so that they shall not rest on the heads, and cover with any old straw or litter, a foot deep. In mild weather ventilate. By removing the litter you can always get at the heads, and remove few or many as suits your convenience. Some market gardeners keep their cabbages in this way until April.

Storing Roots.

The beets should go in first. The crowns are more sensitive to frost than other roots, and the sooner they are in after the first of the month the better. If once frozen, they will soon decay. Mangel wurtzel should also be stored early, and put in the bottom of the bin, where they will not be wanted before January or February. They keep well, and do not scour the cattle, when fed out late. The white carrots, growing out of the ground, should be gathered before ground freezes. The yellow varieties may be left until the middle or last of the month. Turnips come in last—any time before Winter sets in. If the weather is mild they will add a good deal to their weight in the first half of November.

In our climate, a root room, under the barn, or adjoining it, well protected against frost, and well ventilated, is the best storehouse. It will pay as well as a barn for the protection of hay.

About Weeds.

Notwithstanding our advice, oft-repeated during the Summer, we see that all the weeds in the country were not exterminated during the growing season! Hosts of them still stand proudly, in potato patches and corn fields, and by the side of fences everywhere. Some of them have not shed their seeds, and may yet be cut down. Others are biennial plants, or perennials, propagated by the roots, and will have to be pulled or dug up. Now, before the ground freezes, let one more grand assault be made upon them. If left untouched, they will reproduce their kind by thousands next year, and add ten fold to the care and labor. Let, then, every leisure hour be devoted, this month, to a war upon weeds, digging and burning them.

Young Fruit Trees in Autumn.

Many trees set out within the past two years, have not made a satisfactory growth. This has been owing, undoubtedly, to the hasty and imperfect manner in which they were planted, or to the neglect they have suffered since. This very month of November is a good time to commence restoring the vigor of these trees. At once, before winter sets in, cart some old, well-rotted manure into the young orchard, dropping small heaps—say, about a bushel, each—at the foot of every tree. Take off part of the soil from the roots, spread the manure equally over the whole, and mix it in with the earth, leaving the ground loose for the winter. Be sure to feed the *extremities* of the roots; there is no use putting the manure around the *trunk* of the tree. The spongioles are the mouths of the tree, and the food should be put within their reach, at the ends of the roots. This treatment will give the tree new vigor in the next growing season.

Of the importance of heaping little mounds of dirt around the trunk for the winter, our readers are doubtless well informed. This is the best possible preventive of the attacks of mice. This hillock is to be removed, of course, in the Spring.

THE "MONARCH OAK"—FROM A PAINTING BY M. ANTHONY.

(Engraved for the American Agriculturist.)

We take great pleasure in presenting to our readers the above beautiful engraving of the Monarch Oak, and the surrounding forest scenes The original sketch was taken from the old Windsor Forest, twenty-five miles Northwest of London. This forest abounds in ancient trees, many of them flourishing in the time of Norman William—and some of them more ancient. They are in various states of decay, and contrast beautifully with the undergrowth of young wood, and make one "wonder that a thing so straight, so round, so beautiful, could ever become so gnarled, so wrinkled, and so old." We can not ascertain the hight, or dimensions of the main tree in the picture—the artist forgot to note such items—but

this can be gathered from the size of the persons standing and lying near, and from the numerous other trees in the back ground. Who does not love to contemplate and study the scene as here portrayed by the artist?

As before stated we have on hand a large number of sketches of beautiful objects and many new ones are accumulating, which we shall have engraved from time to time for the pages of the *Agriculturist*, believing, as we do, that these artistic pictures not only please, but develop a correct taste and a love of the beautiful.

THE "FOX OAK"

This venerable old tree, which stands near our dwelling, is an object of no little interest to a considerable class of Friends among our readers We have therefore made an original, accurate sketch of it as it now appears, which is in the hands of the engraver, and will be printed in these pages a month or two hence.

What Grapes to Plant.

A grape vine is so easily grown and quickly produces such an abundance of good fruit, that *everybody* ought to have one, two, three, or more vines growing. The villager or citizen who may be unfortunate enough to have only a yard square of soil by the door-way, may plant there a grape vine and train it up by the side of his house, and thus literally "sit under his own vine."

What kind to get is a question often asked. If in the colder climate, say North of 42°, a Concord, or Hartford Prolific may be the safest; the Isabella, or the Catawba, are good for any place South of 42°, and often further North. If but one or two kinds could be set out we would take, 1st, the Hartford Prolific, 2nd, the Isabella, 3d, the Concord, 4th the Catawba.

If more than two kinds are planted, we would add, if they could be got, the Delaware, the Rebecca, and the Diana. The fruit of the Rebecca *we* like better than any other out-door grape, but it is apparently a little less prolific than the others named above. The Delaware is greatly admired by a large number of persons; and the same may be said of the Rebecca, though it is as yet less widely diffused over the country, being of recent origin.

For 12 vines the following is, perhaps, as good an assortment as could be selected for family use.

For places North of latitude 42°.

3 Hartford Prolific.	2 Rebecca.
3 Concord.	2 Delaware.
2 Diana.	

For the Middle States, and States West of them.

3 Isabella.	2 Rebecca.
3 Catawba.	2 Delaware.
2 Diana.	

OR

4 Isabella.	1 Delaware.
3 Catawba.	1 Rebecca.
3 Diana.	

For South and South-west.

3 Isabella.	2 Rebecca.
3 Catawba.	1 Diana.
2 Scuppernong.	1 Delaware.

OR

2 Isabella.	2 Rebecca,
2 Catawba.	2 Delaware.
2 Scuppernong.	2 Diana.

A selection like any one of the above classes, will give an assortment of well tried grapes, with a variety of quality, flavor, and time of ripening. The greater the variety, the less the liability of entire failure in any one year. The Rebecca and Delaware plants are not yet accessible to all, and where they can not be obtained, the others may be proportionally increased. The Isabella, Catawba, Hartford Prolific, Concord, and Diana, can now be obtained in almost every section, at moderate prices.

Experiments with Twelve Grape Vines.

At our residence on Long Island, 12 miles east of this city, we set 12 Grape Vines May 1st, 1857, with a view of making observations upon them for a number of years. We will give the results thus far. Three of the more hardy *in-door* grapes, viz: Early White Malvasia, Black Hamburg and Black Muscadine, were planted, to see what could be done with them in the open ground, unprotected. The twelve vines were all treated alike. The roots were similar in size and form, with the exception of the Catawba, which were of a poorer quality, as we were not able to get better roots at that time. The ground was trenched three feet deep, and a moderate supply of bone sawings, say 2 to 3 quarts to a vine, was mixed with the soil. They were arranged as follows:

North.

		Arbor—see page 85, March No.	
White Malvasia	1		7 Diana.
Isabella	2		8 Black Hamburg.
Catawba	3		9 Diana.
Isabella	4		10 Black Muscadine.
Rebecca	5		11 Concord.
Catawba	6		12 Hartford Prolific.

No. 1—White Malvasia. Has made a fair growth of vine, about 12 feet in all, but the wood is green, and will probably be killed this winter, in which case a new variety will be substituted. No fruit yet.

No. 2—Isabella. Vine large and thrifty, but no fruit yet.

No. 3—Catawba. Feeble growth and no fruit.

No. 4—Isabella. Moderate growth of vine, but no fruit.

No. 5—Rebecca. Two feet growth of vine last year, and about 4 feet of slender wood this year. One small bunch of beautiful white grapes this year.

No. 6—Catawba. Poor root at first. A few shoots the first season, but killed out, root and branch, last winter.

No 7—Diana Grew about 5 feet last year, and 8 feet this year. Bore the past season fifteen bunches of fair grapes, color very light red, or lilac, small pulp and good flavor.

No. 8—Black Hamburg. Growth in two seasons about 8 feet, but sickly appearance now. No fruit.

No. 9—Diana. About 6 feet growth first season, and 10 feet this year. Bore 17 bunches this year; quality same as No. 7.

No. 10—Black Muscadine. Vigorous growth of vine, say 13 feet in two seasons No fruit.

No. 11—Concord. Vigorous growth of wood. Three branches layered last year but not removed. Produced small clusters the first season, and about 100 fair bunches this year, which ripened about the middle of September. Estimated by the weight of a few average bunches, the total produce of the vine the present year was 30 lbs. Grapes of good size, and fair flavor, somewhat foxy, and more pulpy than the Isabellas.

No. 12—Hartford Prolific. Vines very similar to No. 11, but somewhat longer and stronger. There was no appreciable difference in the amount and size of the fruit on the Concord and Hartford Prolific. The Hartford Prolific matured five or six days earlier than the Concord, and was a little less pulpy and foxy.

The Concord was brought from Concord, Mass., and the Hartford Prolific from a nursery near by, so that the larger growth of vine on the latter may be accounted for by its less exposure before planting, though the Concord was a trifle larger and had more fibrous roots when set out. Everything considered, the two kinds, Hartford Prolific and Concord, are about equal as respects growth and vigor of vine. The earlier maturity of the Hartford Prolific fruit with us is in its favor, and there is also a *small* difference in its favor as respects the quality of the fruit. We consider both of these varieties valuable and worthy of general culture, especially in the Northern and Middle States; and if to-day planting out a large plot of *only* the Hartford Prolific, Concord, Isabella and Catawba, for domestic use and for market, we should take them in about the ratio of 4 Hartford Prolific, 3 Concord, 2 Isabellas and 1 Catawba. We should, however, if practicable, add a considerable supply of Delaware, Rebecca and Diana. The latter two are beautiful light colored grapes of sweet flavor, and the Diana is certainly a good grower, while the Rebecca promises fair. The Delaware, a small reddish grape of excellent flavor, is universally well spoken of. We shall give it a place next Spring, and should have done so before but from the former high price of the vines and the difficulty of getting good ones. They are now more accessible, and the price is being lowered.

For the American Agriculturist.

The Isabella Grape—Its History.

This renowned fruit, the main household and garden grape of the Northern States, south of latitude 42°, is so well established in its various excellencies of hardihood, prolific bearing, and excellence in flavor, as well as for wine making, and Winter keeping, that whatever relates to its origin is worthy of record. It has been claimed as a native American, and South Carolina, its original soil. It was so written by the elder Prince, in 1828, in a small octavo which he compiled and published on fruits. The grape was brought from South Carolina, about the year 1816, by Col. Gibbs, and planted in his grounds at what is now Ravenswood, Long Island, and called by Gen. Joseph G. Swift, who afterwards occupied the place, "Isabella," in honor of Mrs. Gibbs, who took much interest in its cultivation. So much in regard to the history of *that* Isabella vine from which a numberless multitude have sprung, aside from the authority of the elder Prince, was corroborated to us by Gen. Swift, himself, many years ago, and there can be no doubt of the facts.

But a grape, without a name, identical with the Isabella, was growing in the garden of a Mr. Vernet, in Norwich, Connecticut, as early as 1810, six years prior to its being planted on Long Island. This grape is said, by those who well knew Mr. Vernet, to have been brought by him from Alicante, in Spain, on the borders of the Mediterranean. He was a French shipping merchant, a resident of Norwich, and on his arrival home from one of his foreign voyages, was planted by him in his own garden. The *original* vine we have often seen, and eaten fruit from it many years afterwards; and from that same original stock, thousands of vines have been grown, and more than thirty years ago hundreds of them were growing in different gardens in Norwich. The two have been so often compared by experienced pomologists, and pronounced identical in vine and fruit, that there can be no doubt on the subject. The only question of the *original country* of the grape which can exist, is as to the fact, whether Mr. Vernet, actually brought *his* vine from Alicante, or obtained it from Charleston, S. C., where, as he was often abroad with his ships, he *may* have found it, on a return voyage

from Spain, and his Norwich friends presumed that he got it abroad.

Gen. Swift, says: "The Isabella originated eight miles from Charleston, in a garden, at Goose Creek, and is a hybrid between a Burgundy grape, and the Fox grape of Carolina." The late A. J. Downing doubted its being a hybrid at all, as it shows no characteristics of any of the foreign grapes grown with us, but on the contrary has many features of our natives of the woods. In all probability we shall never know the *exact* origin of the "Vernet" grape, so locally called for many years, in Norwich, but there can be no doubt that both are the identical "Isabella," and the Norwich vine was for many years known and cultivated before the other was removed from South Carolina to the gardens of Long Island, and there received its name.

American Pomological Society.

The questions are often asked, what is this society, and to how much confidence is the biennial lists of fruit it sends out, entitled? It has been insinuated by interested parties, that the society is altogether in the interest of the nurserymen, and that it is impossible to remove a poor fruit from the list recommended for general cultivation, until the stock on hand is run out. Improbable as this suggestion may seem, there are those prejudiced enough to believe it.

The society originated some ten years ago, and the most of its active founders are still living, gentlemen distinguished, not only as pomologists, but for all those virtues that adorn our common humanity. It is true, that many of its present members are engaged in the nursery business, and have a part of their livelihood from the sale of fruit-trees. But this fact, so far from impairing their capacity to judge of good fruits, we claim as one of their best recommendations for this office. Few gentlemen out of this business have the leisure or the means to study the individual character of two hundred varieties of apples, as many of pears, and a large number of other kinds of fruits, so as to be able to give an opinion of their good or bad qualities. It takes at least ten years to test the character of a new seedling apple or pear, so that it can be recommended for general cultivation. Many things go to make up a first-rate fruit. Some have good quality, size, productiveness, and long keeping to recommend them, but the habits of the tree are so perverse, that they have to be condemned. Nurserymen have their experimental trees, and make a business of testing the character of fruits. Before any one of them can send out a fruit tree, its value must be tested by this, or by some other horticultural society, or it will not command an extensive sale. Every one of them knows his neighbor's character for discrimination and thorough knowledge of his business, and that it is an impossibility that a worthless variety, or even a second-rate variety should run the gauntlet of a hundred such men, and escape detection. It is quite as much for the interest of these gentlemen to send out only the best varietes, as it is for their patrons. They have intelligence enough to understand, that purchasers will repeat their orders, only when they receive what they send for.

But the membership of the society is, by no means, confined to this class. There are gentlemen of wealth and leisure, and some of the editorial fraternity, who have nothing but ideas to sell, that belong to the society, and take part in its discussions. It is simply ridieulous to suppose that these gentlemen can be made a party to the designs of any nurseryman in a fraud upon the public.

We regard this Society as the best safeguard the community can possibly have against imposition in fruit trees. Any fruit in the lists—promising well—or—for general cultivation—has to win its place by years of thorough trial, which nothing but real merit can abide. If a man wants to be taken in, let him buy some highly recommended novelty of a vagrant tree pedlar If he desire to secure a valuable fruit, let him purchase first-rate trees of a nurseryman of well established reputation—those, for example, who take part in the discussions of the pomological society, and are willing to have *their* merchandize subjected to its discussions and criticisms.

A Splendid Ornamental Tree.

THE TULIP TREE (White Wood)

In former years, the writer had commended this tree to the attention of planters, chiefly on the certificate of the books; but we wish now to speak of it from our own larger experience. Several specimens have flourished for a number of years in our own grounds, and every year has added to their beauty, and consequently to our attachment to them. We are not without other rare and much admired trees to compare them with. The Salishuria grows near by, and not far away, are the Kentucky coffee tree, virgilia lutea, magnolia acuminata, red-hud, Japan sophora and kolreuteria. Five or six varieties of the elm, native and foreign, are within sight, yet the tulip-tree is equal to the very best of them.

Have you never seen one? Please wait a moment for our sketch: A clean, dark grey trunk rises forty or fifty feet in the air—a noble, symmetrical column,—the branches then shoot out in ascending angles, and support a massive dome of glossy foliage. The bark of the smaller branches is very smooth. The leaves are large—some of them six to eight inches broad. Notice their peculiar shape: they appear as if cut off at the end, and then notched. The flowers are like the tulip in form (whence the name of the tree), and are composed of six petals, yellow without, and mottled with red and green within. Each flower is borne on a short stem by itself, and stands out so conspicuous as to be seen from quite a distance. Downing well said of it: "It is decidedly the most *stately* tree in North America." It does not blossom until ten or twelve years old, and the flowers do not perfect their seeds until the tree is thirty or thirty-five feet high.

It is the natural tendency of this tree to shoot up into a lofty head. But if planted alone, and its side branches encouraged, it spreads abroad a magnificent canopy of branches and leaves. A few years since, one in our own grounds was accidently injured, and had to be cut off near the ground. Having strong roots, it threw up a number of branches around the old stump, which have since swelled out into a grand mass of foliage from the ground upwards. It is now our finest specimen.

The tulip, like the magnolia, to which family it belongs, is somewhat hard to transplant, when large. Its roots are soft, spongy, easily broken, and with no fibers to spare. Lazy or careless planters had better let it alone; they don't deserve to have it, and wouldn't succeed with it if they tried. It can be raised from seed, or obtained when small from nurseries. We have known it growing wild in Western New York, and along the southern shore of Lake Erie, where it is called "Whitewood." It loves a deep, rich soil rather moist in Summer, but not wet in Winter. It grows, on an average, two to three feet in a year. In the northern part of New England it is not perfectly hardy, especially when young.

Perhaps it will influence some to plant this tree, if we inform them that, though an American tree, it is very popular abroad. It was introduced into England as early as 1688, and fine specimens of it may now be seen in every English, Irish and Scotch park. When first grown in England, it was cultivated for many years in pots in greenhouses. On the Continent, it is a favorite tree for avenues. The French and Italians prize it highly.

In view of all its excellencies, well does an American writer say of it: "No tree, of any clime, unless we except the magnolia, excels in magnificence the tulip. In the stately grandeur of its trunk; in the richness and profusion of its singular shaped and pleasing green foliage; in the brilliancy and abundance of its large, tulip-shaped blossoms; and in its freedom from the depredations of insects, it is pre-eminently fitted to adorn our parks, our public avenues and ornamental grounds."

The Daisy (*Bellis perennis*).

This perennial flowering plant has, as its name (*bellis*, pretty) indicates a very beautiful bloom, extending in its varieties through white, red, blush, rose, and the various intermediate shades of color. Many, of the newer seedlings, with their full quilled flowers, are equal in beauty to their more showy neighbors, the Asters. They bloom early in the season, and on this account are highly prized as border plants, especially as they are easily grown.

New kinds are produced from seed, the same as the dahlia, chrysanthemum, tulip, &c., but the established varieties are propagated by dividing the roots, either in early Spring, or in Autumn. They succeed best in a moderately moist and partially shaded situation, as a hot sun is apt to scorch the foliage and shorten their period of bloom.

After the Autumn frosts, say during the latter part of October, or first of November, divide and reset the roots on the border, where they are to remain, protecting them from extreme cold by a covering of straw, coarse manure, forest leaves, tan-bark, or saw dust. If an early bloom is desired set them in pits or cold frames, six inches apart, and protect with glass frames, boards, or straw, as may be needful.

The daisy is a good forcing plant for pot culture, and makes a fine show in a collection of Green-House or parlor flowers. It is particularly desirable as a border plant for setting out as soon as the grounds are laid out in the Spring, at which time it is often in bloom.

Positiveness is one of the most certain marks of a weak judgment.

To ascertain the weight of a horse, put your toe under the animal's foot.

Praise not the unworthy, though they roll in riches.

Precepts may *lead*, but examples *draw*.

Escholtzia Californica.

The accompanying engraving is taken from a sprig plucked from a thick border of Escholtzia, now growing in our garden. It forms a pretty compact mass, and is still (Oct. 11th,) covered with a profusion of very bright yellow flowers, the general form of which is shown by the one in the sketch. The foliage is more feathery and compact than here represented. The seed was sown in the open ground, May 16th, and the flowers began to appear in July. It is of course an annual, and may easily be grown in almost all climates, and every variety of soil. When supported the plant will rise 1½ or 2 feet, but without supports it lies in a thick mass along the ground, the flowers neatly standing above the foliage.

As its name indicates, this plant originaly was derived from California, and it is sometimes called "California Poppy," but it bears little resemblance to the *papaver* family.

For the orthography of the name we shall probably be taken to task, as it is usually spelled *eschscholtzia;* but since it is pronounced es-kolt-zi-a, we see no special reason for loading down the name of a new plant with an extra *sch*, and we take the liberty to write it *es cholt-zi-a*.

We are so highly pleased with this plant that we recommend it to general culture. We distributed considerable seed last Winter, and those who have it growing will doubtless save an abundance of seed. We shall again offer it in our seed distribution, to all subscribers desiring it, and not able to get it elsewhere conveniently.

A Very Pretty and Very Cheap Ornament for Everybody.

We present an engraving of a very simple, cheap, and yet pretty Cypress vine trellis which stands opposite our window. We say cheap, for it cost less than one shilling outlay and two hour's time, including the making, putting up, and planting seed. At the time of this writing, Oct. 1st, it is covered from bottom to top with a feathery foliage and a profusion of scarlet and white flowers.

The standard was sawed from the edge of a 2-inch pine plank, and with a draw-shave worked 8-square, tapering to an inch in diameter at the top. The cap is a circular inch board, 6 inches in diameter, with an auger hole in the center, to fit the standard, and nails driven around the edge, as seen in the small cut at the teft of the trellis. The standard is sketched too large proportionally. As it is supported by strings on all sides, it need not be very strong A round stick from the woods may be used. We took ours to a paint-shop and had a little green paint brushed on.

The standard being set up, a string was tied around the bottom loosely, so as to slip, and with this as a radius, and a stick at the end, a circle was marked out 2¼ feet from the center, (4½ feet diameter), and the seed sown. Stakes were driven around at equal distances in the circle, and cords run from them to the nails in the cap. This work occupying, perhaps, two separate hours after the days' labor was over, was all the time or expense out, except the seed and strings, say 10 cents in all.

Let those who have no better ornaments, and even those who have, put up one of these simple affairs next Spring, and enjoy it, as we have, during the present and past Summers. The seed of the cypress vine can be obtained at many seed stores, and it will be in our free distribution list next January, for every subscriber who can not get it elsewhere more conveniently. The Trellis may be made smaller or larger, according to the room it is to occupy, and to be in harmony with surrounding objects. With us, the vines run from

CYPRESS-VINE TRELLIS.

15 to 18 feet during the season, when allowed to do so. At the far North, the growth will be much smaller. Wherever grown, it continues to run and bloom from first starting until killed by frost. Good seed is difficult to be obtained, and is very expensive. Two papers, such as are generally sold, would usually be needed for so large a trellis as the one here described, especially as not more than half the seed commonly sold in the market grows.

Thunbergia.

We present herewith an engraving of a portion of a vine of the *Thunbergia alata*, now growing in our garden from seed sown last May. It is very beautiful and worthy of being generally known and cultivated. We expect to save some seed and purchase more, so as to place it among the seeds to be distributed to subscribers next Winter.

The Thunbergia is usually classed among Green-House or stove plants, but several of the varieties have proved sufficiently hardy for out-door culture—among which is the *Alata*. The name of the plant was given by the younger Linnæus, in honor of his intimate botanical friend, Thunberg. The varieties are all climbers of more or less beauty, and, in the Green-House, are semi-shrubby perennials, but when planted in the open border about the middle of May, they assume more the form of an annual, blooming profusely from July until killed by frost. They may be taken to the Green-House in cold weather, where they will continue for a long time in bloom.

The *alata* has a buff-colored, tubular shaped flower, with a dark purple throat. There is a variety, *Alba*, with showy white flowers, and another *aurantiaca* having an orange colored bloom.

We shall endeavor to send out mixed seeds of two, three or more varieties. A moderately light loam with an addition of peat, suits them best, but they will grow in any fair garden soil. They are raised from seeds, but may be further propagated by cuttings and layers.

Trained over a lattice they make a fine screen, sending out numerous side branches in all directions. The Gardeners' Chronicle speaks thus of the *alata*. "The *Thunbergia alata* has a beautiful effect when planted out on a rock-work, where it appears in its natural character, clinging to the various projections, which it quickly covers."

How to See a Cotton Plant.

A large number of persons living at the North have a curiosity to see a Cotton plant. We remember that our first travels in the Southern States were, in part, prompted by a desire to witness the fields of Cotton which furnish the material entering so largely into our textile fabrics The Orange Groves, the Magnolias, and the Sugar cane, we had gained a fair idea of, from specimens of the former two growing in Northern green-houses, and from pieces of stalks and leaves taken from molasses hogsheads, and also whole canes brought North. The cotton plant

in bloom we had never seen, except in pictures.

But most persons at the North may easily raise a few Cotton plants in their gardens. We have now (Oct. 4,) in bloom a dozen of nearly perfect specimens of both Sea Island and Upland Cotton plants, produced from seed sown in the open ground, June. 2. The soil was a warm one, and bone-sawings were added with the seed. They show the form, leaf, flower, and plant finely, and are really ornamental. Of course we do not expect them to mature, though some flowers already closed promise to produce the actual fiber. This might have been certainly secured the present year by earlier planting especially if under shelter. A few seeds may be started in April by planting them in bits of turf under shelter, and then transfer them to the open ground when danger of frost is past. But except at the far North, this is not necessary where only the flowers are looked for. To accommodate those who desire to raise a few plants, we will place Cotton seed in our next list of seeds for free distribution.

Fig 1—Physalis Viscosa Plant.

The Winter Cherry. (*Physalis*)

Called also: Pine-apple Cherry—Ground Cherry—Strawberry Tomato—Pine-apple Tomato—Hull Tomato—Cape Gooseberry, etc.

We are more than ever convinced that this is a generally valuable plant, and that it will be so considered by all who learn *how* to use it. The American variety, (*Physalis viscosa*,) is easily grown at almost any point, and furnishes a very palatable sauce, as well as an excellent pickle. The fruit may be kept through the entire Winter in its capsules, without any preparation—from which originated its name—"Winter Cherry." The plant

Fig. 2—Viscosa Leaf Fig. 3—Viscosa Fruit.

produces fruit in 2½ to 3½ months after coming up from the seed. We gathered fruit Aug. 8th, from plants that were just out of the ground, June 1st. We have this year obtained over five bushels of fruit from a plot less than three rods square.

It is too sweet to suit the taste of most persons, without the addition of a little lemon, which greatly improves it. Stewed down with this addition, and pound for pound of sugar, it makes an

Fig. 4—Alkekengi Leaf and Capsule.

excellent preserve, with a Pine-apple flavor, and somewhat resembling honey. No person tasting it, as we have it prepared, has failed to like it.

The fruit when ripe, or nearly ripe, put into vinegar, with a little sugar, makes first rate pickles.

TWO VARIETIES DESCRIBED.

We present sketches taken from plants of two varieties now growing in our garden, which show the difference in the habit of the plants, the form of the leaf, and the shape of the capsule.

Fig 1, is the American variety (*Physalis viscosa*). Only a portion of a single plant is shown. This grows wild in many parts of the country, and may be gathered for use; but it is improved in size and flavor by cultivation. Where the plant has room, it spreads over the ground, several feet, extending upward scarcely a foot.

Fig. 2, shows a section of the stalk, with the form of the leaf, and the shape of the fruit capsule.

Fig. 3, is an open capsule, drawn on a still larger scale. The fruit averages a trifle larger than common cherries. It is yellowish when ripe. The capsule usually falls early to the ground, where the fruit matures.

Figures 4 and 5 show the Foreign variety. Our seed came from Gen. Mezzaros, who brought it from Hungary. He recently informed us that it came originally from Italy, where it is grown extensively, as well as in some other parts of Europe. This grows upright, 4 to 6 feet or more in hight, with large branches. We purposely sketched the smallest, and least branchy plant we could find, in order to have room for the engraving. The leaf, capsules and fruit are all much larger than the American variety, and differ considerably in form, as will be seen by comparing figs. 2 and 3, with fig. 4. The leaf of the *P. alkekengi* variety is also much more soft, velvety, and thicker than the *P. viscosa* (American).

The fruit of the *alkekengi*, is nearly twice as large as the *viscosa*, is more acid, and has a little more of the Pine-apple flavor. On these accounts the *alkekengi* is superior to the *viscosa*, and is a more desirable fruit. But it is longer in maturing, and though we have grown it from seed in the open ground the present season, this can not always be depended upon in this latitude It usually needs starting in a Green-House or hot-bed. Further South it will doubtless mature well, when sown in the open ground. Like the American variety, the *P. alkekengi* yields a large amount of fruit. A gentleman who has resided in several European countries, recently informed us that in some localities, a dozen plants of the alkekengi not unfrequently furnished the only supply of fruit consumed by a family, especially among the poorer classes.

SEED FOR DISTRIBUTION.

We have the present season raised and saved a good supply of seed of the American variety, for free distribution among our readers, which will be announced in our catalogue. Several thousand packages were sent out last Winter, and many have grown it, though not a few were deceived in its late vegetation, and without waiting for it to come up, they replanted the ground with something else. As before stated, our seed sown May 3d, did not show itself until towards the middle of June, and this was the case with that lying in and upon the ground over Winter. W shall probably have enough for all applicants; 150 seeds in a parcel, if all should grow, will give five times as many plants as any family would need.

Of the Foreign variety (*P. alkekengi*), we have not a large crop, but will give out to those desiring it, small parcels of 15 to 20 or more seeds, so long as it lasts. As we shall have only a couple of thousand, or so, of these parcels, we hope none but those living South of this latitude,

Fig. 5—Physalis Alkekengi Plant.

or those having Green-Houses or hot-beds at the North, will apply for this variety. Next year we shall have an abundance.

"Husk Tomato" (?)

Below is an accurate sketch of the appearance and exact size of some specimens of fruit sent us by Isaac Hicks, Hempstead, Long Island. We have also received similar specimens from New Jersey and Wisconsin. Not having the flowers or fresh stalks and leaves, we are unable to give its true botanical name. So far as we have heard it spoken of, it has been called the "*Husk Tomato*," but this is not the proper, or not the best name, we think. We shall be glad to hear

"Husk Tomato" Fruit.

from those acquainted with it, in reference to its origin, name, botanical classification, mode of culture, and value as an edible fruit. From previous notes from correspondents, we had supposed this a variety of the *Physalis*, but the wilted vine before us is different from any species of that family, and more resembles the *solanum*. The taste of the fruit somewhat resembles the tomato, but is much more solid. The color of the skin is dark purple, and the flesh is also purplish.

IN DOOR WORK.

About China Tea.

As nearly all our lady readers have more or less to do with China Tea we think they will be interested in a brief description of the article. We say "China Tea," because there are now several kinds of plants used for making the beverage called "Tea." Not less than thirty different tea plants are habitually used, more or less, in different parts of the world. Paraguay, and some other portions of South America, produce a tea plant called *Maté*, which is very largely used in those countries and somewhat exported. Paraguay alone sends abroad some six million pounds annually. The Chinese tea is, however, the great staple throughout most of the world. The British, Dutch and Russians are the largest European tea-drinkers—the other nations drink a greater proportion of Coffee and Cocoa. In the United States the consumption of Tea and Coffee is more nearly equal, though the former preponderates. The people of Great Britain use nearly *sixty millions* of pounds annually. The total annual produce of the dried leaf in China alone is estimated at about two to two-and-a-half billion pounds (2,500,000,000 lbs.) And to this enormous amount must be added that grown in Japan, Java, Corea, and many other countries. The Dutch (Hollanders) get most of theirs from Java. It is estimated that Chinese Tea is at present consumed by six hundred millions of people, or nearly half of the human race!

Fig. 1—Common Tea-plant (*Thea viridis*). Shrub, 8 feet high; leaf, 2½ inches long.

Description of the Tea Plants.—Fig. 1 is an illustration of the *Thea viridis*, which is the most common tea plant, and the one from which the finer teas are obtained. The tree, or shrub, as here shown is full 8 feet high. The leaf is about 2½ inches long and 1½ inches wide.

Fig 2 shows the *Thea Bohea*, or Bohea Tea plant, from which is obtained the inferior teas made about Canton. It grows to 5 or 6 feet in hight. The leaf is about 1¼ inches long ¾ inch wide.

Fig. 3 shows the Maté or Paraguay Tea plant which grows much larger than the Chinese varieties. The tree here shown is some 15 feet high, and the leaf 5 inches long, and nearly 3 inches wide.

How the Tea plant is grown.—The plants are raised from seed, and when a year old are set out 3 to 4 feet apart. They are cropped down for a year or two to make them grow bushy. The gathering of the leaves is begun the third or fourth year, and continued for five or six years, when the bushes are removed and new plants set out. The leaves are gathered in April, May and June, but chiefly in May. The earlicst young leaves give the highest flavored teas. The latest pickings are seldom sent abroad.

Green and Black Teas—Curing.—These, according to the recent reliable researches of M. Fortune, are produced from the same plant—their difference resulting wholly from the manner in which they are treated when drying. Mr. Fortune,

Fig. 2—Bohea Tea-plant (*Thea bohea*). Shrub, 5 feet high; leaf 1½ inches long.

in his report to the French journals, says he saw the Chinese gather leaves from a single plant, divide them into two portions, and make one into black and the other into green tea, both of which were precisely like the samples of these two varieties sold in our market.

To make the *green*, the leaves were roasted as soon as picked, rolled, and dried off quickly, the whole operation being simple and rapid.

To make the *black*, the leaves were spread out in the air for sometime, and when wilted were tossed about until soft and flaccid, after which they were roasted a few minntes, then rolled and exposed to the air for a few hours while moist. They were finally dried slowly over charcoal fires. This process rendered them dark-colored.

This may, perhaps, explain why *black* tea is less exciting to the nerves. All tea has more or less of a volatile oil, which in a condensed form produces giddiness, headache, and even paralysis. The slower drying of the black tea allows a greater proportion of this oil to escape. In China, tea is seldom used until a year or more old, and time is given for the volatile ingredients to escape. New tea is strongly intoxicating. Green tea is also more frequently adulterated with Prussian Blue, or Indigo. One or the other of these is mixed with plaster of Paris (Gypsum,) or white clay, to form a lighter blue powder which is sprinkled over and worked with the leaves while drying, to give them a lively green color. As this is carried on extensively, the drinkers of green tea stand a fair chance of also imbibing more or less Prussian Blue—though not enough, perhaps, to produce injury. Tea itself is poisonous enough without this addition. From the mode of drying, it is probable that if black tea were not taken stronger than the green, it would have less narcotic effect. But when tea is taken for a stimulus, as it almost always is, the weaker it is in narcotic oil, the more of it will be taken. Tea drinkers, like the toper, must have enough to "make the drunk come." So that, on the whole, green tea is cheaper, for a smaller quantity will produce the *desired* effect.

Nourishment in Tea.—It was formerly supposed that the only nourishment in tea came from the added milk and sugar; but an examination of its chemical composition, and of its effects, show that there is more or less direct nourishment from the tea itself, and that taken into the system, it diminishes the natural evacuations, and thus lessens the demand for new food. In this latter view, or on the supposition that it lessens the natural waste of the body, tea may be useful to aged persons. To get the full benefit, however, it is needful to abstain from it. free use while younger. Every consideration, we think, indicates that children and young persons should not habitually drink tea, (or coffee, which is very like tea in its narcotic principle as we shall show when describing it particularly.)

The Chinese seldom make any additions to their tea. Mr. Fortune says that in all his journeying through the tea districts, he only once met with sugar and a tea spoon. They consider tea nourishing of itself, and that such is the case is shown by its chemical composition. The dried leaves contain one-fifth to one-fourth their weight of *gluten* which is the chief muscle-forming element of wheat flour.

Beans contain only one part in four, of this highly nutritious substance, so that for producing muscles, (lean flesh,) a pound of tea leaves is equal to a pound of beans. But it is to be remarked, that only a small portion of this gluten is dissolved out when tea is "drawn" in hot water. The better and more economical mode would be, to eat the leaves after the narcotic principles are extracted by steeping. This is done regularly in some countries, and the practice is to be recommended, where tea is largely used, especially by the poor. The tea infusion exhilarates, or intoxicates, and nourishes slightly, while the steeped leaves mainly nourish.

Before advising any one to adopt cooked tea leaves as an article of diet, we would add, that, calling tea 50 cents per pound, one pound of gluten from tea leaves costs $2, to $2 50; while,

Fig. 3—Paraguay Tea-plant (*Ilex Paraguayensis*), or Paraguay holly. Shrub, 15 feet high; leaf, nearly 5 inches long.

from beans at $1 75 per bushel (60 lbs.,) a pound of gluten costs 12 cents; and from flour at $7 per bbl. (196 lbs.,) a pound of gluten costs 30 to 35 cents. This calculation does not include the nutritious oil and starch, contained in flour and beans in very large proportions, but in very small amount in tea leaves.

Of the Preparation of Tea for the table it is not necessary to say anything. The process is too simple to require the application of scientific rules. Every one of our lady readers would say, mentally at least, "give me the good tea to start with, and I can get you up as good a cup of tea as anybody." We admit it, and will wait until we come to a description of the coffee plant and its preparation, before offering any further practical suggestions. We will add here, however, that if the object in drinking tea is to get as much exhilaration as possible, every precaution should be taken to prevent any of its oil from escaping with steam. Every one knows how weak and insipid tea is when made in an open vessel

where the narcotic oil can escape. We once heard a person remark, with some truth, "that a quart of such tea would not keep her awake." But in behalf of the children we say, if you must let them have tea to drink, except as a medicine, by all means cook it a long time in a tin basin or other wide, shallow, open vessel, and then dilute it homeopathically.

Hints on Deportment at Home—IV.*

BY ANNA HOPE.

[*Continued from page* 309.]

Nothing that affects our influence is of little importance. Our position in society depends much upon our manners. A lady is known more surely by her manners than by her dress. Silks, velvets and laces can be bought with money. The proprieties of life are learned only by a delicate tact, and an acquaintance with good society.

HOME POLITENESS is rarely considered as of so much importance as it really is. We are too often inclined to treat strangers with more respect than those of our own household. Children, especially, are supposed to have no particular claim upon our politeness, and are often treated with as little consideration as the dogs which they pet. If we would have our children civil to ourselves and others, we must be civil to them. A request is often better than a command. A kind "I thank you," is a return the smallest favor may claim. Children and servants are entitled to our politeness, as truly as our guests and strangers.

If we would be civil abroad we must be civil in our own homes. We must cultivate the beautiful in our daily life. We must seek for the perfect in our manners, as in our morals; and no where should we seek to shed such a radiance as when surrounded by those whom we love, and who look up to us as patterns of what they should be. Home should be the sanctuary of all that is holiest, of all that is attractive and charming. There we should be the most agreeable and lovely, and there we should endeavor to develop our idea of perfection.

If we always practice what we know, we shall be ever learning more. If we allow ourselves to become careless in our manners and our mode of life, it will soon be obvious that we are tending to barbarism. We can scarcely be too particular in regard to our manners in private. A true lady is a lady everywhere—in her own room, as surely as in the most fashionable parlor.

"The greatest danger in home life," writes Timothy Titcomb, "springs from its familiarity. Kindred hearts, gathered at a common fireside, are far too apt to relax from the proprieties of social life. Careless language and a careless attire are too apt to be indulged in, when the eye of the world is shut off, and the ear of the world cannot hear." If we suffer ourselves to be overcome by this danger, we need not seek to appear well when we most desire it. We must have a high idea of what we may be, that we may continually strive for advancement. "The higher you aim the higher you will reach," is a remark of Fenelon, that early imprinted itself on my mind, and it has helped me many times to set my standard, where, without its influence, I never could have planted it.

We should not be satisfied with anything but the best to which we may attain. The cares, and labors, and wearinesses of life often tempt us to discouragement, but we must be of good courage. We must remember that we cannot afford to lose any good we have obtained. We must not suffer our manners to deteriorate, but rather let them improve, that we may be able to elevate others who have possessed fewer advantages than ourselves.

I have no liking for a parlor with closed shutters and doors, reserved for special occasions, and so seldom used that the family hardly know whether they are at home or abroad when in it. A parlor should be a cheerful, family room, made as beautiful and attractive as a person's taste and means can make it. Every parlor should be as individual as the person who occupies it. I would not willingly resign a house into the hands of an upholsterer. I might avail myself of his experience, but I should wish my own taste to preside over it. It always gives me a pleasure to enter a house unlike others. I have been interested in observing how much I can judge of a family, merely by the house they live in. The simplest cottage may be made tasteful and attractive. It does not require wealth to give an air of refinement. It requires little more than an innate sense of the beautiful. Some of the log cabins of the West have left an indelible impression on my mind, as among the most picturesque dwellings I have ever seen. One in northern Ohio, with its overhanging roof, and its graceful drapery of vines, and the dear old grandmother with her neat dress and plain cap, standing in the door as I passed, has never been supplanted in my memory by any city palace or country villa. Were I an artist, I should transfer this picture to canvas. I would rather live in such a home, surrounded by a fine country, than in any stiff, ugly house, built and furnished without taste.

While a parlor should not be shut up from sunlight and daily life, I would yet have it a room beyond others in dignity. A certain attention to dress should be required of those who enter it. The dress used for labor is scarcely appropriate to the parlor; but when the duties of the day are over, I think every family should attend somewhat to their personal appearance, and pass the evenings together, away from the signs of toil which the other parts of the house often present. I know it requires an effort to do this, but I think the influence on ourselves and on our children will more than compensate for the trouble.

The parlor is no place for lounging. Always endeavor to sit gracefully. Do not drop sideways into a chair, with your dress all on one side of it. Do not be in the habit of putting your feet on chairs and sofas. I have seen a young lady ensconce herself in an arm-chair, with her feet upon the upper rounds of another, when gentlemen and ladies were present, with as much nonchalance as she would have done it in the privacy of her own room. She could not have given a more decisive proof of ill breeding than by the independent manner in which she thus seated herself.

Do not take possession of the most comfortable seat in a room, unless you are an invalid, or an aged person. Do not appropriate a seat considered as belonging to another; and, especially, do not retain it until that person approaches you, or seats herself elsewhere; and do not drop into it the moment she has left it. This is exceedingly annoying.

Do not go about humming or singing in another person's house. Step through the halls quietly. Keep your hands off the balusters and walls in going up and down stairs, unless you are so feeble that you need support. It is enough to make a nice housekeeper nervous, to hear the sound of the hand slipping over the bright varnish.

Let your manners be kind and respectful, but never be patronizing. Let your efforts to please be so simple and natural, that they may be agreeable. Be observant and attentive to the little wants of those around you.

Cant phrases are an abomination, and should rarely, if ever, be used. I confess, I do not feel ashamed of my ignorance, when I cannot understand what they mean. Use the best language in *common* conversation.

Introduce, under ordinary circumstances, gentlemen to ladies—not ladies to gentlemen. Do not give a *double* introduction, as, "Mrs. Morehead, Mrs. Green: Mrs. Green, Mrs. Morehead"—one mention of the name is sufficient. As a general rule, introduce the younger to the older. Age is always entitled to respect. Thus: if Mrs. Morehead were the youuger, or in lower rank, say; "Mrs. Morehead, Mrs. Green," emphasizing Mrs. Morehead's name. It is often well to mention the place of residence when introducing strangers, as that will naturally suggest a subject of conversation, without being compelled to resort to the state of the weather.

* The previous chapters containing the engraving of the table "set out," with the full details for deportment at the table, and in company, have been well received and highly appreciated, so much so, that they are being extensively republished in other journals. A gentleman in high position, remarked a few days since, that these articles, though designed for ladies, had been of great benefit to him, as he had received many useful hints. We have good reason to know, that the younger females of many families have considered these articles as of inestimable value, and not a few extra copies have been called for to send to their friends.—ED.

Woman's Wages.

The paragraph on this topic last month, page 297, has called out several letters, among others a very creditable and well written one by "A Woman," which she says is her first effort with the pen. We did not intend to awaken a discussion on this topic at the present time, but there are several important thoughts on this subject, aside from the impracticable theories of the more ardent advocates of "Woman's Rights," and we shall in our next volume devote some space to the matter and give one or more of the letters already received. In our recent leading articles some thoughts have been already expressed on the position and labors of women in the family. A number of intelligent readers have spoken of these articles as the most important ones in the present volume, especially the one in October.

Sewing Machines—Good News.

Nothing occurring during the past month has given us greater pleasure than to hear of the reduction in the price of Sewing Machines, by the Wheeler & Wilson, and the Grover & Baker Companies. Those made by these companies we consider decidedly the best for general family use. Our friends continually ask, which of the two is the better implement. We should have answered the question long ago, but really it has been impossible to do so. We have had both the Grover & Baker and the Wheeler & Wilson machines in our family, for nearly a year—the former one over a year—and so well do they both do their work, that we are loth to part with either of them. Each one has its own peculiar advantages, and we unhesitatingly say, that had we the last Wheeler & Wilson machine that could be made, we would not part with it for a thousand dollars; and so also had we the last Grover & Baker machine we could get, we would not take a thousand dollars for *that* one.

We did not, however, commence this item to discuss the comparative merits of these machines, but to congratulate our lady readers on the fact that unexpected large sales, and other causes, have led these companies to reduce the price very materially. A very good Wheeler & Wil-

son or Grover & Baker machine can now be had for $50. These $50 machines do their *work* as well as those formerly sold for $100, though they are less expensively got up, as respects style and finish. The other styles are correspondingly reduced in price.

Truly, the days and *nights* of the everlasting "stitch! stitch! stitch!" with the slow hand needle, are fast being numbered, and we can but rejoice in the event.

The Premium of a Sewing Machine for obtaining new subscribers, offered last month, has been materially changed, in consequence of the reduction in price, and the terms on which we are now able to offer a machine (see last page of this number) will enable a large number of our lady readers to secure one with comparatively little effort.

Is Saleratus Poisonous?

The gentle insinuation, last month, that the small amount of alkali, soda or saleratus, used in cooking, is not so very dangerous an affair as many would have us believe, has called out a perfect shower of responses. We by no means feel "extinguished," however. The late arrival of these communications prevents attention to them this month, but we will make room for one or more in our next. An "airing" on the subject will perhaps do good.

To Preserve Quinces Tender.

Every housekeeper knows the difficulty of preserving quinces so that they will not become *hard*. The following directions, from home experience, obviate the difficulty effectually, and produce a tender quince sweetmeat: Pare the fruit, and cut into quarters, eighths, or rings as you may fancy. Then boil in water until soft, and take out the pieces, placing them on plates to cool. Boil the parings and seeds in water, and to the jelly like liquid obtained, add one pound of sugar for each pound of fruit. Boil and skim to clarify, add the cooked fruit, and boil gently for half an hour. Take out the fruit, and boil down the liquid until it assumes a jelly like appearance on cooking a little of it, and then return the fruit, and put away for future use. The extra good quality will repay any extra trouble.

Apples with Quinces.—A very nice sauce is made by taking at the rate of a peck of quinces to a bushel of sweet apples, and preparing as above, except using only half as much sugar, and boiling down the second syrup without removing the fruit.

Superior Sweet Apple, Pear and Quince Pickles.

A long trial in our own family has proved the good quality of pickled sweet apples, pears and quinces prepared as follows: Take one peck of fruit, pare, quarter and core them and add 4 pounds of Sugar and one quart of vinegar. Cook the whole together until the fruit is tender, then remove it with a skimmer to plates on which it is to be spread out to cool, and afterwards put into glazed earthen-ware or glass jars. Then make a new syrup like the first, but a little sweeter, say one quart of vinegar and 5 pounds of sugar, boiling with it a little bag containing ½ ounce of ground cinnamon and ½ ounce of ground cloves. Pour this syrup over the apples leaving the bag of spices in the syrup. Prepared in this way a very nice sweetmeat is obtained which is a sweetish tart but not sour, and the flavor will be highly relished by most persons. They will keep a long time, are not so indigestible and unhealthy as fruit stewed down in sugar to the keeping point. By an occasional boiling, the preparation might be kept for years if desired. It is cheap, as the cost for a peck of fruit is only 9 lbs. of sugar, 2 quarts of vinegar, and a little cinnamon and cloves. The first liquid used for boiling the fruit may be taken for cooking a new lot, or it may be used for preparing other sauce for immediate use.

The best mode of Drying Pumpkins.

We love pumpkin pies, even when there is an abundance of tree fruits, and we shall this year love them all the more because the tree fruits are scarce. We have tried all modes of drying pumpkins, but no plan is, we think, equal to the one we recommended a year ago, and which we have recently tried on a larger scale than hitherto. It is this: Take the ripe pumpkins, pare, cut into small pieces, stew soft, mash and strain through a colander, as if for making pies. Spread this pulp on plates in layers, not quite half an inch thick; dry it down in the stove oven kept at so low a temperature as not to scorch it. In about a day it will become dry and crisp. The sheets thus made can be stowed away in a dry place and they are then always ready for use for pies or sauce. Soak the pieces over night in a little milk, and they will return to a nice pulp, as delicious as the fresh pumpkin—*we* think much more so. The quick drying after cooking, prevents any portion from slightly souring; as is always the case when the uncooked pieces are dried; and the flavor is much better preserved. The after cooking is saved, this plan is quite as little trouble as the old mode, to say nothing of its superiority in the quality of material obtained. Try it and you will not return to the old method we are sure, and you will also become a greater lover of pumpkin pie "the year round," and feel less the loss of the fruit crop.

A Good Citron Cake.

We don't like preserved citron in cake, or rather it always appears like an indigestible material. But since "what is one man's poison is another's meat," we give the following recipe furnished by a lady of our acquaintance who says it is good. Mix well together 4 coffee cups of flour, 2 of sugar, 2 of sour cream (that's good if you have it—Ed.) and the whites of 8 eggs. (Save the yolks to go with our broiled ham—Ed.) Cut ½ pound of citron in thin pieces and roll them in flour. Now stir in quickly one teaspoonful of cooking soda made very fine, and finish with adding the floured citron. Bake at once as rapidly as possible without burning.

Nota Bene.—Rolling in flour, the raisins, currants, or other fruit, and adding them to cake just before baking prevents their sinking to the bottom, as frequently happens without this precaution.

Cracker Pudding.

We can testify that the following is not "bad to take." Stir into 3 pints of sweet milk, 2 beaten eggs, 3 tablespoonfuls of sugar, and any spice you like best. Break in 4 soda crackers, and when soaked soft, stir in as many raisins as you like—the directions given to us, say 1 pound to the above quantity of materials, but for our personal consumption we would say, "more pudding and less raisins if you please, madam;" with *quantum sufficit* of vanilla flavor, or of nutmeg.

Curing Hams.

The slaughter of the porkers begins this month on all well regulated farms, from Aroostook, to the farthest West and South to Mason and Dixon's line, and only a little later farther South; we see the sleek beauties suspended by the gambrels, their open mouths biting the cob, from which they shelled the corn while living. The hams and shoulders, destined for bacon, are liable to be spoiled in two ways—by too much salt and by too little. Not one ham in ten offered in the market is properly cured for human food. Many persons put the hams in with the other pork, and spoil it. Many of the recipes offered are too indefinite to be of any service. The following cures bacon fit for a king, or his eldest daughter.

For one hundred pounds of ham take salt, ten pounds—Turks Island is best—six ounces of saltpetre, and two pounds of brown sugar. Mix the ingredients as evenly as possible and rub them upon the flesh side of the hams and shoulders. Pack the hams in a clean cask, skin side downward. Put a stone and board on top of the hams and fill up with clean cold water so as to cover them. In a few days all will be dissolved and form a pickle just right. But the salt in the solution is continually sinking to the bottom. Therefore, either change the pickle—pouring it out and pouring back again—or if the barrel is but partly filled roll it around a few times so as to stir the contents thoroughly, as often as once a week. The neglect of stirring the pickle, after it is made, spoils many a barrel of hams. In six weeks they will be cured just right. Smoke them ten days, to two weeks, in a cool smoke house. Put them in tight cloth wrappers, whitewash the wrappers, and they will keep for years. This is our family recipe, used for fourteen years, and always makes *quarters* of ham, that keeps the better half in constant good humor at meal time.

Recipes.

To keep Meat Frozen.

H. A. Sheldon, Middlebury, Vt., sent in the following, in January, but it has been crowded over until now Keep it in mind until next Winter: "After the meat is well frozen, I tie it in papers and pack in a flour barrel with clean straw, pushing the straw down tightly with a thin lath. I then put the barrel in a box, five or six inches larger than the harrel *every way*, and fill the space with dry saw-dust. Last Winter I kept meat thus in fine condition until April."

Horse-radish.

Miss Lucy A. Watson, Orange Co., Vt., suggests that horse radish may be kept *fresh* for early Spring use, by taking up the roots in the Fall and burying them in sand in the corner of the cellar. They may then be used before the ground thaws in Spring, and even during the Winter.

Seasoning Suasage Meat.

Mrs. Bissell (address lost) sends the following to the *Agriculturist:* For 50 lbs. of meat, take 11 ounces of salt, 5 table-spoonfuls of pounded saltpetre, 5 table-spoonfuls of ground black pepper, 4 table-spoonfuls of ground allspice, 5 table-spoonfuls of sage. Mix them well together, and then incorporate well with the meat.

Genuine *royalty* consists not in great pomp, but in great virtues.

Pride is like a shepherd; it driveth men whither it pleaseth, like a flock of sheep.

Be ever vigilant—seldom suspicious.

AMERICAN RED-WINGED STARLINGS, (*Agelaius Phœniceus.*)

(*Engraved for the American Agriculturist.*)

We present above a beautiful engraving of a bird, very common to some parts of our country, which by many is greatly disliked on account of its extensive ravages upon crops The chief injury done by them is upon green corn which they attack when unripe, pecking out the soft kernels and leaving only the cob and skins. But there is scarcely a doubt that they do far more good than injury, for they devote almost the entire season to the destruction of insects which prey upon vegetation. The *male* bird is of a beautiful glossy black, with scarlet shoulders, and is about 9 inches in length from the end of the bill to the end of the tail. The female is brownish black above, and mottled underneath; and is about 7 inches in length. At first sight the male and female would appear to belong to different species, so different is their appearance. They are migratory, spending the Winter at the South. In August and September they collect in great flocks. They build their nests in marshy or swampy situations, and on this account are by some called "swamp blackbirds." Few boys have failed to notice the noisy demonstrations of the red shouldered male bird when any one approaches their breeding grounds.

The Editor and his Young Readers.

Good evening to you all, Boys and Girls!—Hark! What's that we hear? "Good Evening"—"*Good Evening*"—"Good Evening"—"GOOD EVENING," comes rolling in from a thousand, ten thousand, yes, ten times ten thousand voices from the East and the West, from the North and the South, and if they *would* only let the Atlantic Cable carry words, we should doubtless hear the responsive "Good Evening," from under the ocean, coming from some of the young members of our family in Great Britain, and on the Continent, for *many* of the German and Austrian and Russian boys and girls read these pages, and there are some of our readers in Asia, and even in Africa, too.

There, there! we had almost forgotten to write, for in fancy we had wandered off over hill and dale, now to New-England; then away from State to State until we had got beyond the Mississippi, and taken a leap over the Rocky Mountains; then back again through Texas, and across the Southern and Middle States, and then over the Atlantic; and thus we were going on around the World, until we stopped to listen to the curious "good evening," of some boys and girls in Alexandria, Egypt, which sounded so strangely that we forget our reverie, and here we are again sitting at our table, with heaps of letters from boys and girls before us. But what a host of you we have visited since we started on our journey a few *minutes* ago. How we would like to have you all in *speaking* distance—yes in shaking-h a n d s'—distance. We should be tempted to forget that we were "grown up" and have a jolly time with you."

Ah, you did'nt hear our "good evening," did you? No matter, when you receive this, shout a "good evening," and we'll fancy we hear your merry voices all through the month, as one after another gets this sheet. Hurry it along, Uncle Sam!

What o'clock is it with you?

It is 8 P. M., says *our* clock up there. Our own little ones are sound asleep, and it is all quiet now—so we have come in here to have a part of our monthly chat. But can you tell us what time it is where you live? Look at your time-pieces just at this minute, George and James, and William, and Mary and Ellen, and all the rest of you. We hear an Iowa boy respond:

"Just sixteen minutes before seven. Its getting dark and I am beginning to see the Comet."

How is that! not dark yet and the Comet not visible! Why the Comet has gone down here. Oh, we see how it is. This great ball of earth we live on is turning round Eastward more than a thousand miles an hour, and it has carried us away round, clear out of sight of the comet and the sun, while you have not got so far. Well in one hour and sixteen minutes you will get *here*, and then it will be 8 o'clock with you, and we shall have gone on where a part of the Atlantic ocean is now. So we keep whirling on, and by to-morrow night at this hour, we shall have gone clear round under the stars and under the sun, and be back here again.

Hallo, there, John! you little fellow living out in Washington County, Maine, that sent us a little letter the other day. What time is it?

"Twenty-four minutes past 8 o'clock, sir. I am getting ready to go to bed, I am very tired though, have been picking up potatoes all day, and my back aches."

Glad to hear you have been helping your father. "Picking up potatoes" *is* hard on the back—we've tried it many-a-day. But it is just as good exercise to develop the muscles of the back, as picking up stones and throw

ing them at the birds—and a great deal more useful. But now is it *later* where you are than it is here?

"I learned, Sir, in my school book, that folks at the East get round to the sun at noon and away from it at sundown, before people at the West do. So you see we Maine folks have night and morning sooner, and go to bed and get up earlier than you do."

That's right, John. Now go to bed and sleep soundly and be ready to help gather the corn to-morrow. A boy that tries to understand what he learns in his books, and who helps his father willingly, will by and by have potatoes and corn of his own raising to gather. A sweet, healthful sleep to you. We hope you have not used any bad words, nor been angry or fretful to-day, so that you will have to lie awake and feel bad about it to-night.

All you boys and girls, at the East and West, may go to bed, after we have chatted a little longer, and in the morning try and find out what time it is with you when it is 8 o'clock P. M. here.

"I DID'NT THINK,"

Was the reply of a boy, the other Sunday, when we asked him why he sat there in the dirt playing marbles on the Sabbath day. Did he not think, or was it because he did not think *rightly*? It is well to have plenty of thoughts, but it is important to ask one's self very often, are all my thoughts of the *right kind*? We like to see boys and girls play at proper times; we did not play enough when a boy—there was so much work to be done, (we shall sometime make up for the lost play if we ever get through the hard work that now crowds us)—but we wish every one would ask himself or herself at night; "Have I had *any* bad thoughts to-day?" Talking about *thinking*, did you ever look at any one in deep thought, and fancy the wheels of his brain all in motion, and wonder what was going on there? We have very often done so.

What do you suppose *this* boy is thinking about?

We have an idea what his thoughts are, but we leave you to guess. Each of you privately make up your minds as to what is going on in his brain, and then tell each other what you think it is. This will be an interesting play—and perhaps a profitable one.

ABOUT THE TELEGRAPH.

Did you read and understand the explanation of how words are sent by Telegraph, given in the September *Agriculturist*? Yes we know a good many of you did, for not a few have written asking still more about it, and about making batteries, etc; and one boy we learn is building a telegraph in his father's garden, and he has sent to us to ask about some parts of the apparatus. We don't think it will be worth while for many boys to try to do this, for there are many little things to be looked after, the omission of any one of which would spoil the whole. We only tried to explain the general principle of telegraphing so that all could understand how it is done.

Ever so many write: "please tell us how they *print* by telegraph." We should like to do so, but it would take more words, and more pictures than we now have time for, if we attempt to make you understand it clearly. Perhaps we will tell you more about it bye and bye, when we get time to draw the pictures, but we can not promise now. We shall at least have something quite as interesting.

A good many boys and girls want to see a piece of the real Telegraph Cable. Well, we have got a lot of it right from the Steamship Niagara, and have had it cut up into pieces just like fig. 8, on page 282 in September number, only that each of our pieces is four inches or one third of a foot long, with a ring around each end to keep the bundles of wires from falling apart. If a club of six subscribers comes from your Post Office, a piece will perhaps be sent there, and you can get a sight at it. (See the Premium list.) We fear the Atlantic Cable now laid has a defect in it, but we shall always keep a piece of it to look at, when we think of that long iron and copper rope that will for ever lie stretched under the ocean, as it can not be taken up. Other cables will soon be laid which will be made stronger, but there is a charm about that mighty stretch of wire that carried the *first* lightning message between the old and the new world. We sometimes think of it as a thing of life, and almost *sympathize* with it, as it lies in its lonely bed, its usefulness perhaps gone because of one little fracture somewhere. How many noble characters have been ruined by one defect!

LIVING IN THE CITY.

"I would like to come and live with you in the city where there are so many things to be seen which we read of in the papers...." So writes an *Agriculturist* boy in Ohio. You would not like it George. It might be novel and interesting for a few days, but you would soon get tired of the noise and confusion, the rumbling of omnibuses and carts, the crowded streets and all that. Why we tried it a little while once, and we could not be hired to live in the city again, if anybody would give us the best house on Fifth-Avenue, and furnish it too. How much more quiet it is away here in the country, where no noisy carriages disturb our slumbers. We go to the city only in the day time, to attend to the printing and other business of the *Agriculturist*. Listen! Not a sound can we hear, here, except the Katy-did and Katy-did'nt, out in the shade trees, and that little mouse running through our file of newspapers there in the corner. The mischievous little fellow is about the last of his race, and seems to know more than his fellows, for after long trying we can't get him to take that nice bit of cheese in that pretty looking trap.—Wonder if all our boys and girls are as careful to keep away from the traps and baits, all the time around them. Be as wise as that little mouse, and when any tempting amusement is set before you, take a little forethought and see if there is not some harm concealed.

WORKING CHEAP.

Almost every body likes to work, if they can get paid well enough for it—but there are some who voluntarily work for very small pay—rather, they work for nothing and in the end *pay* for the privilege.

"What does Satan pay you for swearing?" said a gentleman to one whom he heard using profane language.

"He don't pay me anything," was the reply.

"Well, you work cheap, to lay aside the character of a gentleman, to inflict so much pain on your friends and civil people, and to risk losing your own soul—and all for nothing! You certainly do work cheap—very cheap indeed." Precisely so.

PROBLEMS AND PUZZLES WANTED.

How many, many times, lately, have our young readers asked, "Won't you please print us some more problems and puzzles? Why did you stop them?" Well, to tell the truth, so many hundreds of boys and girls wrote us such long letters about them, that we got completely overwhelmed, and with ever so much trying we could not begin to read half of them. So we stopped to rest a little, and to turn off a lot of other work. In a little while we expect to give you another batch, or several batches You will find one good one on the next page, after Uncle Frank's Chat. But we shall have to contrive some way to stretch the day, or else get you to write shorter letters. Just think of getting, all in a heap, 106 letters averaging a foolscap page, about one problem.

LEARNING TO WRITE, OR "HOW TO BECOME AN EDITOR."

A Wisconsin boy writes: "....I wish you would tell me how to become an editor. I love to read the thoughts which editors seem to put down so easily on paper. I attend public school in the Winter, and try to write the 'compositions,' which our teacher requires, but it's so hard. I do wish you would tell us how *you* learned to write. I suppose you learned after you grew up. How old must I be before I can write easily?" As old as Methusalah, my boy, if you don't *begin* to learn. We learned most about writing down our thoughts easily, when only 12 to 14 years of age, on a Western farm. It was in this wise:

We folded some foolscap paper twice over and stitched it into two books. These we kept very privately, but in one of them we wrote down everything that was done on the farm, and in the other all the neighborhood news. We wrote down just such words as we would talk, *without thinking that anybody would ever see what we wrote.* In this way it soon became as easy or easier, to put thoughts on paper than to tell them in conversation. Had we been writing a "composition," we should have been so scared that we could not have written at all. We tell you boys and girls, you will find no more profitable exercise than to keep a private daily written record of what is done around you, in the house, on the farm, in the garden, in the neighborhood, etc. Don't try to use lofty language, but begin to write just as you would talk. You will thus insensibly learn to write your thoughts in good language, which will be very useful to you all through life, no matter what your occupation. Writing letters is a good exercise; but the best advice we can give is to keep a private written journal. The pen is a mighty implement and every body, the farmer as well as others, may and should learn at least a little how to use it. But nobody can write easily without *practice.*

Well, young friends, we must put up our pen, for it is getting late. "Uncle Frank," will have his monthly chat with you, and we shall try to find time to prepare many pictures and interesting problems, and stories, but we want to ask you to "take the will for the deed," if we do not say much for a month or two, for we have a great deal to do, in getting seeds, for distribution, and in fitting out the *Agriculturist* ship for next year's voyage. We are promised tens of thousands of new readers, and we must arrange our business, and prepare for getting up a still better volume for old and new readers, than we have ever yet done. The Boys and Girls shall have their part of it.

Uncle Frank's Chat with the Boys and Girls.

AUTUMNAL MEMORIES.

There is something sad about the Fall of the year. No one loves to see the beautiful flowers fade and die. The first frost always gives me pain. To my mind, it is an elf, with a magic wand, and a strong leaning towards mischief. It seems to say, "Here I come again, right from the North Pole, as full of my tricks as ever. See what a conjuror I am You don't love me, I know. But no matter for that. You can have the benefit of my exploits just the same as if you thought me the best friend you had in the world. See me touch that Dahlia now. *Voila!* Isn't that fine fun?" It seems to delight in its work, as if it were clothing the earth with beauty, instead of destroying its beautiful things.

The fall of the leaves, so fast, so silent, has an air of sadness about it. In itself considered, there is something far from pleasant in the spectacle of a great forest, as barren of foliage as if every tree in it were dead.

But this is the dark side of the picture. There is a brighter one. Of course there is. There is a bright as well as a dark side to every thing; and I think that he only is a truly happy person who has learned to look on the sunny side of things. That's my opinion. But however that may be, there is no season of the year associated with so many pleasant things in my memory as the Autumn. The first frost, instead of saddening me, when I was a boy, used to make me as merry as a lark; for well I knew that a few more such frosts would open the chestnut burrs, and then we youngsters would have glorious times going a-nutting in Witch woods. I don't remember that I had a shadow of regret over the action of Jack Frost, except that, as soon as he appeared, my mother immediately closed my barefooted career for the season, and confined my unwilling feet in stockings and shoes.

Gathering chestnuts certainly used to be fine sport, or my memory is very much at fault. After a hard frost, especially if the frost was followed by a strong wind, what a rich mine of nuts we had access to. And then the hickory nuts and the hazel nuts—we had fine times gathering them, too.

A PEEP AT THE SQUIRRELS.

The operations of the squirrels during the season of the nut harvest, used to amuse me exceedingly. The grey and red squirrels were rather shy, and did not often appear on the stage while we boys were present. But the little fellow with stripes on his back, familiarly called the *chipmunk*, was more tame and confiding. Many a time, I have known him advance within a rod of the spot where I stood, and dexterously seizing a nice hickory nut with his teeth, scamper off with it as fast as his legs would carry him. Sometimes, instead of depositing the nut among his Winter stores, he would walk off a little way, run up a stump, seat himself there, like a gentleman of leisure, and using his fore paws for hands, would proceed, with almost incredible rapidity to open the shell, and treat himself to its contents. Chippy never appears so cunning as when he is occupied in this manner. I used to wonder, before I became familiar with him, why he should feel so secure, when he was apparently in such danger. But I found out that he never performed this feat, unless his hole was within a few paces of him.

Did you know that a squirrel has a way of detecting the bad nuts? He has; and if you will watch him carefully, when he is laying in provisions for the Winter, you will see that he weighs each nut in his paw before he selects his load, and if the nut is light, you will notice that he throws it away. He knows that the light nuts are imperfect, and have no meat in them.

I am a great lover of the squirrel. But I am forced to admit that he is a mischievous fellow. I once had a tame squirrel. He was a universal favorite and of course a decidedly spoiled squirrel. This chap, although he was fed on the daintiest food, every day, used to amuse himself, whenever he found an opportunity, with such sports as gnawing holes in bags of meal and flour. He seemed never more delighted than when he had transformed himself from a red to a white squirrel in this manner. While this pet was a member of our family, my brother and I gathered a good many hickory nuts. There were not less than half a bushel of them, according to my recollection. We nailed them up tight in a box, and put them in the garret, where they were to dry and be ready for the long Winter evenings. When it was time to commence eating the nuts, we went to the depository, and lo! it was empty. That rascally squirrel had made a hole in the box, and carried off every single nut it contained. You will wonder what he did with them. I'll tell you. He bored a hole in the floor, large enough for him to enter, and he had stored these hickory nuts away, nobody but himself knows in what nooks and crannies of those dark and inaccessible regions.

HUSKING PARTIES.

There were some other pleasant things connected with this season of the year, when I was a boy, which I can not think of now without a thrill of pleasure. Such were our husking parties. What glorious times we had at these Autumnal gatherings. What choice stories were told. What sparkling jokes were sent off, rocket-like. What peals of laughter startled the quiet cows in the barn yard. What piles of bright corn were husked. What heaps of doughnuts and cheese were eaten. I believe in husking parties, with all my heart. They had a humanizing influence on those who shared in them, and tended to promote good feeling among neighbors. They are antiquated now, though, and among the things of the past.

THE CIDER MILL.

Closely linked in my memory with the huskings of New-England, is the cider mill. It was regarded as one of the grandest of all the attractions which Autumn had to bestow on the little folks. Connected with that mill, were unfailing sources of enjoyment. What a rude contrivance the mill was; though, to my juvenile eye, it seemed a very ingenious and complicated affair. The press, too, was equally rude. A modern farmer, I presume, would regard both with much the same sensations as he would feel, were he to come across a pair of ancient *stocks* and a well-authenticated whipping post. From the press the cider used to run into a tub formed of the half of a hogshead which had been sawed in two cross-wise. From this tub we boys made liberal drafts on the delicious beverage, which were *liquidated* "at sight," through the medium of a rye straw.

A LUDICROUS ESCAPE FROM DROWNING.

I can hardly resist the inclination to tell you, just in this place, a story of an adventure of mine, not altogether to my credit, which happened while on a visit to my uncle's, and when, of course, I had on my "Sunday suit" of clothes. I think it is Watts who says,

"We should suspect some danger nigh,
When we possess delight."

If the poet is correct—and I shall not stop now to indulge in doubts on that point—it certainly behooved me to be extremely careful at the period which I now allude to. I was as happy as a free ticket to my good uncle's mill could make me. Well I *wasn't* very careful, it would seem; and, while I was at the very zenith of enjoyment, ealmly and serenely bending over the tub with my straw in full operation, I lost my balance, and over I went, head first, into the cider tub, which, at the time, was about three quarters full. I was terribly frightened, as you may suppose, and screamed lustily for help. My younger brother, who was my companion at the time, ran off after my uncle and his men, who were at work in a field not far off, and for a while—it seemed a month—I was left in that fearful abyss of cider struggling vainly to get out, and wondering whether I should die from drowning, or be stung to death by the bees and hornets, multitudes of which had fallen into the tub before me. I remember I had a sort of indistinct notion that I should die a kind of compound or double death. It is said that a drowning man catches at straws. That may be true in most cases—I don't doubt it is; so venerable a proverb must not be questioned—but I do assure you that the very reverse of this fact was true in my individual case. Instead of catching at a straw, I dropped mine.

Well, my uncle came at last—came with scarcely as much gravity and solemnity, I thought, as befitted the occasion—and pulled me out. What a figure I must have made. It puzzled me then to see what there was in my unfortunate condition, which provoked every body to laugh until he was red in the face. But now that memory carries me back to the scene, I can easily imagine how ludicrous the whole affair must have been, notwithstanding its slightly tragical aspects.

Problem No. 31.—Twelve Questions.

1,283,000,000.

The latest and best estimate of the inhabitants of our earth makes the number 1,283,000,000; viz., in Asia, 720,000,000; in Europe, 272,000,000: in North and South America, 200,000,000; in Africa, 89,000,000; and in Australia, 2,000,000. Suppose them all gathered upon one plain, and allowed only a yard square of standing room:

Question 1st.—How many acres would they cover?

Quest. 2nd.—How many square miles?

Quest. 3d.—If standing in a square body how far would the multitude extend each way?

Quest. 4th.—If they stood in a *circular* mass, what would be the distance through the circle?

Suppose them to form in marching order, like soldiers in single file, and allow only 3 feet for each individual to walk in:

Quest. 5th.—How many miles would the line extend?

Quest. 6th.—How many times around the globe would the line reach?

Call the earth to be exactly 25,000 miles in circumference, and three-quarters of its surface to be covered with water and rocks:

Quest. 7.—How many acres of tillable land is there left for each man, woman and child?

Suppose only one person out of *thirty* die each year (a very low estimate):

Quest. 8.—How many die every year?

Quest 9.—How many die every day?

Quest. 10.—How many die every hour?

Quest 11.—How many die every minute?

Quest. 12.—If every human being in the whole United States (say 25,000,000) were swept off in a single year, How many more would die elsewhere each year, to equal the whole number of deaths annually in the human family, allowing as before, only one in 30 to die?

MULTUM IN PARVO (*Much in Little*).—J. F. Hunt, Lee Co., Iowa, writes: "About that Problem 13, concerning the big box of gold, I have a word more to say. The answer given on page 122 differs from that on page 28 only by the small decimal fraction of .00027; yet, this is well worth consideration, as it makes a difference in value of $35.839, which is more than I am worth; and still there is $350.53 left out of the account. It does not take a very thick sheet of gold over the 42¼ yards outside surface of the box, about 11¼ feet in diameter, to make $350. Thus (omitting smallest fraction):

Size of Box of Gold.		Value of Gold.
11.30027264673 feet	=	$500,000,000 and 1.027 mill.
11.30027264672 "		499,999,999 lacks ½ mill.
11.30027264 "		499,999,999 lacks 9½ cents.
11.30027 "		499,999,646.47 lacks $,350.58
11.3 "		499,963,810.56 lacks $36,189,50

If these figures are correct (which our young arithmeticians can verify), they certainly show a large difference resulting from omitting so small a difference in the diameter of the box, *as twenty-seven one-hundred-thousandths.* —ED.

"Tompkins County," N. Y., sent a very complete elucidation of Prob. 12, which we had not room for.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

Personal Requests.—Questions of interest, chiefly or *only* to the proposer, cannot usually be answered here; but we gladly avail ourselves of any queries or hints from our readers, a response to which may also be of interest to a considerable circle of other readers. The greatest good to the greatest number is our aim in preparing or selecting matter for these pages.

Anonymous Letters again.—"Amateur," of Philadelphia, takes offence at our refusal to consider anonymous letters, and considers the note on this topic in our last as addressed to himself. He mistakes. An answer was in type, and unless again crowded over, as it was last month, it will be found somewhere below. But even this was an exception to the general rule, which was adopted, because we have too little time to attend to the requests and queries of other than known readers; and because the attempt is frequently made by individuals interested in the sale of plants, implements, fertilizers, &c., to draw out a covert advertisement, or "notice," by addressing anonymous queries or communications from a "subscriber," respecting this or that particular thing. We never "strain a point," however, and, when convenient, have taken up a hint or suggestion, even from an anonymous writer, as was done in the case of "amateur." To prevent misunderstanding hereafter, we will say, that the standing rule for those in charge of letters is, to not trouble the editors' desks with documents from persons whose names are not found in the regular subscribers' books.

Heading back Peach Trees.—Geo. Smith, Hancock Co., Ill. The peach, according to Mr Downing, is benefitted by cutting back the outside branches, in the Spring, nearly one half of the previous year's growth thus, if there be two feet of new wood, take off one foot.

Root Pruning to Strengthen Trees.—J. O. Reilly, Monroe Co, N. Y. Better tie them to stakes set firmly in the ground than to mar the roots.

Asparagus Seed.—S. Horst, Cumberland Co., Pa. The above seed can be had at almost any seed store in this city or Philadelphia. Full diretions for culture were given in the last volume of the *Agriculturist*, It is to be sown in the Spring, and its culture will be described in season.

Dahlia Leaves, etc.—D. Colklassen, Washington Co., Md. The petals you forwarded were received, but so dried and broken as to preclude all examination.

Mignonette not Fragrant.—Jane Califf, Wineshiek Co., Iowa. We can not account for the want of fragrance in the mignonette you had from the Patent Office. Such results are not unusual with seeds from the "Government Seed Store." Our own plants, from some of the seed given to our subscribers last Spring, are unmistakably fragrant, enough so to abundantly make up for any lack of beauty in this species of flower.

Loudon's Work.—N. C. Blair, Calhoun Co., Texas, suggests that it is very desirable to have a new edition of "Loudon's Encyclopædia of Plants," with corrections and alterations to adapt it to this country, and bring it down to the present time. The English Edition is very costly, and is nearly out of print. He suggests to print it in numbers, on pages about the size of the *Agriculturist*, and omitting the cuts. We differ with him in

regard to the cuts; these are almost indispensable to the majority of readers.

Bouquet Books.—M. C. P., Freeport, Ill. We know of no books specially on this topic.

Water Colors.—A "School-boy" inquires about these. They usually come in little paper boxes, in small cakes, ten or a dozen in a box. They can generally be had at the book stores at small cost—say 25 cents per box, and upward. He will not need any book to instruct him in their use, as they are applied with an ordinary camel's hair brush, which is simply wet and rubbed upon a cake of paint.

Chestnuts, Quinces, etc., in Illinois.—J. N. Baker, La Salle Co. Chestnuts do best a light dry soil, but thrive well on that of poor quality. Procure seed from a region where the chestnut thrives, and do not let the nuts become dry before they are planted in the Fall or put in boxes of earth for Spring planting. Young trees may also be obtained from chestnut regions.... Of quinces, that variety called the Apple or Orange is perhaps the best for your region...."Buist's Kitchen Garden," (75c.) is a cheap and good work on vegetables and the small fruits.

Pinching Pumpkin Vines, and not Lima Beans.—T. T. Hughes, York Co., Me., writes: "May 20th, I planted 30 pumpkin seeds in old pasture newly broken up; pinched off the vines, as recommended in the May *Agriculturist*: they sent out numerous side shoots, and I now have 75 ripe pumpkins, weighing 15 to 45 lbs. each ...Lima beans, planted May 23, now have vines 24 feet long, with ripe clusters of pods 15 feet from the ground.

Large Squashes.—Any amount of big squashes are reported to us this year. Here are examples: *Down East*—J. S. Hobbs, Cumberland Co., Maine, has five squashes weighing 400 lbs.; the largest, 134 lbs.; the smallest, 56 lbs. *Out West*—Aaron Price, Fulton Co., O., tells of a squash weighing 220½ lbs. *In Pennsylvania*, J. H. Smith, of Wayne Co., has 16 squashes, weighing 1,958½ lbs.; average, 122 lbs. 6 oz. each; largest, 211 lbs., and 7 feet 9½ inches around; next largest, 170 lbs., 7¾ feet around; third largest, 163½ lbs., 6¾ feet round. The above will do for three squashes, until somebody beats them. What *kind* were they? If good, send along the seed, and we will sow it broadcast over the country—if you wish.

"Nutmeg Pea."—J. Cutler, Bristol Co., Mass., sends us samples of a pea which he calls by the above name. He says they grow 10 to 12 feet high, yield largely, and he considers them the best pea that can be raised for market. We find, on examination, that they are what is generally known as the *Scotch Speckled Pea*. They have been in this country many years, and most seed dealers have them.

Dr. Underhill's Isabella and Catawba Grapes are quite equal to any we have seen in market, or tasted in past years. If he would only tell us how many he sells in New York market (and at a higher price than others), he would gratify curiosity at least. We "guess" it can't be less than 100,000 lbs. a-year, if not twice that amount. If you don't tell us, Doctor, we shall keep guessing. Such grapes in such quantities can not be hid under a bushel—basket, R. T. U.

Big Apples.—We have before us a Fall Pippin, weighing 14 ounces, from Mr. Seldon G. Ely, of Middlesex, Co., Conn., who, we hear, is in the habit of raising *such* fruit We could not find it in our heart (or mouth) to object to a barrel of apples like this one—it would not take long to count them.

Apples Rotting on Trees.—W. B. Morgan, Gibson Co., Tenn., will probably find nearly all decaying apples penetrated by insects. Every such apple should be gathered as soon as it falls, or before, and fed to animals, or boiled at once to prevent the laying of eggs for another year. A few varieties habitually rot in some localities. For such there is no remedy but to discard them for better kinds.

Dead Bark on Pear Trees.—J. H. Foster, Allegany Co., Pa. The difficulty is probably at the root We have usually found such cases of numerous spots of dead bark, when the trees stood on shallow, hard soil, or on one not well drained. It is sometimes caused by an excess of fermenting manure applied. Deep draining a little distance from the root, loosening the soil, and an admixture of ashes or lime with it, will generally renew the trees, if they be not too far gone.

An Ailantus in the Garden.—"Amateur." in Philadelphia, has an Ailantus in his garden, with wide branches, but trimmed so high as to shade only the buildings, and not the ground. A large number of roots and valuable seeds planted came up, and promised well, but though they were well watered and cared for, most of them died, and none came to maturity. The neighbors attribute the injury to the tree, and say that nothing will thrive within its influence; the enquiry is, whether this be so. This is still a disputed question. We doubt any direct poisonous influence, having ourselves raised several varieties of flowers and other plants around the border of a grass plot 20 feet square, in the center of which was a large ailanthus tree, whose branches spread out only ten to twelve feet from the ground We have looked in vain, so far, for any evidence of poisonous influence from this tree, and think it much abused, though not very partial to it as a shade tree. Still it grows so rapidly that we would not discard it altogether, and would even recommend it for planting along the sides of streets, where its root-shoots would be kept down, especially if a rapid growth be desired. Its roots occupy most of the ground near, and on this account it is injurious to plants growing round the trunk "Amateur" does not tell us how near to the tree his seeds and roots were put—we should have written to enquire had we known his address—nor does he state whether those nearest the tree were more injured than those at a greater distance. We suspect there may have been some other local cause, in the soil, draining, manure, watering, or other treatment.

Clover and Breeding Animals.—A correspondent in Western Kentucky says that "in that region" it is a currently received opinion that clover prevents animals which run upon it from breeding well. This is, to us, a new suggestion, one not well grounded we think. Does this opinion prevail elsewhere? The only plausibility in the idea, is, that animals feeding on good rich clover pastures are likely to be in high flesh, and fat animals do not breed so well as those in moderately good condition.

Milk, Heating.—It is usually better to scald milk to be kept, and milk is never really fit for coffee until it has been boiled.

Draining with Wood; Clover.—Junius J. May, Davis Co., Ky. White oak plank in the bottom of ditches would be better than to leave the wide open drains "3 feet deep, and 2 feet wide at the top," though the wooden drains would have to be renewed in a few years. A good tile drain costs more at first, but will last a century. We can not answer as to the size of the tiles required without a personal examination to learn the amount of water to be carried off....Clover will not die out in a year or two, nor in a dozen years on deeply drained land. It is the poison in the wet sub-soil, which is reached in a year or two by the deep clover roots, that kills this crop....Clover plowed in is the best possible fertilizer.

Grass Seed for the Lawn or Yard.—Geo. Frazee, Moscow. A mixture of seeds thickly sown is best. A very good "lawn grass seed" for general use is prepared by the seedsmen as follows: 1 lb white clover seed; 2 lbs. sweet vernal grass; 8 lbs. orchard grass; 14 lbs blue-grass; 20 lbs. ray grass; and 30 lbs. red-top, or in these proportions. These varieties can be procured at most seed stores, or such as can be got may be used. They are usually advertised in this journal by one or more dealers. Any two or three varieties of grasses sown *thickly*, and kept mowed or shaved down, will form a thick mat. One advantage of using a large variety is that you are pretty sure to get two or more kinds peculiarly adapted to the particular soil.

Herds-grass or Timothy.—(*Phleum pratense.*) O. T. Seward, Dutchess Co., N. Y. This grass is called *Timothy* in some parts of the country, and *Herds-grass* in others, while in many localities it goes by both names. It is more generally known as *Timothy*, a name derived, it is said, from Timothy Hanson, who is reported to have introduced it into England, where it is largely used. The name *Herds-grass* is supposed to have been derived from a Mr. Herd, of Piscataqua, N. H., who is said to have found it growing in a swamp there, 150 or 160 years ago, probably introduced by seed from England We do not remember to have called it "high-priced grass," though we may have quoted it as being *relatively* high compared with some other season. The present retail price in this market is now only $3 per bushel (45 lbs.); it wholesales in large quantities at $2 50 per bushel.

Crops in Dodge Co., Wis.—S. B. Ormsbee, says: Oats very light; China and Scotch Fife Spring Wheat ½ crop; Club Wheat a failure, many hundreds of acres were not worth harvesting; Corn good; Potatoes ½ crop and rotten.

Shallow vs. Deep Plowing.—We have several communications on this topic, which are held in reserve, to be answered in an article discussing the subject in full. Many soils would, under certain circumstances, be injured by deep plowing; but of this hereafter.

Manure Inquiries.—J. S. G., Cayuga Co., N. Y.—We do not quite understand your questions, but will say in answer to your inquiries, and about a dozen others on similar topics, that, as a rule, it is safe to give these secret and patent manure processes "a wide berth." There is no reason for trying to keep secret a process which is really patented. We shall endeavor to keep track of any valuable *patented* mode, and make its claims known. Those not valuable we do not usually give even the notoriety of a condemnation.

Wind-mill.—Sidney Mooney. We are unable, as yet, to say what is the best form of a cheap Wind-mill, for ordinary work on the farm. We have given some attention to the subject, but not enough to give intelligent advice; and in this as, in other cases, we are unwilling to run the risk of leading others astray, lest we should not sustain a reputation for "knowing everything." However we are desirous of further information on Wind-mills, shall seek for it, and will be obliged for any help in that direction.

Red Ants.—E. G., of Mass. A Long Island correspondent writes, "that his wife destroys these troublesome pests by occasionally pouring boiling water over their haunts. It takes them a long time to recover from a thorough scalding, and a few applications have cleared the premises." The best remedy we have found, is to sprinkle sugar over a dry sponge, which the ants gather into, when they may be killed in hot water, and the sponge "set" again.

"Horse Oil."—The recipe contributed is not definite enough. The weight or measure of each ingredient should be given. A "pennyworth" is very variable—depending upon the chance mood of the seller.

Best Breeds of Fowls.—J. B. Ford, Ohio Co., Va. It is a difficult matter to say which is the best fowl under all circumstances. One breeder extols the Black Spanish, another the Dorkings, while a third prefers the Dominick and occasionally we hear that there is nothing like the Shanghai. Our *individual* preferences are in favor of the two first named varieties.

Hens—To Make them Lay when shut up.—M. Barnes, Clinton Co., Pa. Hens rarely lay as well when shut up. The chief secret of making them lay under such circumstances, is to furnish them with that food which they naturally find in their rambles, a large portion of which, in the Summer season, is insects and grubs. Give them chopped meat, green cabbage, some grain, pounded bones, oyster shells, or lime; and let them have ground room to scratch in, with warm quarters in Winter, and they will lay a large proportion of the time while shut up....Parsneps *are* good for milch cows.

A Cement Wanted.—By several subscribers; the best water-tight, for making aquariums, etc., to be used to join glass, or wood and glass. Who has a recipe proved to be good—something that will not affect the water, to the injury of the fishes?

Castor Oil for Leather.—E. Kalb, of Fairfield Co., O., writes, that he has tried castor oil for softening boots and shoes in cold, freezing weather, and finds it the very best thing in use. The leather does not become hard and stiff, as is the case when other grease is used.

Wood—Weight when Green and Dry.—Mr. D., of Sag Harbor, L. I., writes that he weighed three sticks of green wood, one Black or Yellow Oak, one White Oak, and one Hickory. These were kept under cover 12 months and again weighed. The Black Oak lost about *one-third* (32 per cent); the White Oak about *one fifth* (22 per cent); and the Hickory about *one-ninth* (11 per cent.) This will give some idea of the relative amount of *solid* material in the three kinds of wood.

A Team of Birds.—S. P. Campbell, Manterville, Min., proposes to harness a team of birds—say the sand-hill cranes, which abound at the West—and attach them to a balloon, to guide and propel the carriage through the air in any desired direction He would attach them to the balloon by cords from their bodies, and guide them by reins (strings), fastened to small rings in their bills. He has been meditating on this subject for eleven years, but has not the necessary capital to try it, and therefore offers the hint to aeronauts. If this plan *should* succeed, raising the air horses, or birds, will be another addition to the multifarious occupations of the farm.

Stuffing Birds, Snakes, &c.—A. J. A., Marion Co., Ill. We have had no experience in this line except with a few foxes, and other quadrupeds. There is very little difficulty, however, if the skin is carefully removed. Apply a little arsenic and alum to the flesh side to partially tan it, and when somewhat dry, stuff with fine hay, or wheat bran, previously baked, pressing out all the parts to a natural position. A little camphor gum powdered and mixed with the stuffing, assists to repel insects. Glass eyes are needed to give a natural look. We do not know where they can be bought, except of J. L. Bodo, 16 North William-street, New York City.

Deferred Letters.—We have many such, which are too valuable for the kindling basket; but our time and room being used up, we must defer them for another month.

Nebraska Territory.—A business letter from Mr. Joseph Foster, of Otoe County, speaks encouragingly of agricultural prospects in that section, and in the Territory generally. Several Agricultural and Horticultural Societies are organized, and are already in a promising condition. The *Agriculturist* has found its way into many homes there, and is being awarded as premiums at the annual Fairs. The people are suffering from land speculators, to whom the badly managed and premature Government land sales afford peculiar facilities.

Schools for Boys.—We know of no better one than the Middletown (Conn.) Institute. We have often visited this school, and have known the principal for the last fourteen years. He is one of our model teachers. His mode of teaching, and his really paternal care over his pupils, both in and out of school hours, are admirable. No boy or young man, not absolutely depraved previously, can fail to be benefited mentally, morally, and even physically, if placed under the guardianship of Mr. Chase. We take pleasure in offering this unsolicited and unexpected tribute to what we believe to be true merit, and in so doing, we would by no means disparage the claims of a multitude of other good schools—such, for example, as the Cream Hill School (semi-agricultural), at Cornwall, Conn., T. S. Gold, Principal; the Flushing (N. Y.) Institute, E. A. Fairchild, Principal, etc.

N. Y. Agricultural College.—The buildings for this Institution have been contracted for, and the work of erection has commenced.

New-York State and Canada West Fairs.—One of our Associates has furnished lengthy reports of these exhibitions which we have not room for, nor time to condense for this number. Suffice it to say, that at the N. Y. Exhibition the display of animals, agricultural products and implements was quite as large and interesting as usual.

The Canada Exhibition at Toronto was also successful, and showed a decided spirit of enterprise.

American Herd-Book—Fourth Volume.

We have received a Circular from the Editor of this indispensable work to the breeders of Short-Horn Cattle, in which he proposes to issue a new volume in May next. All contributors are requested to send in the pedigrees of their Stock by the first day of December, that they may be compiled during the coming winter, so as to print the book promptly in the Spring. Circulars will be sent to all known Short-Horn breeders, and such as do not receive them by mail without notice, may be supplied with one by writing to Lewis F. Allen, Black Rock, N. Y.

Does it Pay?

We could give hundreds of testimonials in regard to the actual *profit* of taking this journal, and there are doubtless tens of thousands unwritten. We select a few as examples:

A Western man says: "I had just completed sowing a 10-acre field of wheat, and had another adjoining just like it. A hint in my Agricultural paper, read at night, led me to soak my seed in tar-water and roll it in lime for the second field. This was the only difference in the culture of the two fields. As the result, the second field yielded an average of 5 bushels per acre (50 bushels) more than the others, worth, even in these times, $30, with no extra expense for harvesting...."

Another says: "A caution in the *Agriculturist* prevented my expending $10 for a new and greatly praised but worthless plant. My neighbor, not a reader, invested his $10, and lost both that and his time, labor, and the express charges...."

Another says: "A few hints in the *Agriculturist* on the treatment of butter enabled me to make 400 lbs. butter from the same cows worth 5 cents per lb. more than what I formerly put down—$20 saved...."

Another says: "Though a shoe-maker, an Eastern friend compelled me to read the *Agriculturist* by sending it to me free one year. As the result of what I have read, I have this year raised $35 worth of garden stuff, on a village plot where before I did not get $10 worth...."

Another says: "'Though but a 'limb of the Law,' I was induced by the representations of a lady who wished to finish up a club, to subscribe for the *Agriculturist*, not expecting to read it, but I looked into it on its first arrival, became interested, have grown my own garden truck—a thing I never did before—have beautified my home, and of so great intrinsic value do I consider this journal now that the first man I would 'prosecute,' would be the one that should abstract my *Agriculturist*...."

A clergyman writes: "The plain, practical directions, hints and suggestions of the *Agriculturist* have enabled me to double the product of the half acre attached to the parsonage, and this has so far helped out my salary as pastor over a small prairie flock....I am also better footed up in matters connected with farming and gardening, can talk with my parishoners about their occupation, and thus increase my influence with them ..."

And so we could go on, and fill up this entire number with similar testimonies from letters now on our files. But the above will suffice for examples. We do not believe there is a single family in the country who would not find the small subscription price of the *Agriculturist*, a *paying* investment

Our Seed Distribution for 1859.

As hitherto intimated, we are preparing a list of 50 to 60 varieties of Field, Garden and Flower Seeds, which will be published soon—probably in our next number. From this list *every* regular subscriber to the *Agriculturist* for next year will be entitled to select *at least three* kinds or three parcels of any one kind, which will be forwarded *free of cost* save the expense of carriage. To single subscribers they will best go by mail. Where there are clubs of six, ten, or more at one point, they will go cheapest in one package by express—except to remote points.

The seeds will consist of several new varieties, together with many well tried kinds which are not generally introduced, and therefore not accessible at the seed stores.

Our object is, not to take the place of the regular trade in seeds, but to distribute and introduce widely small parcels of valuable new seeds which may become the germs of future abundance.

A little parcel of corn or other grain planted at any point, may soon multiply so as to become widely disseminated. Especially is this the case with garden and flower seeds.

Though the wet weather destroyed a large number of the **135,000** parcels of seed distributed free by us last Winter, yet we know there will next year be millions of plots of plants growing from seed produced from these parcels. As one example of very many, a lady in Western Illinois, writes: "The five papers of flower seeds (new to us) received from you last Spring, all came up and grew beautifully, and I shall have seed for all my neighbors next Spring. They will be a 'bloom of beauty,' in our neighborhood, and many of us will be often reminded of you when we see them growing—just as I have been a hundred times the past Summer....."

Such pleasant responses are gratifying indeed, and we can not forego the pleasure thus given. We get our seeds in large quantities, of pure quality, and though the cost in the aggregate amounts to a large sum, it is, when done by the wholesale, but trifling in each case, and no part of our next year's work will be more pleasing than that of scattering a hundred and fifty or two hundred thousand, or more, parcels of seed broad-cast over the land, among our multitude of subscribers.

The particulars of the kinds of seed and mode of distribution will be announced as soon as we can complete the list of those desirable to send out. We have grown several sorts, and shall receive a large amount from Europe, and from various parts of this country.

Humbugs not Advertised Here.

Reader, if you are offered from this region a splendid "Wine Grape," a Wonderful Japan Potato, a superhuman manure, a magnificent chance to buy good land for less than nothing, employment at tempting wages for a 3-cent stamp, or any other thing of that kind, it will be well before investing in the enterprise to see if it is announced in the advertising columns of the *Agriculturist*, or "blown up," in its reading columns. Everbody, at least every body hereabouts, reads this journal and knows its straight forward course in regard to all humbugs, and any person having a good and reliable enterprize or thing of special interest to farmers, gardeners, etc, will as a matter of course advertise it in the largest circulated paper in the country; while humbugs knowing they can not find admittance, avoid recognition, and steer clear of this office. We will not knowingly admit any advertisement which we deem a humbug, though there are some things, such for example as some varieties of guano, superphosphates, etc, which are "believed in," or esteemed good by many people, independently of what we have written, and in such cases the advertisements are admitted. We have this very Autumn turned away hundreds of dollars worth of advertisements of Patent medicines, schemes to get postage stamps, etc., which we could not conscientiously admit. Mr. Greely, in speaking in the Tribune, of the *Agriculturist*, said: "The Editor don't mean to be humbugged himself nor let any body else be, if he can help it." That sentence, though appearing in connection with a commendatory notice, as an added criticism, we consider as good a recommendation as the *Agriculturist* could receive.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW YORK, Oct. 25, 1858

During the past month prices have been *bad* for nearly all kinds of Farm Produce, particularly for Breadstuffs. The arrivals at the seabord have been large, and receivers have eagerly pressed them upon the market, while there has been little demand for export to other countries, owing to good crops in Europe. Speculators are fearful to buy, which leaves only a small demand for immediate consumption; and trade is confined to the narrowest limits. The good crops abroad leave little hopes for a much better state of things before next summer, as the stock now on band here, and that to come in, will suffice until the opening of Spring inland navigation.

.....Barley was active for a season, prime State Barley selling at one time for $1.20 per bushel, or 19c. above our highest quotations last month, but latterly the arrivals have been larger than needed, and the improvement in prices is daily disappearing. The sales have been unprecedentedly large, amounting to 300,000 bushels, since our last report; a considerable portion of this was purchased before arrival.....The tables of sales below give the actual transactions, but unusual allowance must be made this month for the fact, that many of these sales indicate merely a change of owners, the articles themselves not leaving the city or market at all; so that the available stocks are not so greatly diminished, as would at first appear from the large sales recorded..... COTTON has been largely dealt in, but at reduced figures. The principal sales have been by samples of cargoes on the way from Southern ports direct to Liverpool and other markets of Western Europe. This mode of shipping direct, and sending samples only to New-York market, is coming rapidly into use, as it saves a great amount of shipping, handling, etc. The available supply of Cotton here is 14,323 bales, against only 1,784 bales same time last year. Total receipts at all shipping ports to latest dates: this year, 364,330 bales; same period last year, 181,116 bales. Total foreign exports so far this year: 99,904 bales; last year, 58,673 bales. Total stock on hand at all shipping ports: this year, 287,279 bales; last year, 157,923 bales. Stock on hand in interior towns to latest dates: this year, 52,563 bales; last year, 15,650 bales.... Provisions, Groceries, Hemp, Hops, and Seeds have been very moderately dealt in, prices favoring buyers.....Rice has been in fair demand, but at unchanged rates. The new crop has been selling the past two weeks at $3.75@$4 per 100 lb. Closing prices on Saturday, 23d inst., $3.75 @ $3.87½.....Tobacco has been actively sought after and has advanced. The stock of domestic tobacco has been much reduced.....In other commodities there has been little variation during the month.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
28 bus. days *this* mon.	558,781	592,082	999,840	25,106	209,035	301,463
25 bus days *last* mon.	416,500	497,700	903,500	27,675	5,700	365,800

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley*
28 business days *this* month,	879,616	326,017	1,195,250	56,327	300,700
25 business days *last* mon,	313,150	774,000	1,122,000	100,000	25,000

EXPORTS FROM N. Y., FROM JAN. 1ST, TO OCT. 18.

	1857.	1858.
Wheat Flour, bbls.	728,041	1,188,674
Rye Flour, bbls.	3,530	5,584
Corn Meal, bbls.	40,969	53,828
Wheat, bush.	2,146,885	3,08b,513
Corn, bush.	1,759,299	1,413,468
Rye, bush.	81,446	12,487

CURRENT WHOLESALE PRICES.

	Sep. 21.	Oct. 25.
FLOUR—Superf to Extra State	$4 90 @ 5 60	$4 20 @ 4 35
Common to Fancy Western	4 95 @ 5 30	4 45 @ 4 70
Extra Western	5 35 @ 8 50	4 45 @ 8 00
Fancy to Extra Genesee	5 80 @ 7 50	5 00 @ 7 75
Mixed to Extra Southern	5 40 @ 8 50	5 00 @ 9 00
RYE FLOUR—Fine and Super	3 40 @ 4 25	3 15 @ 4 10
CORN MEAL	4 15 @ 4 75	4 10 @ 4 85
WHEAT—Canada White	1 18 @ 1 35	1 68 @ 1 25
Western White	1 18 @ 1 45	1 08 @ 1 35
Southern White	1 20 @ 1 45	1 12 @ 1 35
All kinds of Red	85 @ 1 25	68 @ 1 12½
CORN—Yellow	94 @ 96	71 @ 86
White	84 @ 87	82 @ 86
Mixed	71 @ 80	65½@ 66½
OATS—Western	48 @ 50	47 @ 49
State	45 @ 47	44 @ 46
Southern	34 @ 40	35 @ 40
RYE	76 @ 78	70 @ 72
BARLEY	70 @ 81	85 @ 1 00
White Beans	1 06¾@ 1 12½	1 05 @ 1 10
HAY, in bales, per 100 lbs	45 @ 70	50 @ 70
COTTON—Middlings, per lb	13⅛@ 13¾	12¾@ 12⅜
RICE, per 100 lbs	2 75 @ 3 75	2 75 @ 3 87½
HOPS, crop of 1858 per lb	16 @ 20	10 @ 15
PORK—Mess, per bbl	17 00 @17 40	16 35 @16 40
Prime, per bbl	15 00 @15 25	14 00 @14 10
BEEF—Repacked Mess	13 25 @14 50	@13 00
Country mess	11 50 @12 00	9 50 @10 00
HOGS, Dressed corn, per lb		5¾@ 6
Lard, in bbls. per lb	11⅛@ 11¾	10¼@ 11⅜
BUTTER—Western, per lb	12 @ 17	12 @ 19
State, per lb	14 @ 23	15 @ 27
CHEESE, per lb	4½@ 7½	4½@ 8½
EGGS—Fresh, per dozen		18 @ 18½
FEATHERS, Live Geese per lb.	44 @ 52	44 @ 52
SEED—Clover, per lb	9 @ 10	9¾@ 10¾
Timothy, per bushel	1 75 @ 2 75	1 75 @ 2 50
SUGAR, Brown, per lb	6⅛@ 9	5½@ 8⅛
MOLASSES, New-Orleans, prgl	50 @ 52	37 @ 40
COFFEE, Rio, per lb	9⅛@ 11⅛	9¾@ 12
TOBACCO—Kentucky, &c. pr lb	7 @ 14	7 @ 15
Seed Leaf, per lb	6 @ 25	6 @ 25
WOOL—Domestic fleece, per lb.	27 @ 46	30 @ 50
Domestic, pulled, per lb	25 @ 38	28 @ 40
HEMP—Undr'd Amer'n pr ton	105 @125	120 @140
Dressed American, per ton	180 @195	175 @100
TALLOW, per lb.	10⅜@	9¾@ 10
OIL CAKE, per ton	33 00 @42 00	32 50 @41 00
POTATOES—Peach Blow		1 75 @ 2 25
Mercers, per bbl	1 50 @ 2 00	1 25 @ 1 75
Junes and Dykemans, per bbl.	1 12 @ 1 37	1 00 @ 1 37
Sweet Virginia, per bbl	2 00 @ 2 75	1 25 @ 1 50
Sweet Delaware, per bbl	2 50 @ 2 75	1 50 @ 1 75
TURNIPS—Rutabagas, per bbl.		75 @ 1 00
ONIONS, per bbl	1 25 @ 1 50	1 25 @ 2 00
CABBAGES, per 100	2 00 @ 5 00	1 50 @ 4 00
SQUASHES, Marrow, per bbl	1 00 @ 1 12	50 @ 75
TOMATOES, per bush	18 @ 25	25 @ 37
PUMPKINS—Cheese, per 100		4 00 @ 6 00
CRANBERRIES, per bbl		10 00 @12 00
APPLES—Common, Per bbl	1 50 @ 3 00	1 50 @ 2 00
Prime winter, Per bbl		2 25 @ 3 00
QUINCES—Prime, per bbl		4 00 @ 6 00
Common		2 25 @ 2 50
POULTRY—Fowls, per lb	12 @ 15	14 @ 14
Chickens, per pair	37 @ 63	56 @ 75
Ducks, per pair	62 @ 1 00	62 @ 1 00
Turkeys, per lb	16 @ 18	14 @ 15
Geese, per lb		8 @ 12
Pigeons, wild, per doz	1 00 @ 1 25	1 00 @ 1 25
Partridge, per pair	62 @ 75	75 @ 1 00
Prairie Hens, per pair		75 @ 1 00
Rabbits, per pair		25
Venison—Carcass, per lb		12 @ 12½

NEW-YORK LIVE STOCK MARKET.—The Cattle Markets have been largely supplied during the past five weeks; the city receipts footing up 22,808 head, or an average of 4,562 against a weekly average for all last year of 3,136. Low prices have necessarily prevailed. Receipts and prices have varied as follows: Week ending Sept. 22 5,305 head, ¼c. lower.—Sept. 29, 4,095, ¼c. higher—Oct. 6, 3,785, ¼c. higher—Oct. 13, 4,652, rates unchanged—Oct. 19, 4,971, ¾c. lower.—Prices Oct. 19 were: For first quality 8½c. @ 9c.; medium 8c. @ 8½c.; common, 6½c. @ 7¼c.; poorest, 5c. @ 6c. Average of all sales 7¼c. @ 7½c. These are the rates per pound for the estimated net or dressed weight.

SHEEP AND LAMBS.—Receipts for the past five weeks 65,534, which varies but little for the same period of last month. Prices are about as five weeks ago, or 3½@4c. per lb live weight; good Lambs are worth 4½ @ 5¼c., and a few fat sheep bring 4¼c. Market generally depressed.

HOGS.—Arrivals have been very heavy, completely overstocking the market. For the five weeks just ended the receipts foot up 64,764. Prices have declined, ranging Oct. 19th at 4¼c. @ 4¾ c. per lb gross for corn fed, and 4c. @ 4¼c. for still hogs. Warm weather unfavorable; markets inactive with a large number of hogs on hand unsold.

The Weather has been really beautiful during most of the past month, that is for gathering crops and out-door-work; it has been too dry for winter grain. In this latitute vegetation is still uninjured by frost. OUR DAILY WEATHER NOTES, condensed, read: *Sept.* 22, 23, clear, cool (40°)—24, rain A. M,. clear and cool P. M.—25, 26, 27, 28, 29, and 30, mild and clear—30, clear, warm, and shower at night.—*October* 1, clear, warm, shower at night—2, 3, 4, 5, and 6, clear and warm, fine for ripening corn—7, northeast rain storm—8, 9, clear, cool—10, milder—11, 12, clear A. M., cloudy P. M.—13, rain P. M.—14, clear, warm—15, cool, a little white frost—16, 17, 18, 19, clear, warm, with a few foggy mornings—20, a fine summer-day—21, cloudy—22, 23, cloudy, foggy, and frequent misty rains—24, cloudy A. M., rain P. M.—25, clear and quite cool.

Write only on One Side of a Sheet.

We are compelled again to say, that articles intended to be put in type should never be written on both sides of the paper. There are several reasons for this; we will name but two. Type metal marks similarly to a lead pencil, and usually [when the compositor (type-setter) has finished one side, the other is all marked over with the type, or type-dust. In preparing "copy," the editor has frequent occasion to cut a sheet, and this makes bad work with anything written on the back.

Paper Mills Dry—This Number Delayed.

We usually put this paper to press, and mail it in time to have each number reach the most of our readers on or before the first day of the month of date; but the dry weather for the past three months has caused low water in most streams, thus stopping many paper mills, and it was with difficulty that we obtained, even at a late date, sufficient paper of the right quality and size—none of that usually in market being adapted to our purpose. We generally intend to keep 400 or 500 reams ready made in store, but the large extra editions called for lately by new subscribers, used up the regular stock of paper on hand. We expect to be ready for any emergency hereafter.

P. S.—Printing paper arrived. This number will still be mailed to regular subscribers on or before Nov. 1st.

Dutch Bulbous Roots.

We have received our usual shipments of DUTCH BULBS all in the finest condition, large and sound; and unlike those generally sold at auction in this market every season, they are the first selection of first class Bulbs obtained in Holland the present Summer. In addition to

HYACINTHS, POLYANTHUS NARCISSUS, TULIPS, JONQUILLES, CROCUS, CROWN IMPERIALS, FRITTILLARIAS, GLADIOLUS, IRIS, IXIAS, LILIES, DOUBLE NARCISSUS, ARUMS, ANEMONES, RANUNCULUS, SCILLAS, BABIANAS & DIELYTRAS,

We have a choice collection of

LACHENALIAS,
OXALIS,
CYCLAMENS,

which should be potted immediately.

Also,

RED AND WHITE LILIES OF THE VALLEY,
TREE PŒONIES, 6 sorts, $2 each,
HERBACEOUS DO., 10 fine varieties, 30 cts. each, &c., &c., &c.

PRICED CATALOGUES containing directions for Planting, &c., mailed on application.

COLLECTION OF BULBOUS ROOTS.

ASSORTMENTS OF
6 Fine named Hyacinths for pots or glasses
1 Polyanthus Narcissus
2 Double Tulips
7 Mixed Crocus } $1 00

ASSORTMENTS OF
6 Fine Double and Single named Hyacinths
6 Fine Single and Double Tulips
12 Fine Mixed Crocus
3 Double Narcissus
3 Mixed Iris
2 Polyanthus Narcissus } $1 50

ASSORTMENTS OF
12 Double and Single named Hyacinths
25 Mixed Crocus
12 Double and Single named Tulips
3 Polyanthus Narcissus
6 Double Narcissus
6 Mixed Iris
3 Crown Imperials
2 Bulbocodium Vernums
1 Pancratium Maritimum } $5 50

Fine ENGLISH DOUBLE HOLLYHOCK SEED, 10 cts. per packet.

J. M. THORBURN & CO., Seedsmen,
15 John st., New-York.

Bulbous Roots,

Just arrived by Steamer, a splendid collection of

HYACINTHS, TULIPS, NARCISSUS, &c., &c.

To secure early flowers for the Parlor or Conservatory, purchase at once at

RRIDGEMAN'S, 878 Broadway, New-York.

Priced Catalogues on application.

Cherry Stones, Tree Seeds, &c.

The subscriber's stock of mazzard pits, are now to hand in the best condition for germination. $7 per bushel. Preserved in sand from select trees, $10 per bushel. Dealers and Nurserymen ordering largely at reduced rates.

A Catalogue of 200 kinds tree seeds on application.

A very large stock of OSAGE ORANGE, ASPARAGUS ROOTS, &c., at low rates.

The Nursery contains one of the finest collections of trees in the Country. Catalogues gratis.

THOMAS MEEHAN,
Germantown Nurseries,
near Philadelphia, Pa.

GENEVA NURSERY.

IMPORTANT TO ORCHARDISTS AND PLANTERS.

The superiority of Trees and Plants grown on a clay and gravelly soil, well under-drained, is beginning to be duly appreciated. The increasing demand and general satisfaction which our Trees have given, has induced us to plant extensively, which enables us to furnish Trees and Plants of the finest quality, and in any desirable quantity, at very low prices. Our stock consists in part, of the following:

Standard and dwarf Pears, standard and dwarf Apples, standard and dwarf Cherries, Peach, Plum, Apricots, Lawton Blackberry, Currants, Gooseberries, Raspberries, Strawberry Plants, together with all desirable Fruits in cultivation,

Also the new and hardy Grapes of recent introduction, of Delaware, Rebecca, Concord, Diana, Hartford Prolific and foreign sorts for culture under glass.

The Green-house and Ornamental Department receives particular attention, and embraces all that is most desirable of Evergreen Trees, Deciduous Trees and Shrubs, Roses, an extensive collection of Bulbous Flower Roots.

Also for Nurserymen, fine stocks of Seedlings of Cherry, Plum, Pear, Apple, and Quince Stocks; Manetti Rose Stocks and Trees in all stages of growth.

Catalogues furnished on application by enclosing stamp.

W. T. & E. SMITH,
Sept. 1858. Geneva, N. Y.

George D. Kimber,

FLUSHING, L. I.,
NURSERYMAN
and dealer in
ALL KINDS OF NURSERY STOCK.

Linnæus and Prince Albert Rhubarb; New Rochelle or Lawton, and Newman's Thornless Blackberry; and Orange and Hudson River Antwerp Raspberry plants, in quantity as desired. Catalogues furnished gratis.

CATAWBA GRAPE ROOTS.—200,000 Catawba Grape Roots—one year's growth—for sale. Price $15 per 1,000, well packed.

J. M. McCULLOUGH & SON,
200 Main-st., Cincinnati, Ohio.

KING PHILIP CORN, $1 50 per bushel; Improved Early Dent Corn $1 per bu.; both good for seed. No charge for bags or carting to depot. Cash with order.

Leland Station, Ill., (on C. B. & Q. R. R.) L. MARTIN.

CHINESE TARTAR SHEEP, for Sale.—My stock of the above breed of Sheep, being larger than I require, I offer a few of them for sale; the Mutton and breeding qualities are too well known, to need any criticism here.

Address R WISTAR, Philadelphia, Pa.

ALDERNEY BULL for sale, thoroughbred—two years old, a very superior animal. Apply to

THOMAS W. SATTERTHWAITE,
61 William St., N. Y.

JOHN MILNE,
Grapery & Green-House Builder,
YONKERS, N. Y.

Frames and Sashes for Hot-Houses. Green and Hot-Houses and Conservatories erected, and warranted.

JENK'S KITCHEN PRESS—To press corned beef, tongue, and head-cheese.

It renders meat tender, expels the superfluous grease and keeps it juicy and in snug shape.

To press potatoes, squash, turnips, etc., renders them dry and mealy.

To squeeze oranges, lemons, or other fruit to make water ices, syrups, etc.

To squeeze currants grapes and berries, to make jelly, wine, syrups, etc. Apples, to make cider.

To press roots and herbs to make extracts, tinctures, press cards, etc.

The most useful and economical article you can have in your kitchen.

Prices—5 inches $1 75. 6 inches, $2 8 inches, $3.

Manufactured and sold by S. W. SMITH,
Sign of the Golden Tea Kettle 534 Broadway.

THERMOMETERS, BAROMETERS, &c., of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by D. EGGERT & SON, 239 Pearl st.

Cane Mills and Distilleries.

GENERAL COPPER-SMITH WORK.

Distilleries of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills, syrup pans, skimmers, dippers, syrup guages and pumps, brewing apparatus, by steam or fire JOHN W. REID, 11 Old-slip.

Agricultural Implements

of all kinds, for sale by J. B. RYAN, Importer of Hardware, 114 Yonge-st., Toronto, Canada West.

Manufacturers of above goods will send their lists.

CAUTION.

All persons are hereby cautioned against using, making or vending any machines in violation of CHAS. W CAHOON'S Patent for SOWING SEED and GRAIN BROADCAST, issued Sept. 1st, A. D. 1857, and re-issued on the 11th day of May last. Suits have already been commenced against A. Leach the assignee of Aaron Ring, for using and selling machines under the Ring patent; and also against the manufacturer of the Ring Machines. And any person who shall hereafter be found using or vending any of the Ring Machines, or in any way violating said Caboon's patent, will be prosecuted immediately.

June 1, 1858. D. H. FURBISH, Proprietor.

D. H. FURBISH, Esq. BOSTON, May 21, 1858.

Dear Sir:—I have examined with care the model of a broadcast sower, deposited in the Patent Office by Aaron Ring, and am clearly of the opinion that machines made according to that model would be infringements of the Letters-Patent re-issued to the assignees of Charles W. Cahoon, on the 11th of May instant. Yours respectfully,

GEORGE T. CURTIS.

D. H. FURBISH, Esq PORTLAND, June 1, 1858.

Dear Sir:—Having seen the machine of Aaron Ring in operation, I entertain no doubt of its being an infringement of the patent issued to C. W. Cahoon's assignees.

Yours truly, EDWARD FOX.

EXCELSIOR FAN MILL

Will clean 60 Bushels of Grain per hour.

COMBINED POTATO DIGGER AND DOUBLE MOLD BOARD PLOW, will turn out from 10 to 15 acres per day.

HORSE POWERS AND THRESHING MACHINES, the best and easiest working powers in use.

CLOVER HULLERS with SEPARATORS
SAW MILL AND SAW DOG POWERS.
CIDER MILLS AND PRESSES HAY PRESSES.
CORN SHELLERS, HAY AND STALK CUTTERS,
&C.

At Wholesale and Retail at the

NORTH RIVER AGRICULTURAL WAREHOUSE.
GRIFFING BROTHER & CO
60 Cortlandt Street,
New-York City.

IMPROVED IRON FARM MILL—Will grind all kinds of Grain, also Corn and Cob—can be driven with one or more horses, and will grind 4 to 15 bushels per hour. We consider it the only efficient and durable Iron Mill in use, and is just what is required by the Farmer and Planter Price $50. Price with bolt for making family flour, $75.

HORSE-POWERS AND THRESHERS—Of great variety, most approved patterns.

CORN SHELLERS—For hand or horse-power, will shell clean 200 to 1,500 bushels per day.

FAN MILLS—Hay and Stalk Cutters; Sausage Cutters; Pumps; Water Rams; Vegetable Boilers; Weather Vanes Grain Mills; Smut Machines, and machinery of all kinds, of most approved kinds, and at low prices For sale by

R. L. ALLEN, 191 Water st

"THE WONDERFUL PUMP."—This pump works by hand in all depths to 150 feet! Warranted. Prices from $16 to $60 Address

JAMES M. EDNEY, 147 Chambers-st, N. Y.

WILLARD'S ROOT CUTTER—A new pattern, superior to any. It does not slice—but leaves vegetables in small broken pieces—so that there is no liability for an animal to choke. Will cut one bushel per minute. Price $10. For sale by R. L. ALLEN, 191 Water-st.

METROPOLITAN WASHING MACHINE—Washes with little labor rapidly and clean—described in Sept. Agriculturist. Price $10.

WISNER'S WASHING MACHINE, described in March Agriculturist. Price $5 50. For sale by

R. L. ALLEN, 191 Water-st.

MEAT CUTTERS

Of the best Quality.

CYLINDERS POLISHED AND A FLANGE NEXT THE CRANK END.

KNIVES of No. 1 cast steel, *tempered* equal to the best cutlery, sharpened ready for use, and reversable when dull, seldom if ever requiring grinding.

Every wedge and knife precisely alike, fastened in with a thumb screw, so that they can be taken out, cleaned and replaced without trouble.

OBSERVE THESE POINTS.

In buying a sausage cutter, get the best and most convenient article at little more than the price of a common one.

Prices of the various sizes (at wholesale only) furnished on application to the only manufacturers of the above pattern and quality.

JAS. L. HAVEN & CO.,
Cincinnati, Ohio.

STOVE POLISH.—A very superior article for family use; it is clean, durable, and brilliant, and exceeds any thing of the kind in the market. It is also a great saving of labor. QUARTERMAN & SON, 114 John-st., New-York.

HEALTHY BREAD

JAMES PYLE'S DIETETIC SALERATUS.

JAMES PYLE'S DIETETIC SALERATUS.

JAMES PYLE'S DIETETIC SALERATUS.

JAMES PYLE'S DIETETIC SALERATUS.

JAMES PYLE'S DIETETIC SALERATUS.

HOUSEKEEPERS!

ALWAYS BUY THE BEST!

Many thousand families in the New England and Middle States, testify to the superiority of this article over all others; indeed, it requires but one fair trial to convince any intelligent person.

There are thousands of sufferers from dyspepsia, decayed teeth, and other derangements of the system brought on by the use of *common Caustic Saleratus*. It is a sad spectacle, too, to look upon the "puny-faced child" of the present day, without constitution, and with its teeth all eaten out, and think of the cause being impurities in food.

How much longer, *good mothers*, is this state of things to last? Ask for

JAMES PYLE'S
DIETETIC SALERATUS,

which is FREE FROM EVERY IMPURITY, and as harmless to the stomach as flour itself.

If you want nice Biscuit, Cake &c., you can find nothing to equal it. Tell your Grocer you want no other. No doubt he will tell you it is no better than any other, in order to get rid of his old stock, or something on which he can realise larger profit; but persevere until you get it, and

JUDGE FOR YOURSELF.

BEWARE OF COUNTERFEITS.

The readiness of unscrupulous rivals to imitate our labels, signifies much in our favor. The genuine is done up in pounds, halves and quarters, with the name of "JAMES PYLE" on each

DEPOT, 313 WASHINGTON STREET, New York. Sold by Grocers generally.

BLOOD AND WOOL MANURE.—Peruvian Guano, Bone Dust, Land Plaster, Super Phosphate, all of best and most reliable quality, and on the best terms. For sale by R. L. ALLEN, 191 Water-st.

Bone Manure.

SAWINGS, TURNINGS AND CRUSHED BONES FOR Sale by the Manufacturers in large or small quantities.

A. LISTER & CO.,
Tarrytown,
Westchester Co., N. Y.

To Practical Farmers and Dealers in Fertilizers.

The ***NATIONAL FERTILIZER***, a modern compost, is prepared under the direct superintendence of L. HARPER, LL.D., formerly Professor of Analytical Chemistry and Agriculture in the State University of Mississippi, as also State Geologist. Its ***basis*** is the GREEN SAND MARL OF NEW-JERSEY, which is chemically combined with ***fish and pure animal bone.*** Letters Patent for this and foreign countries have been granted. It is unhesitatingly accredited ***superior*** to Peruvian Guano, strengthening the soil, and beyond the possibility of exhausting land where applied. ***The increase in the yield of plants and all cereals is largely augmented;*** while it supplies a ***continuous*** source of fertility. ***For sandy, barren and abandoned lands, and where other manures*** have failed, we ask but ***one trial,*** trusting ***solely*** upon the ***rare*** constituents which this Fertilizer abundantly possesses, and which are ***so wholly and peculiarly essential*** in an article of Fertility, such as is here ***reliably*** represented. We would beg the attention of Farmers to its use the coming Autumn for Winter grain, and to the fact that it has arrested ***the rot*** in potatoes ***after*** decay has commenced. Price per ton of 2000 lbs., $35. For all detailed particulars, analyses, directions and recommendations, apply or send to the office of ***The National Fertilizing Co., 37 Fulton-Street.***

JOS. C. CANNING, Agent, New-York.

We would distinctly give notice (as abortive imitations and attempted infringements upon our Patent have already been made) that we have ***no connection whatever*** with other Fertilizing Companies of ***any character or name.***

Contents for November, 1858.

PREMIUMS!

We purpose to make the next volume of the *Agriculturist* far superior even to the present one, in greater variety of topics, in more and better engravings, in short in *every* respect. We also desire to extend its circulation into tens of thousands of families where it is now unknown. To accomplish this, we offer to those who will assist in the work, the following premiums, which are certainly liberal, if the cost of the paper, and the low price at which it is furnished be taken into account.

☞ It will be seen that the Premiums in each case (except No. X) depend upon a given number of names, and not upon competition between unknown persons; so that every person knows exactly what he or she is working for.

Premium I.—A liberal distribution of *valuable seeds* will be made during next Winter, to ALL regular subscribers alike, whether single or in clubs, and whether received from agents, or otherwise.

Premium II.—We have 150 pieces of the genuine Atlantic Cable—each piece being *four inches* in length, with the ends secured by brass ferules. One of these will be presented to each of the first received 150 clubs of six subscribers at $5. (N. B.—Twenty-one cents extra must be sent to pre-pay postage on the Cable.)

Premium III.—Any person sending in a club of 10 subscribers at $8, may order a free copy of either Vol. XVI or Vol. XVII, which will be sent in numbers post-paid.

Premium IV.—Any person sending 15 subscribers and $12, will be entitled to 16 copies (that is one extra copy), for the coming year.

Premium V.—Any person sending 25 subscribers and $20, will be entitled to *both* Volumes XVI and XVII, sent in numbers post-paid. (N. B.—If $21 be sent, the two Volumes will be bound neatly in one cover, and forwarded post-paid.)

Premium VI.—Any person sending in $24 for 30 subscribers, one-third or more of them *new* ones, will be entitled to a *silver* cased Microscope, with the celebrated "Coddington lens"—the same as fig. 4. in July No., page 219. Price $4. (It will be safely packed and sent by mail, post-paid.)

Premium VII.—Any person sending $32 for 40 subscribers, (one-half *new* names,) will be entitled to the large *unabridged* Webster's Dictionary, containing 1,376 3-column pages—the best and most complete work of the kind in the world. Price $6. (It weighs 7 lbs., and can be sent by express or by mail at the expense of the recipient, after leaving the city.)

Premium VIII.—Any person sending in $80 for 100 subscribers, (one-half *new*) will be entitled to each of the six above premiums, numbered 1, 2, 4, 5, 6 and 7.

Premium IX.—Important Change.—In consequence of the reduction in the price of the Best Sewing Machines, we are able to reduce the terms of this premium materially. That is to say: Any Lady or company of Ladies sending in 144 NEW subscribers at the lowest club price (80 cents each) will be presented with one of Wheeler & Wilson's best $50 SEWING MACHINES, new from the manufactory. These $50 machines are just as good for all working purposes as those recently sold at $100. No better working machines are made. We consider this an excellent chance for hundreds of ladies to secure an invaluable prize at a little outlay of time and effort. The names can be easily gathered in single towns or in two or three adjoining ones (they need not all be at the same Post office). A committee of ladies may unite their efforts and secure a Sewing Machine as common property with as little solicitation or trouble as they could get up a Fair, and all they get above 80 cents each will be clear gain. Perhaps they can enlist their brothers, husbands or other male relatives to aid them. Last year we received subscribers enough from single Post offices in Illinois, and elsewhere, to secure this premium. (See remarks below.)

Premium X.—The Lady or company of Ladies sending the largest list of names above 144 will be presented with a higher prieed machine, that is one put up in an extra case.

Remarks.—It will be noticed that any person trying for one of the higher premiums, and failing to get names enough, can still take one of the lower ones, according to the number of names obtained.

Every person collecting names for premiums can send them in with the money as fast as received; but if designed for premiums, a double list of the names should be sent, one of them marked at the top, "For premiums," and with the name of the sender. These duplicate lists will be kept on file by themselves to be referred to in making up the premium lists, when any person has completed sending in names for Volume XVIII.

We do not set any time for the completion of the lists, it being understood that these premiums are only for subscriptions for volume XVIII (1859), whenever received. The premiums will be paid as soon as the names are received.

☞Our offer of extra numbers to those subscribing now, renders it practicable to begin the canvassing *at once.*

Time Extended—A "Baker's Dozen."

A Western subscriber says: "I don't like your change from last year, in regard to the *Bakers's Dozen.* You then gave us, *new* subscribers, the two extra numbers, November and December, though we came in November 17th. Now, I have a large club partly made up, and if you will allow me to offer the November and December numbers this year free to *new* subscribers, who join our club early in November, I can soon get my microscope premium. I suppose there are many others in the same situation. We are just getting ready to attend to this matter, having been busily engaged in getting in our crops...."

Daily requests like the above induce us to comply with the proposition, and to save further correspondence, and to put all upon the same footing, we now say that:

Every NEW subscriber for 1859 (*vol.* 18), *whose name is received during November, will receive, if desired, the November and December numbers, free of charge. This extends to all new subscribers, whether coming singly or in clubs, or through voluntary agents, or agricultural societies*

This proposal gives the recipient *fourteen* copies (**a Baker's Dozen**) at the usual price of *twelve* copies. Are not two extra copies (this and the next one) something of a premium?

See Notes on the Seed Distribution.

Some remarks on the free distribution of seeds will be found on page 348.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

ORANGE JUDD, A. M., EDITOR AND PROPRIETOR. | **ESTABLISHED IN 1842.** | $1.00 PER ANNUM, IN ADVANCE. SINGLE NUMBERS 10 CENTS.

VOL. XVII.—No. 12.] NEW-YORK, DECEMBER, 1858. [NEW SERIES—No. 143.

☞**Office at 189 Water-st.,** (Near Fulton-st.)

☞**For Contents, Terms, &c. see page 378.**

American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in both the English and German Languages. Both Editions are of Uniform size, and contain as nearly as possible the same Articles and Illustrations. The German Edition is furnished at the same rates as the English.

December.

"Now, all amid the rigors of the year,
In the wild depth of winter, while without
The ceaseless winds blow ice, be my retreat
Between the growing forest and the shore
Beat by the boundless multitude of waves;
A rural, sheltered solitary scene,
Where ruddy fire and beaming tapers join
To clear the gloom. There studious let me sit,
And hold high converse with the mighty dead;
Sages of ancient time, as gods revered,
As gods beneficent, who blessed mankind
With arts, and arms, and humanized a world."

THOMSON.

The closing month of the year has come, with its short days and early twilight, its fierce storms and biting cold. The harvests are gathered, the leaves have fallen, the stock are sheltered in the barn to consume the crops their labors have aided the earth to bring forth. There is a pause in all the activities of life, and man has time to look back over the labors of the year, and to contemplate the scenes amid which he is a busy actor. Nothing is lost to human happiness or progress by this change from activity to comparative rest. We know that Nature loses nothing by hybernating. Her greatest activity follows immediately upon this period of rest. Every sleeping bud and germ is gathering strength for a new effort with the opening Spring. These terrible frosts, that send such a chill to our bones, are plying the clods with more potent forces than human art ever brings to bear upon them. The most adhesive and indurated lumps are disintegrated and powdered, as the plow and harrow could never crush them.

Man also is forced into a comparative rest for his physical powers. The vital energy no longer spends itself upon the reproduction of muscle. Mind is quickened by the changing season, and brought in contact with new scenes, and new objects of interest. There is time, now, to look at the principles that underlie the activities of the year, time to study the economies, the moralities and the esthetics of life. If the farmer improves the leisure of Winter, he will lose nothing by the cessation of labor. *Mind rightly directed will economise labor in the house and upon the farm*, in a thousand ways. The reflections of a single Winter evening may save weeks of toil next Summer, when time is so valuable. Some trifling change suggested by the fireside may save hundred's of dollars of needless expense. Happy is the man who takes lessons from the field and forest, and uses Winter as a season of getting ready for the pressing labors of Summer.

As you are gathered around your happy fireside, on these cold December nights, we will throw in a few hints to help your reflections. Is every thing about your house as comfortable as it might be? "Oh no," you respond. "I have little ready money, I am in debt for my farm, and I am not able to purchase elegant furniture, or to indulge my family in sofas and easy chairs."

But the luxuries of life, the parlor adornments to be used on rare occasions, have little to do with every day comfort. Many a man has these, who is daily suffering from inconveniences, that a very little time and money would remove. Your house has been leaking with every shower, all through the Summer. Have you ever thought how many steps those leaks made your wife in the course of a year? Every shower, the tubs and pans have to be carried to the attic to catch water, and then carried back again to the cellar. This comes often when she is weary, and leads to fretfulness and discomfort. The walls are stained, the carpets and furniture are injured, and a fair face that you love, is often beclouded for want of a hundred shingles, and a sixpence worth of nails. Those leaks stopped in some leisure hour, would do your wife more good and promote household comfort more than a five hundred dollar piano in the parlor.

As we are chatting here by the fire, unwholesome gusts come puffing in at the windows, and the cracks of the door. One side is about as much too cold, as the other is too hot. Your family must take cold often in these currents of air. Have you ever thought how extravagant a luxury these December breezes, indoor, were? Really they are more costly than the parlor ornaments of your rich neighbor that you think you can not afford. Wood is worth with you, perhaps four dollars a cord, cut up ready for the stove; and you use up two cords extra to keep the room comfortable during the Winter, and fail in the endeavor. A single day's work of the carpenter would make the doors and windows tight, and put in a ventilator in the chimney, and save you this annual expense for fuel with all its concomitants of colds, and doctor's bills.

Your well in daily use is thirty rods from the house, at the foot of the hill, put there because less digging was necessary, or a natural spring invited. Consider, now, how many steps are taken to visit this spot thrice or more, daily, and how much labor is involved, in thus carrying water up hill all your days. The good wife, or the maid, who draws the water has often suggested that a well might be dug within a rod of the door just as bountiful in its supplies of water, and much more convenient. It would save many days of labor every year, and much wear and tear of spirit. Shall that well be sunk, and an endless chain be put in, to give your family water, where they want to use it?

Washing is the heavy business of housekeeping, and bears hardly upon woman. Is this made as easy, and comfortable, as it might be? The water has to be drawn, heated, and emptied after use, each change requiring labor. Now suppose instead of the cedar tubs, you had one large square pine tub, with four divisions in it, put up as a fixture on the side of the wash room, and furnished with pipes and stop cocks that would turn on the water and let it off, without your lifting a finger. Instead of all those weary journeys to the well, the washer turns a faucet, and her tub is filled. She turns another and hot water comes in from the boiler. She pulls a stopper and the soap suds are passed off into a vault where all the wastes of the house are collected for fertilizers. Full one half of the drudgery of washing day is saved by these simple contrivances. The thinking mind does the work of many hands. These labor saving inventions are adopted in many farm houses, and may be in yours.

Hark how the wind whistles, and the snow is piled up in huge embankments under every wall, and around every corner! What a charming thing it would be, if we could break off this fierce wind and compel the snow to fall on a level, and make smooth paths for the cattle! This can be done, at least so far as your premises are concerned. You have often cut wood in the forest, in the depths of Winter, and observed that there were no banks of snow there. However fierce the winds, the snow comes down gently through the tree tops covering the earth as evenly, as if it fell on a day of Summer calm. All this, man may imitate on the bleakest spot, and in a few years shut out his home from the violence of the Winter blasts.

Shelter is every year attracting more attention from rural improvers. No sight is more common in our older farming districts, than long lines of shade trees planted by the road side, or belts of Arbor vitæ, Norway Spruce, Hemlock and Fir, designed especially to keep off the winds and snow banks. These not only add much to the warmth and comfort of a home in Winter, but they throw around it an air of refinement and taste, pleasing to every observer. These are cheap luxuries within the reach of almost every cultivator of the soil. In this period of rest and reflection, let him ponder these inexpensive methods of adding to the comforts and attractions of his home. We drop the subject here to be resumed again during the succeeding Winter months.

Calendar of Operations for Dec. 1858.

[We note down sundry kinds of work to be done during the month, not so much to afford instruction to practical men, as to call to mind the various operations to be attended to A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South by making due allowance for each degree of latitude, that is, earlier for the North, later for the South.

This table will be much fuller, and more important, during the planting season when there is a greater variety of work to be done.

Explanations.—*f* indicates the *first*; *m* the *middle*; and *l* the *last* of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signifies that the work may be done in either or in both periods indicated; thus, work marked *fm*. indicates that it is to be attended to from the *first* to the *middle* of the month.]

Farm.

Review the full directions given last month and complete any operations omitted until now. Hard frosts and northern snows are near at hand, for both of which the thrifty farmer is about prepared, having his Autumnal work so done up that he sleeps sweetly at night, undisturbed by fear of snow before morning, upon an acre of turnips still unharvested.

The close of the year is an appropriate season for balancing the accounts of the farm. It is well to make an inventory each season. Any permanent improvements should, of course, be considered as enhancing the value of the farm and placed to its credit. Live stock, hay, grain and other provisions on hand should be summed up, the outstanding debts taken account of, and, by comparing the statement with the previous year, one can readily conclude whether he makes his farming operations pay.

If the merchant takes an exact account of stock each year to ascertain his standing, why should not the farmer? It need take very little time except a few of the Winter evenings.

The present comparative leisure will afford a good opportunity to re-read the back numbers of the *Agriculturist*, some of which were received at too busy a season to give them all the thought they deserve. Mature early all your plans for next season, deciding what fields to plant, what to sow, how many drains shall be dug, and where young orchards shall be planted.

Some of the surplus produce may now be marketed and the grocer's and other outstanding accounts liquidated. Resolve that during the coming year you will "pay-as-you-go," rather than run up lengthy accounts like those you now find it difficult to pay off. Keep a strict expense and cash account, taking and filing away receipts, which, besides saving many disputes, and sometimes paying bills twice will enable you to discover where some of the *leaks* are, and if created by the purchases of those things you would be better off without, resolve to stop them at once. Remember that the apparently small sum of six cents per day spent for drink or tobacco, will, during the next ten years, amount to over $300, to say nothing of the time spent in getting it and the constitution injured by its use. But moralizing aside, let us look over the farm, and especially at the

Buildings for both man and beast, to see that they are as comfortable as possible. If not already storm proof make them so, ff.

Cattle come in for a large share of attention now. Complete fattening the beeves as early as may be, keep up the flow of milk by giving cows the remaining pumpkins, turnip and cabbage tops, with cut feed and Indian meal, or shorts; supply full feed to young stock that they suffer no check in their growth; have working oxen sharp shod where the ground is frozen or icy; and see that all the stock is sheltered at night, well supplied with water and salt, or salt hay given them once a week.

Cellars may need additional protection to keep out frosts.

Christmas—May it be a merry one to all, and a feast of fat things, in which the poor are not forgotten.

Drains may still be made where the ground is not too wet or frozen.

Fencing—Get materials from the woods and swamps and split a full supply of rails, and prepare posts against the busy season of next Spring.

Fodder—Do not waste it about the barn, but run it through a straw or hay cutter and add some kind of ground feed. Use racks in the yards to keep it from being trodden under foot. See illustrations elsewhere.

Forest Leaves—Large quantities of these are still blowing about the roadsides and wood borders. They make excellent bedding, manure and hot-bed materials. Shall a few loads be secured under cover, before it is too late?

Hedges—Plant, ff, at the South, and where the ground will admit of working.

Hogs—Complete fattening, ff, those intended for killing. Keep their pens and yards well supplied with muck and other manure agents and absorbents. Have an eye to the increase of stock, and turn the male among your breeding sows, ff, if early pigs are wanted.

Horses and Mules—With grain feed, give a portion of carrots, and see that their stalls are warm and well bedded at night. Ventilate their stables and use absorbents or deodorizers to take up the gasses which are unhealthy to breathe but valuable when fixed in the compost heap. Keep horses well shod.

Ice Houses—Fill with the first firm, thick ice, which is usually the best of the season. Houses may still be built.

Manures—Push the manufacture of these at this season. Use muck, loam, leaves and straw to absorb *all* the liquids of the yards and stable. Cart a large heap of muck from the swamp to the stables for Winter use. A free bedding of it under horses to absorb the urine, will make twice as much manure as would be saved where all the liquids were allowed to run to waste, with no absorbent.

Plowing during open weather may still be continued on clayey soils when sufficiently dry.

Poultry—Give warm quarters, plenty of food and drink, with gravel, lime and meat, and you may expect eggs in the Winter season. Clean roosts often, barreling the contents for an excellent home-made guano.

Schools are now in session in most districts. Let the children attend as steadily as possible, and show them, by frequent visits, that you take a lively interest in their success.

Sheep—Provide racks for, and feed under cover during storms. Keep horned cattle and horses from them. Give turnips or carrots, instead of all dry feed. See that they are supplied with salt, and provided with a good buck, of an improved breed, if possible.

Tools—Look over, during the stormy days of this month, and if any need repairing you can better afford the time now than when they are wanted for use at a busy season. New ones of domestic manufacture, such as harrows, ox yokes, bows, hoe, fork and ax handles, wood sleds, &c., may also be made. Don't let a snow storm bury the plow in one place, harrow in another, the ox-yokes here, and chains, axes, &c., somewhere else. They should be housed every night.

Turnips—Harvest, ff, any still in the ground. Give pits an additional covering and close the ventilators at night if there is danger of freezing.

Water Pipes and Pumps—See that they are sufficiently protected from frosts.

Winter Grain—Allow nothing to graze upon the fields during the present month. Water should not be allowed to stand in little ponds upon them.

Wood—Commence early to get up the Winter supply. At the North where abundance of snow falls it is better to cut and draw together as much as possible before the deep Winter snows fall. Early snows usually make the best sledding to draw it home upon. A year's supply should be brought to the house, cut and stored under cover some time during the Winter, the earlier the better

Orchard and Nursery.

There is comparatively little to do in the Orchard and Nursery the present month. In the orchard, unless dislodged last month search out the

Borers which have ensconced themselves in their Winter quarters. A piece of whalebone or bent wire will usually finish their career if thrust into their holes near the root of the tree.

Labels and Stakes—Prepare a full supply for Spring use in the nursery. See that labels on standard trees are sufficiently firm to stand the Winter. They should be attached by copper wire which can be lengthened as the tree increases in size. Loosen any which are cutting into the bark.

Mice—Where snow covers the ground, it is well to trample it down after each fall, to form an icy mass which they will find it difficult to pass in attempting to gnaw trees above ground. If the ground is not frozen, bank up about each tree, removing the earth in the Spring.

Nursery Rows—Plow them out before the ground closes, turning the furrows *towards* the trees and opening drains between the rows to pass off the surplus water.

Old trees may now have the loose rough bark and moss removed to good advantage. Many insects which have harbored there will thus be destroyed. Where the ground is not frozen better manure now in preference to leaving it till Spring.

Pruning, omitted at the appropriate season last Summer, is better done now than in the Spring. It is not well however, to leave fresh wounds subject to the freezings and thawings they must soon receive.

Scions—Cut, ff, m, for Spring grafting. Guard against any mistake as to kinds.

Seed and Pits for Fall Planting—If any of these are still out of ground, put them in at once according to directions previously given in this Calendar.

Shrubs—These may still be transplanted during open weather. Tender varieties will require some protection as referred to under "Flower Garden and Lawn."

Transplanting—Continue, ff, during open weather Never allow the roots to freeze during the operation. Evergreens and tender stone fruits do better when set out in the Spring.

Trench or subsoil grounds that are intended for early planting next Spring. Besides greatly improving the land it will render it warm and dry, and capable of being worked much earlier in the Spring.

Kitchen and Fruit Garden.

Very little gardening can be done during this month at the North, but at the South the soil may be manured, plowed and laid out, and many of the early vegetables sown on warm, dry grounds. In this latitude, however, possibly some of the November work was omitted and needs early attention now. Read directions on page 369 for putting the grounds in a neat condition for Winter, and ridging heavy soils so that frost may act upon them.

Asparagus beds not covered last month should receive a coating of coarse manure, ff. Spread the old stalks, and the vines of the garden over the manure, which will protect from frost and cause an early start in the Spring. New beds may still be made where the ground is open.

Bean and Hop Poles, Raspberry stakes and Pea brush may be collected from the frozen swamps and stored away for the more busy season of planting.

Cabbages and Cauliflowers—If any are still in the gardens, put them in Winter quarters, ff, as directed in the November number. Those in frames require air at all suitable times. See under Cold Frames.

Celery—Harvest, ff any remaining in the ground, and put in trenches, covering with boards or straw to keep out frost.

Cold Frames—Air these at all suitable times. When the weather will not admit of removing the sash entirely, raise the upper portion on the back side a little. Pick off all decaying leaves before they taint the atmosphere. Upon the approach of severe weather, bank up with manure and cover with straw and mats to exclude the frost.

Compost and Manures—Now is the time to make and collect these. Keep every receptacle or manufactory at work by supplying the hogs, cattle, horses, sheep, poultry and privies with material to absorb the liquid and gasses. Too much muck can scarcely be used for these purposes. Decayed leaves also form an excellent ingredient in garden soils. Prepare materials for early hot beds.

Currants and Gooseberries—Read the article upon currant bush insects on page 368, and try the plan there recommended to destroy them. Cuttings may still be made, ff, when the branches are not frozen.

Fig Trees—Surround with evergreens, straw, or mats, or lay small ones upon the ground and bury them.

Fruit on Shelves, or in the Fruit Room, will need examining often. Keep moderately cool and not too dry.

Fruit Borders—Cover with a mulch of coarse manure to protect from severe freezing and enrich the earth. An embankment about each tree will often prevent its being girdled by mice. Trees may be set, ff, on warm soils, as long as they are not frozen.

Grapes—Lay tender varieties upon the ground, ff, if not already done. A moderate covering of earth is best for Hamburgs and other house grapes which have been growing out doors. Even Isabellas and Catawbas are better, in northern latitudes, for a slight Winter protection. Cuttings may still be made, ff.

Hot Beds—Collect materials such as leaves, tan bark, &c., and have a quantity of stable manure and prepared earth in readiness for early beds. Prepare frames and sash that there be no delay when they are wanted for use.

Mushroom Beds—Keep from frost and cold rains. They will continue to bear when properly managed.

Parsneps—Bury a few in sand, in the cellar, to draw upon when the main crop is frozen in the ground.

Pruning of grapes and small fruits may still be done, ff, if omitted last month.

Raspberries—If not covered in November attend to them, ff, as directed elsewhere. (See page 369) Plants may still be set out where the ground is not frozen.

Rhubarb—Cover as Asparagus.

Seeds—See directions of last month.

Spinach—Cover, ff, any neglected last month.

Strawberries—If not already protected, spread over a light covering of straw, coarse manure or leaves.

Turnips—Harvest and store, ff, any still in the ground. Look to those covered pits and bank up as the weather demands, closing the ventilators at the top.

Flower Garden and Lawn.

If these grounds were well cared for last month, tender plants taken in or protected, rubbish gathered up

walks, lawn and borders raked over there will be very little requiring absolute attention now.

Where the land will admit of working, grading and laying out new grounds can be done to advantage, especially if the Spring should prove wet. Put everything in neat order that there be as many attractions as possible even in Winter. Read remarks on page 369.

Auriculas, Anemones, Polyanthus, Ranunculus and Primroses—Cover with coarse manure, leaves or straw, to prevent sudden and severe freezing.

Biennial and perennial roots, unless covered with snow, will keep better, and start earlier if mulched, that is covered with coarse manure, straw or forest leaves. During mild weather they may be divided and reset where the ground is not frozen.

Bulbs—Plant, ff, any which chance to be still out of ground. Full directions have already been given. See also the illustrations and remarks on page 371 relative to bulbs in glasses. A moderate covering of some kind will greatly improve the future bloom. Coarse manure, straw, &c., will make a good protection.

Chrysanthemums—Cut away old flower stalks, marking the desirable varieties you wish to propagate from. The roots may now be divided and reset where the grounds are in working condition.

Dahlias and Gladiolas—See directions of last month, if any are still in the ground, and unfrozen.

Daisies, Carnations and Pinks—Protect as Auriculas, or they are liable to Winter-kill. Evergreen brush spread over them forms a good covering. A few may be taken to the green house for early blooming.

Evergreen Trees and Shrubs—Shake off any accumulations of snow to prevent the branches from being broken.

Frames and Flower Pits—Keep closed, and covered with straw, mats, &c., during cold and inclement weather. They need not be opened during the month unless a succession of fine days occur.

Labels, Dahlia and other Stakes—Procure or make these during the leisure of this and the following month.

Roses—Divide roots, remove layers and transplant, ff, where there is no frost. Tender sorts may be protected with evergreen brush or straw, or better lay them down and bury with earth as directed for raspberries on page 369.

Shrubs—Hardy varieties may still be planted, ff, in many localities. Do not move them during freezing weather. Protect tender varieties by placing evergreen boughs about them Boxes and barrels confine the air too closely, often molding the plants. A compact mass of straw is likewise close and difficult to dry after heavy rains. Place three or four red cedar, Arbor vitæ, or other evergreens, about the shrub, extending one foot above it. Draw them in with twine or willow, closely if very tender—and you have an *evergreen*, and ornamental *cone*, through which only *sifted* wind can penetrate, and from which moisture will soon dry.

Trees—Plant hardy ornamental, ff, where practicable, in preference to leaving till Spring.

Green-Houses.

Most of these are supposed to contain plants which need only be kept from freezing during the Winter, relying upon the Summer for their bloom. Some of them, however, in the absence of forcing houses, are made to perform the office of green and hot-house. This is attained with difficulty unless there are divisions to the houses so that some may receive more heat than others. In the green house proper, the temperature should be kept at about 40°—never below 35° or above 50°. To maintain this warmth a little fire heat will occasionally be needed, both to resist cold and dry up dampness during wet and foggy days. Only resort to fire heat when absolutely necessary. Place the shutters on early at night, and even keep them on during very severe or snowy weather—taking them off as soon as practicable to give the plants light. Admit air also at all proper times.

Very little water will be required this month, especially to woody plants, such as oranges, lemons, oleanders, myrtles, &c.

Keep everything neat and clean, removing decaying leaves and moss from the surface of pots and tubs.

Bulbs that were put in the ground until this season, should be potted, ff, and kept in a cool part of the house to be carried to blooming apartments as needed.

Hot-Houses.

December is often a trying month for this department of floriculture. The keen piercing winds whistle in at every crevice, snows fall upon the glass or shutters rendering it difficult to keep an even and proper temperature. A thermometer should always be hanging in the center of the room, and often consulted. As in the green-house, so in these apartments different degrees of heat are required for different collections of plants or for the same plant according as it is in a state of rest or forced growth. This is usually provided for by several houses, or divisions of the same house with a moderate heat in some, say 55° to 60°, while tropical and forcing plants may require 70°, and even 75°, when the sun shines—they bear more heat in sunshine than in shade. Few plants require much forcing now, the chief object being to keep them moderately inactive and prepare them for a vigorous growth next month.

Air the houses each day, if the weather is suitable. Avoid a draft by lowering only the upper sashes a few inches in the middle of the day. Cover with shutters during cold nights and snowy weather. Mats hung before the side glasses will help keep out penetrating winds.

Bulbs—Bring a few from the green-house every two weeks to keep up a continued bloom, or prepare them for flowering in the parlor. Water freely. Read article on "Hyacinths in Glasses," page 371.

Camellias are now growing finely and nearly ready for bloom. Syringe, wash the leaves and water freely.

Decaying leaves, moss and weeds should be removed as they appear, both to preserve a sweet atmosphere and neat appearance.

Fires—Trust them to skillful hands. Unless water-pipes are used—which are far the best—too much heat is as injurious as too little. A steady, even temperature is desirable, which may require some night work.

Grapes—The outside borders should early be covered with coarse manure, straw or leaves. See that the drainage is good. The appearance of the vines inside differs greatly at this season. Some are still lying upon the floor in an inactive state, others have just been tied up and are bursting into growth, while it is possible to have fruit nearly ready to color on early forced vines. The treatment in each case must be governed by the forcing they have received.

Heaths—Water freely as they approach the blooming season.

Insects—Assiduously keep them in check with syringe, oil soap, and tobacco fumes.

Mildew—Sprinkle sulphur on the flues, dust the plants or otherwise use it, with caution, among collections subject to mildew.

Orchideous plants require a humid atmosphere, but no standing or stagnant water at the roots. Keep from direct sunshine.

Roses—Get up a good collection for Summer bloom. Cuttings may now be made. Force a few for Winter flowering.

Verbenas and Pelargoniums—Propagate freely for a Spring stock. Keep flowering plants near the glass and water freely.

Water—Most plants now require only moderate waterings—those in a state of rest once a week, while the growing ones need it twice a week and plants in flower, even oftener. Syringe, or sprinkle the floors occasionally to produce a humid atmosphere.

Apiary for December.

BY M. QUINBY.

St. Johnsville, N. Y.

If it is intended to Winter bees in the house, and preparations are yet to be made, they should be attended to immediately. Our Winter will be quite sure to begin in earnest this month, in all places north of N. Y. city. As soon as it is evident that there will be no more pleasent days for them to fly, take them in. A *dry* cellar is as good as any room above ground, but whatever room be used it should be *warm* and *dark*. *Dampness* is bad, any freezing is also bad. The least ray of light is bad. If the proper requisites can not be secured, better leave them out of doors. Over fifty stocks in a small room will keep the temperature above the freezing point at all times, unless too much air is admitted; a very little is sufficient. Second or third rate stocks that would perish in a week, in the cold air, can be successfully Wintered in a suitable room. Twenty-five per cent of the honey may be also saved, by housing. A double casing to form a dead air space around such room is a great advantage to keep out frost; the bees are less affected by changes in the weather, and are more quiet. Put in shelves, and pack close, but do not let the hives quite touch each other or the shelf above. Lay down some sticks one inch square, and turn the hive *bottom up* on them, for proper ventilation. When first turned over, a great many bees will come out of the combs, and will creep away, if there is anything to travel on, but if not, will soon return when left in the dark.

Such as are intended to stand out-door, ought not to be moved until severe weather. If possible the Winter and Summer stand should be the same; moving them in the Fall, before they are done flying, or in Spring after they have commenced, is bad economy. Arrange so as to avoid it if possible. Let such stands be out of the prevailing winds, and where the sun will strike the hives each day a short time. The sides, back and top, and sometimes front, may be protected with hay or straw. Ventilate by raising the hive one fourth of an inch, covering all holes large enough to admit mice, with wire-cloth, leaving a space just large enough for a bee to pass. Open the holes in the top, and set over an empty cap to receive the moisture.

Hives and boxes to be used another year, especially those containing combs, should be set right side up, secured from mice, in some dry place where they will freeze hard, and kill all moth eggs about them.

Correction.—A typographical error last month makes me say "the *best* bee-bread is stored in the combs near the top and side of the hive." It should read "the *least* bee-bread, etc."

Poultry—How to Prepare, Kill, Dress, and Market.

We went through Fulton Market on Nov. 2nd, to purchase a little extra poultry for a special occasion, and though there were turkeys enough, we could scarcely find a young tender one, looking "fit to carry home." The fault was not in the animals themselves, for there were young ones enough, and some of them in fair flesh, but they were so bunglingly dressed, so torn, blood-covered, and otherwise bedaubed, that a sight of them before being browned in cooking was enough to greatly diminish the pleasure of eating them afterwards. We took the best we could find, at 15 cents per pound; but for the particular occasion, and on almost any other, we would have preferred to pay double price for a good looking bird. And this is about the feeling of every purchaser of poultry. They will generally say or *feel*, "give me this small, neat turkey, at 18 cents per pound, rather than that large, slovenly dressed affair at 12 cents," even though the larger one be fatter and tenderer. The same is the case in regard to other poultry. The truth is poultry raisers have no idea of the dollars they lose for want of a few pence worth of time in dressing the animals well, and sending them to market in good condition. Last year, with the assistance of skilful dealers, we prepared and published some concise directions on this topic, which, from the importance of the subject, we will repeat here in substance.

Preparing.—Make them fat. A grain-fed, plump, fat fowl will sell for double the price *per pound* of a lean one. A liberal feeding for a few weeks before killing, will nearly double the weight and double the price, making a quadruple return for the finishing off food.

Killing.—Keep them from bruising themselves. Secure the wings the instant they are caught, and tie them behind the back. Tie the legs together, hang them upon a pole, and then cut off the head with a sharp knife, leaving as long a neck as possible. Let them hang until they bleed clean. Keep them from food for two or three hours before killing. Any grain left in the crop sours and materially injures the flesh if kept long before cooking.

Dressing.—Pick them dry, taking particular care not to *tear* or *bruise* the flesh. If scalded at all, let it be done quickly and in water not quite boiling hot. Be careful not to rub off the outer thin skin from the legs. If not to be packed in boxes, after picking dry or scalding, wash them in clean warm soap-suds, and "plump" them, that is hold them in boiling water about five seconds. If to be packed for carrying a long distance do not wet them at all, except to wash the neck. Strip back the skin on the neck, cut off the neck bone, draw the loose skin over, tie it tightly, cut off the bloody portion a little way above the string and wash off any blood, wiping dry. This will keep them clean and bloodless, and increase their saleableness.

Marketing.—Let them hang until entirely cold and then pack in rye straw if it be obtainable,

putting them into boxes holding not over 200 pounds. The packing straw should be bright and clean, and it will be greatly improved by drying it in a warm oven before using. Put straw between the carcases, and around the sides of the box—enough to act as a spring to prevent bruising, and pack straw closely under the cover. A little care of the kind described above will greatly increase the market value. Most persons keep back all their poultry until Christmas or New-Year's day. This is not always the best policy. We have noticed for several years, that poultry is scarcest and highest here for a few weeks *before* the holidays. As soon as settled cold weather arrives, poultry if dressed and packed as above in tight boxes, may be sent from the most Western States to this market. Contract for the through expenses and send to some reliable commission dealer who will take the packages in charge on their arrival, and dispose of them at once and return the proceeds, less a small sum for the trouble—usually about five per cent. of the price obtained. Another hint. Always send *with* your packages a careful invoice, or statement, of just what you forward, and your wishes in regard to it—together with your name and address. We make this suggestion because a dealer here informed us but yesterday that more than half the packages came to him without any invoice or other information as to whom they came from, or the kind and amount, and the wishes of the seller in regard to them—this being usually left for a letter, which frequently arrives after the poultry is sold, or should have been. Poultry should also *arrive* two or three days *before* special holidays, instead of a day after. This often makes a difference of ten to twenty per cent. in the proceeds.

For the American Agriculturist.

Look out for Incendiaries!

If it was known by the farmers of any town that a company of incendiaries were engaged in burning the stacks of hay and grain, gathered with so much labor during the Summer, the greatest excitement would prevail. Sheriffs, constables and their deputies would be on the alert; patrols and watchmen would be employed, and Judge Lynch would hold himself in readiness to "serve 'em right" when caught.

And yet on many farms nearly one-third of the hay and grain fed out during the Winter is needlessly *burned*. Let us see.

Food is taken by animals to sustain heat as well as furnish nutriment. At every breath, oxygen from the inspired air unites with carbon in the blood, exactly as it does in a burning stove, and heat is given out; thus, part of the food, having first changed to blood, is burned as certainly, though not as rapidly, as if it had been used for fuel in the stove. The colder the weather, the greater the quantity of food required to supply animal heat. Every observing farmer knows that it requires more food to fatten cattle in cold than in warm weather, and here we have the reason.

The Winter will soon be upon us. The intelligent and thrifty farmer will provide *warm* shelter for *all* his stock, thus saving enough in hay and grain each Winter to keep his buildings in good repair, his flocks replenished with good stock, and something *pleasant* besides.

Only the ignorant or careless will willingly leave their cattle to shelter themselves as best they may, under the lee of a stack or a rail fence, and let them go on uselessly burning up one-third of their fodder, to enable them to keep their disconsolate lives in their shivering bodies.

When we see a dilapidated stable or an open shed for cattle, or worse still, no provision for shelter, we think, here's work for incendiaries this Winter! Remember Jack Frost has burned more hay-stacks than were ever destroyed by midnight marauders, and keep the doors well shut against him. CARBON.

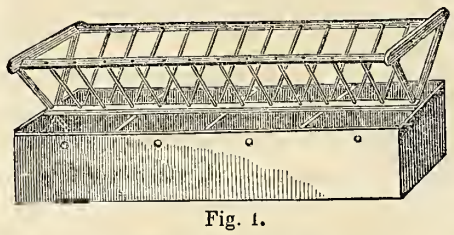


Fig. 1.

Another Feeding Rack

To the Editor of the American Agriculturist:

Having seen several articles in your journal on "Feeding Racks," I will add another plan which I have used on my farm for several years. The general plan will be shown by the enclosed rough sketches, if you have them engraved. They are used both in the stable and yard. In the latter they are made double, so that animals eat from both sides. First, we have a box or manger, two-and-a-half feet high, and extending two-and-a-half feet each way from the bottom of the rack. The box and rack are made of any desired length to suit the circumstances, such as the size of the yard, number of cattle, etc. The rack may be made of poles or sawed stuff. I bore the holes for the spokes or rounds five inches apart. The spokes are two feet eight inches long. The advantages of this rack are, that it not only prevents the cattle from taking a large mouthful at a time and dropping it under their feet, but the box also catches and saves all the fine stuff, a large amount of which is wasted in the ordinary mode of feeding. J. LYON.

Rockland County, N. Y.

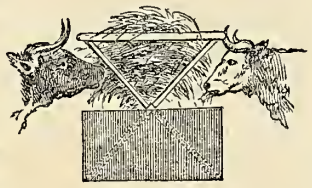


Fig. 2.

Notes on the Seeds for Distribution in 1859.

On a subsequent page is a list of *seventy-three* different varieties of seeds to be distributed *free* among our subscribers, during the months of January and February. We have six or seven other new varieties which we contemplate adding to the list next month, but it is yet doubtful whether we can get seed in sufficient quantity. Our regular list last year contained fifty-one varieties. From this list we have dropped several kinds, and added some thirty more. Our present list contains twenty-eight varieties not on last year's regular list, though a few of them were in the extra list offered in April.

Some of these seeds, though valuable, have been already pretty widely introduced,—many of them from this office,—and we should drop them from the present list, but for the fact that the *Agriculturist* goes to new subscribers, in many very remote places in the Territories and on the Pacific coast, who have no access to seed stores, nor other facilities for getting any kind of good seeds. We therefore leave in the list, for such subscribers, certain kinds which would be of no account to those more favorably situated. Among these are Numbers 1, 2, 3, 4, 8, 9, 10, 16, 17, 76, 77, and some of the flower seeds.

More than *fifty* varieties of the seeds offered will reproduce new seed in larger quantities, the same season they are sown or planted,—the principal exceptions being the root crops and the *brassica* or cabbage tribe. Owing to this fact, the parcels sent out, however small, will be rapidly multiplied. But with the exception of the field seeds, the garden peas, and two or three others, our parcels will each contain about the requisite quantity desired in any one garden or flower-plot. They will generally be larger than last year.

We are absolutely obliged to limit the number to each subscriber, to *three* separate parcels of field and garden seeds, or *five* parcels of flower and ornamental seeds, for even with this limitation the expense and labor of distribution will be immense—beyond the conception, almost, of any one who has not been through with a work of this kind. We suppose the number of separate parcels sent out from this office will be *tenfold* greater than those sent from the United States Patent-Office, with all its resources and machinery; and the number of persons receiving them will be in still greater ratio. As the expenses of that office are greater than the entire income of the *Agriculturist*, the *size* of their parcels will of course be larger than ours; but for all practical purposes of introduction and dissemination, our separate packages will be about as valuable, while *tenfold greater in number*. We only make these comparisons to show the value of our distribution, and the necessity of limiting the individual offers

Ought we not to be on a par with the Patent-Office in sending out seeds *free* through the mails? Our 250,000 or 300,000 parcels of seeds would not load down the mails more than the speeches, books, etc., sent free by single Members of Congress. (If the franking privilege be not soon abolished, we shall almost be willing to have our constituents elect us to Congress, solely that we may get a M. C.'s franking privilege. If we ever come down to that, we promise, single-handed, to go as much beyond the "Government Seed Store" in *quantity*, as we do now in the *number* of persons we reach among the "masses.") As it is now, we have no alternative but to ask those wishing seeds to forward envelopes ready directed to themselves, and marked with the *number* of the variety desired, with Post-Office stamps enough on them to pass them through the mails. However, owing to the largely increasing number of subscribers at most offices where we have hitherto had but single readers, it will be a saving of expense, in a majority of cases, to have the parcels go in one package by express, as noted in connection with the catalogue.

The descriptive notes, referring to the varieties, mode of planting, culture, etc., we defer to the earlier numbers of the next Volume, so that they may be in the hands of all new subscribers who do not get this number. We shall not begin the distribution until next month, but we give the list now, that persons sending in renewals, may, at the same time, forward their envelopes for seeds, and save a second letter. The January number will only be sent to those who renew, or to those whose subscription goes beyond the present volume. A special exception was made last year in forwarding the January number to all old subscribers, owing to the financial revulsion which delayed some of the renewals for a time. This will not be done the present year.

The Farmers' Festival Perverted.

Perhaps it will do little good, but we mean to repeat our exhortation over and over again, that agricultural fairs should not be perverted from their original and proper design, viz., to promote the interests of agriculture. It is plain enough that the attempt is being made in many quarters, to have them answer the purposes of a grand holiday, to take the place of the old "training-days," or to be a sort of second Independence Day. In many places, auctioneers, showmen, pedlars, gamblers, and humbug catch-pennies of all sorts hang about the fair grounds, begetting dissipation and vice. Drinking and betting, wrestling and fighting, follow close behind mammoth women, hogs with five legs, and nimble Jacks, to the great annoyance of all sober people, and to the moral injury of the young and inexperienced, and to the degradation of the farming interests. Female equestrianism and fast driving are a part of this perversion.

Anybody with half an eye can see where this thing is leading. It is, perhaps, swelling the numbers of those who attend our fairs, but is it not also bringing in the mob? Farmers and respectable, sober-minded country people find themselves elbowed aside by horse jockies and "fast" people of all sorts; and, year after year, the fairs are made up less and less of those for whom they were originally established. Agricultural fairs, at this rate, will soon be run into the ground. We beg the managers of these annual festivals to look ahead, and act wisely. If all they aim at is simply to furnish "fun for the million," let them go on. But if their object is to promote an intelligent interest in agricultural pursuits, and to encourage farming, let them change their tactics.

"Keep Cool."

It is much easier to advise than to practice calmness and patience under all circumstances, but every illustration of the advantage of "keeping cool," and the perfect uselessness of getting into a stormy passion or excitement at every adverse turn of fortune or crossing of our wishes, has a tendency to fortify and prepare us against the time of trial. Here is an item from our drawer, picked up we know not where, which strikes us as a good example. Who would not prefer the undisturbed serenity of farmer *L.*, as detailed below, to an opposite state of feeling: One day while the black-tongue prevailed he was informed that one of his oxen was dead.

"Is he?" said the old man, "well, he was always a breachy old fellow. Take off his hide and take it down to Fletcher's; it will bring the cash."

In an hour or two the man came back with the news, "Lineback and his mate are both dead."

"Are they?" said the old man, "well I took them from B——, to save a bad debt I never expected to get. Take the hides down to Fletcher's: they will be as good as cash."

In about an hour the man came to inform him the "nigh brindle was dead."

"Is he?" said the old man, "well, he was a very, very old ox. Take off the hide and take it down to Fletcher's; it is worth more than any of the others."

Hereupon his wife, taking upon her the office of Eliphaz, reprimanded her husband severely, and asked him if he was not aware that his loss was a judgment from heaven for his wickedness.

"Is it so?" said the old gentleman; "well, if judgment be only taken in cattle it will be well for me, as it is the easiest way I could settle my account."

"THE FOX OAK."

We present herewith a very accurate sketch of the "Fox Oak," as it appeared in October last, before any of the leaves had fallen. Though less noted than the "Monarch Oak" of England, or the "Charter Oak" of Connecticut, it is especially interesting to the denomination of Friends, or "Quakers," since under its shade George Fox, the dauntless founder of the sect, preached in the year 1672, when on a visit from England—there being no house in the vicinity large enough to accommodate the assemblies drawn together by his fame and eloquence. At three feet above the ground the tree is 13½ feet in girth, or about 4½ feet in diameter. Another tree of similar dimensions stood near it until September 25th, 1841, when it quietly fell without any apparent cause, save a light afternoon breeze. From the number of rings in the fallen tree, the standing oak is judged to be over 400 years old. A part of its branches are dead, but it still appears strong and vigorous. It stands on Bowne Avenue, in the village of Flushing, Long Island, some ten miles east of New York city. The view is taken from the southeast. Just beyond the clump of trees, in the back-ground, is the residence of the well-known Captain Peck, of the Hudson River steamer, "Isaac Newton." A little further on, at the head of Bowne Avenue, is the residence of Samuel B. Parsons, Esq.. On the opposite side of the avenue, a little to the south, is the noted "Bowne House," erected by John Bowne, in 1661, which is still standing in good order, and contains many interesting relics of the olden time. A few hundred yards to the northwest of the tree are two Friends' Meeting-houses. The newer one is occupied by the Orthodox Society. The older one has been occupied by the Hicksites for some thirty years past. This was erected in 1695, and though 163 years old, will, from present appearance, serve for another generation. The British troops were quartered in it during the Revolutionary war.

INCIDENTS.—At the time of Fox's preaching in Flushing, the New York Colonies, then called New Netherlands, were under the dominion of the Dutch West India Company in Holland, Peter Stuyvesant being governor. In December, 1657, he, with his council, issued an order to the people of Flushing, or Flessingen as it was then called, forbidding them to entertain or countenance Quakers, and requiring them to apprehend and send to the city any who professed or preached their doctrines. Many of this persuasion had settled in Flushing, and this intolerant order met determined opposition, not only from them, but from many who from a sense of justice made common cause with them. Among the most influential of the latter class was John Bowne, above referred to, who received Fox into his house, allowed him to hold meetings there, and under the shade of his noble oaks. For this Bowne was apprehended and fined £25 ($100), which he

refused to pay. He was kept incarcerated in the fort at New Amsterdam for about three months, and then transported to Holland. There he made his appeal to the West India Company, and was by them set at liberty, and returned to Flushing with a letter to Stuyvesant, severely reprimanding him for his course toward the Quakers, and counselling him to refrain from persecuting measures.

For the American Agriculturist.

Hints on Clearing Woodlands.

While fully endorsing the repeated protests of the *Agriculturist* against the universal *destruction* of forest trees, it is to be admitted that there are times when woodlands should be *cleared*. A farmer may keep, on an average, one-sixth of his land permanently in timber, and yet clear off a portion every ten or fifteen years.

It is often recommended to cut out only the old and decaying trees in a wood-lot, leaving the younger to grow and fill their place. But experience has now pretty well shown that the best way is to cut off the entire growth at once, clean and smooth, and then let the trees sprout up again from the roots, or from new planting. In cutting out large trees, the smaller are inevitably broken or injured, and in the comparative shade, few young trees spring up. It is believed that a greater amount of fuel can be got in a given time from an acre of land entirely cleared at once, than from one merely culled of its large trees. It has been found that wood-lots should be cut over once in fifteen to twenty years. For the two or three years next after cutting, the lot should be fenced in, to prevent cattle from browsing down the young shoots. Care should be taken, also, to prevent fires from spreading into such lots. Land so managed will yield from eighteen to twenty cords of good wood per acre, at each cutting.

It is important to cut trees close to the ground, whether the land is to be permanently cleared up or only stripped for the time of its trees. The best wood is often nearest the earth. If the field is to be tilled, teams can work better among low stumps than high ones; and if the trees are to grow up again, the sprouts will grow more vigorously from short stumps than long ones, and be less likely to be blown off at the base by the wind.

Now then, in this month of December, is the best time for doing this part of farm-work. Now, while the snow is light, and the cold not intense, the trees can be cut closer to the ground than when the snow is deep, and the small limbs and brush can be more easily gathered and saved.

That Plan of a House.

A subscriber (E. A. S., of Galena, Illinois) expresses himself much pleased with the ground plan of a house which we gave in our October number. He makes also the following inquiries: "Is the house gothic in architecture? How many stories high? About what did it cost?....The plan is an exceedingly good one, and does credit to its inventor. Perhaps you may be induced by inquirers like myself to publish an answer in your next issue."

To which we reply, giving some items he does not ask for, but which may interest him and others: The house from which the "plan" was copied, is built in the Italian order of architecture, with a flat, metallic roof, wide cornices supported by brackets, etc., but it might as well be built in any other style. It is of wood, ceiled horizontally on three sides, and clapboarded in the rear. The part containing the parlor, hall, dining-room and bed-rooms, is two stories high; the library and kitchen, are a story and a-half. The rooms on the first floor are ten-and-a-half feet high between joists; those on the second floor, nine feet. As to its cost, we cannot speak with certainty. The work was all done by the day, and few bills were long preserved. If we were to make a rough estimate, we should fix the cost at about $3,500. Of course, a house could be built on the same general "plan" at a greater or less cost, according to the material used, and the style of finish adopted.

Whether a *happier* house could be got up than the one described we very much doubt.

Hints on Farm Buildings.

BY A STATED CONTRIBUTOR.

It is a sign of improvement in the condition of farmers that they are continually adding to the comfort and appearance of their buildings. This is to be rejoiced in. It is a good rule, however, to keep the cost of the buildings proportionate to the value of the farm. Should it not be less? As to position, no universal rule can be laid down. Yet it is plain, that both house and barn should be so situated as to be convenient to the public road and to the farm itself. To set a good house upon low land, detracts much from its good appearance, and its cellar is quite sure to be wet. If placed on very high land, this may secure a dry cellar, pure air, finer appearance, and a more commanding prospect; yet it will be exposed to strong winds, and much of the teaming up and down hill will be laborious and irksome. A site midway between the two will ordinarily be preferable. In reference to cellars for fruit-keeping, we have noticed that very dry cellars are objectionable, causing fruits and vegetables to shrink and decay. A tolerably moist cellar, if cold, is preferable.

For barns, a side-hill position has many advantages. Not the least of which is, that it affords an easily made cellar, light, dry and accessible. As to keeping cattle and hogs in the barn-cellar, in Winter, we question the expediency of it. The air becomes foul and close, and of course hurtful to the cattle. It rises, also, into the barn above, and penetrates the lofts of hay and grain, and seriously injures them. Least of all do we approve of making barn cellars the place for manufacturing and storing manure. It may economise the dung-heap, but it harms the domestic animals and the hay and grain above. As an illustration of this, a writer in one of our exchanges speaks of a barn which he had made for storing manure beneath. Thinking that he had thus got things fixed about right, "he purchased a good deal of manure, and brought his lands into a high state of fertility, producing large crops of hay. This he allowed to accumulate in his barn. He finally sold his stock to be pressed into bundle-hay. Some of it had lain in the bay for three years, and when it was removed to be screwed down, it was so offensive, two or three feet from the floor, that the men employed to press it could not endure it, although the barn was entirely open, and a thorough ventilation was secured; and they were obliged to throw away portions of it." When one's barns are already made in this way, it is a partial remedy of the evil to strew the stables every day with plaster, and to mix the manure below very freely with muck, or some similar absorbent.

In building a new barn, the best way is to make the cattle-sheds distinct from the main barn, using the cellar chiefly for storing turnips, carrots, potatoes, pumpkins, and the like food for stock. In making stalls for horses, it is an excellent plan where it is practicable, to give them a floor of earth, provided the soil is not wet. It is cruel to compel a horse to stand month after month upon a plank floor; it is uncomfortable to him, and a prolific source of disease.

Barns should be made as warm as possible, consistent with maintaining good ventilation. This promotes the comfort of stock, and is withal economical. And no barn is complete without some contrivance for watering animals close at hand. A good pump is a good thing, but a running stream or a pen-stock is better. The water from the last two sources is of just that quality and temperature which animals like, and is most favorable to their health.

Thought—Profitable in Farming.

Perhaps there is no respect in which farmers differ more from each other than in the amount of *thought* they bring to their work. One man labors hard from January to December, yet wonders to see that he accomplishes less than his neighbor who works fewer hours a-day than he. He toils on laboriously in the same old routine, without forethought, without skill; his neighbor seeks to do everything intelligently, with a wise forecast of the best means of doing it. Suppose the first farmer wished to remove a large boulder from his wheat field. He had seen his father get rid of such rocks by calling together all his hands and a neighbor or two, and rolling it by mere muscular force into a corner by the fence. Now, he never bothers himself to inquire whether there is any better method than his father's; so he spends a whole day in getting a single boulder into a corner, and thinks, after much straining and weariness, and many bruises, that he has really done a great deed. But the second farmer thinks twice before touching *his* boulder. He examines its shape, size, texture. Can it be sunk out of sight, and below the reach of plow-point? Or can it be more easily rolled out of the way by good, stout levers; or will blasting do the work as quickly, and save him the pieces for future use? Having once settled the point, he goes to work with a will, and the boulder is soon disposed of. This as an example; but the same principle applies to every operation. The thinking farmer takes advantage of opportunities and means of doing things, which escape the notice of careless men. His *thought* shows itself in his house, barns, stables, pig-sty, cow-yard, ditches, fences, fields, everywhere—Spring, Summer, Autumn and Winter.

Hearken, now, to the "improvement" of our little sermon! Another season of out-door labor has closed; the year, with its toils, successes and failures, cannot now be recalled; but it can be reviewed. And let us review it. Neighbor Jones, how do you account for your ill-luck in that corn-field down in the corner lot? Is the ground cold, wet, and full of grubs and wire worms? If so, or possibly so, *think* about it before you repeat the same profitless experiment. Read and think about the effects of draining, its cost and the probable gain to your crops. Then, if you determine on draining (and we really hope you will), make yourself master of all its details, such as draining with plank, stones, tiles, and the best kinds of tile, the best way of digging the ditch, its depth, direction, its outlet, &c., &c. And so, when the season opens, you will be prepared to go to work intelligently and successfully.

And, farmer Smith, what gave you such a

rousing crop of potatoes, while neighbor Johnson's was so small? Perhaps you scattered a good top-dressing of *thought* over the land before you plowed and planted. Farmers generally need to do more head-work. This should be applied to the management of the dairy and orchard, sheep and young cattle, rotation of crops, and, in short, to all the operations of the farm.

During the leisure months of Winter, now begun, form your plans for the coming year. Make good use of the past. Review the year now closing, and see what real improvements you have made and where other things will bear a little mending. This will make your experience of great advantage. Avoid, if possible, former mistakes, and repeat the methods which have proved successful.

Draw up on paper a plan of your farm. After suitable deliberation, assign to each field its respective crop, and determine on the way the land shall be prepared for the crop. May not the old orchard be improved by re-grafting some of the trees with new and superior kinds of apples? Perhaps it is time to commence the planting of a new orchard. And what a grand undertaking is that! How it looks into the future, and what a spirit of benevolence it awakens for those who shall come after us! To determine what sorts are, on the whole, the best for a succession of Summer, Autumn, and Winter apples is no small matter, and requires no little study. These Winter months are just the time for that study.

And so, in reference to all the details of farming. Give them a careful overhauling. Don't be mere routine farmers, but have a reason for everything, and do everything in the best possible way. Put as much thought into your farming as you have to spare, and surely it will pay. It may not be amiss to turn back to page 8 (Jan. number), and read 'Squire Bunker's experience on manuring with brains.

Examples of how Premiums at Fairs are Sometimes Awarded.

Great care is needed in selecting judges for awarding premiums at our agricultural fairs. They should be men, not only qualified to estimate the *quality* and relative value of the particular article brought before them, but men also of integrity and good sense. Otherwise, their decisions will often run wide of the mark of justice.

As an illustration of our idea, take the following: At a county fair recently held in the interior of this State, a premium was offered "for the largest and best variety of hardy grapes raised in the open air." One gentleman exhibited seven varieties of hardy, native grapes, such as the Concord, Isabella, Diana, Catawba, Clinton, Delaware, &c. Another exhibited ten varieties, among which the only native and really hardy sorts were the Isabella and Concord; the other eight were kinds commonly raised under glass, and suitable only for such culture, viz: Black Hamburgh, Zinfindel, Royal Muscadine, Child's Superb, Red Chasselas, and the like. He had managed to raise them in the open air, by dint of burying the tops in Winter, and by giving them every advantage of position and nursing in the Summer. And, after all, his grapes were not fully ripe when exhibited. Yet because he presented, literally, "the largest variety raised in the open air," he was honored with the premium.

Now, the premium itself was of little value to either gentlemen, but the principle involved was of some importance. Was it the real design of the society in offering that premium, to encourage the growth of hot-house grapes in the open air? Was it not their object rather to foster the introduction of desirable hardy grapes? And did those judges act wisely and justly in awarding the premium as they did?

We give this only as an illustration of the thought with which we begun. In our view, judges should be governed not only by the letter of the premium list, but also by its obvious spirit and design.

The above, written by an associate, calls to mind another case that fell under our own observation this year. At a county exhibition were several very large and very fine bunches of hot-house grapes, raised by gentlemen of means and leisure, which were certainly worthy of mention. On the same table were fine specimens of the newer hardy outdoor grapes, such as everybody may raise. Accompanying the specimens were cards detailing the mode of cultivation, the yield, the adaptability to general culture, etc. Yet the fruit committee were so dazzled with the large bunches that they did not deign even to notice those less showy, but having a far higher value to the masses who were the main supporters of the society. Such facts speak for themselves; comment is unnecessary.—Pub. Ed.

Blinks from a Lantern..... VI.

BY DIOGENES REDIVIVUS.

GOING TO EMIGRATE.

I am continually reminded in my journeys of observation among the farmers, that the office of critic, though an unwelcome, is by no means an uncommon task. I have plenty of help and sympathy in my work, and oftentimes the most severe criticisms upon a man's husbandry are his own statements of facts. Indeed, most men in private conversation would say much worse things of themselves and their calling than they would be willing to see in print. And this, perhaps is one of the chief advantages of these lantern glimmerings. They enable us to see farmers at home in their every-day dress, rather than fixed up for exhibition in the papers. A shade like myself begets no suspicion of "a chiel among 'em taking notes," and talk without fear of print.

It was only yesterday that I returned from a visit to Johnson, the neighbor of Higgins. Johnson is the representative of a large class of farmers in the older States. Though the owner in fee-simple of a hundred and twenty acres of soil, surrounded by a healthy family of children, he is miserably poor, and always will be unless he changes his method of husbandry. His farm is the homestead of the Johnson family, and he came into possession at his majority, twenty years ago, with only a debt of five hundred dollars for the right of the other heir to the estate. The farm was already stocked, and with right treatment of the soil, he might long ago have been out of debt, and doubled the value of the paternal acres. Instead of this we will hear his own account of the state of his affairs, as it fell from his lips.

"You never see sich a country to git a living in, in your life. It's jest like the feller going to school that walked two steps backward to one forrards, and the more he walked the more he didn't git there. Here I've ben for twenty years or more, digging away like all possessed, working airly and late, in season and out of season, and I'll be blamed if I aint further off from being out of debt than I was when I started. Sich a terrible poor sile you never see. It is leachy as a riddle. You put manure on to it, and it don't stay long enough to say good bye to the corn you plant in it. The seasons have changed, or something else. I don't get half as much corn and potatoes to the acre as my father did, and some of the mowing lots, that sed to produce grand crops of hay, I have had to turn out to pasture. Father used to keep five-and-twenty head of cattle; I have to buy hay very often to get fifteen through the Winter. My father used to lay up money here, and when he died left several thousand dollars in bank stock. I've worked harder than he ever did, and have n't even paid up the five hundred dollars I owe Betsey for her right in the farm. I am more or less in debt to the blacksmith and shoemaker, to the carpenter and the storekeeper, to Tom, Dick and Harry for things I couldn't do without. I have had to buy hay and corn, and sometimes I have been out of pork.

I can't stand it much longer in sich a country as this. It makes me mad when I think of it—working hard all the while, and etarnally behind hand; not a spare dollar in my pocket from one end of the year to the other. I'm going to emigrate jest as soon as I can sell out. They say in Illinois a feller can grow a hundred bushels of corn to the acre, taters without end, and pumpkins enough to cover the ground. I should jest like to set eyes on sich a country, and get out of sight of mulleins and daisies for once."

Well, before you start, Mr. Johnson, I want you to tell me how it happens, that this land which produced sixty bushels of corn to the acre, in the days of your father, only produces twenty to twenty-five now? Your farm is a smooth, arable tract of country, that the Good Being evidently designed for cultivation, and to pay its own way. Somebody must take it when you get through with it, and it will be of service to your successor to know how it has failed.

"Can't tell anything about that. I only know that fields, which produced whopping big corn when I was a boy, wont produce anything but buckwheat now, and hardly enough of that to pay for harvesting. I plow and plant jest as father did, and put on eight or ten load of barn-yard manure to the acre, but the corn don't come, and the grass neither. I don't know what the matter is."

Why is it that your neighbor Higgins gets such fine crops of corn? I see he reports in the transactions of the county agricultural society, ninety bushels to the acre, on a field of six acres. His farm joins yours, and that six acre field lies upon the same plain where you only get twenty bushels to the acre. Is there a different climate over Higgins' fence?

"I didn't see that corn measured, and I don't believe there was as much of it, though it was a great piece of corn, no mistake. But Higgins has money and can buy as much manure as he has a mind to. I can't buy manure."

But the report says he did not use much more stable manure than you did. The rest was harbor mud and salt, and dissolved bones.

"That mud and sea-weed is good, I have no doubt, but it takes so much labor to get it, and I always have as much as the team can do without going a mile after manure."

But it pays. Ten loads of stable manure, $10, fifty loads of mud and weed spread on the field,

$25; six bushels of refuse salt, $1; dissolved bones, $4; equal to $40 for manure. Cost of plowing, subsoiling, cultivation and harvesting, $30; making $70 as the cost of production, or $11.67 per acre. Ninety bushels of corn per acre, worth $45 at the lowest, and the corn fodder is worth ten more, making over forty dollars profit. And this is only the beginning of the difference between an acre of his meadow and an acre of yours. With twenty-five bushels of corn to the acre you get no profit, and only poor pay for your labor. Higgins will stock down his meadow with oats next Spring, and get sixty bushels of oats to the acre, and for four years after will average two and a-half tons of hay to the acre, with a good bite of after feed. You will not get over twenty bushels of oats, and will not average one ton of hay to the acre for the same period. Higgins will cut his hay and oats with a horse mower, you will cut yours with a scythe. His labor bills will not exceed yours. He will average ten or twelve dollars profit on every acre under the plow or grass. You will simply get poor pay for your labor, and a poor living

The remedy for your difficulties is not "emigration," but in better husbandry. Your system of cultivation would ruin both farm and tenant, in any country or climate. You starve your acres, and they starve you. You only make a miserable hundred loads of manure with your fifteen head of cattle. You might make five hundred of better quality. There is a muck swamp within a half mile of your barn, and upon the borders of that light sandy plain, where it is so much needed. There is the cove with its treasures of mud and sea-weed, within a mile of your door, and you all the while growing poor and disheartened, and meditating emigration as a sort of revenge upon the soil. Make this muck emigrate to your cow-yard, and your corn-fields, and you may spare yourself the trouble of going West. Your meadows will laugh and grow fat, the tin will stick in your pocket, and the next time I call I will find you shaking your sides with Higgins over ninety acres of shelled corn to the acre.

Small Pens for Fattening Pigs.

This is a matter of much more importance than might appear at first glance. Our attention has been called to it by an uneasy, frisky sow, that we had occasion to purchase in September. She had enjoyed the run of a pasture during the Summer, and was thin in flesh. We put her into a large pen, about 12 by 30 feet, and though she had fattening food in abundance, she kept so constantly upon the move, that the food seemed to help her very little. She had a comfortable, dry sleeping apartment, with plenty of hay, but if she slept well by night there was no rest by day. After several weeks of this regimen, we yarded off a corner of the pen, making it about 8 feet square. Her errant propensities were cured at once, she takes her rations with decided gusto, and sleeps well between meals. There was a rapid increase of flesh and fat soon after the close yarding.

From observations, extending over a dozen years or more, made in villages and in the rural districts, we have noticed that the fattest and best pork is made in the former, where one or two pigs are usually kept in a small pen. The villager has but small room, and crowds his pig into narrow quarters for the whole year. It is fed on slops for eight months, and for the last four is crammed with scalded Indian meal. He gets pork of decidedly better quality than he can purchase, and gets it cheaper. The whole energy of the animal is forced by his training into the production of flesh and fat.

The pigs of the farmer, on the other hand, run in a pasture, or on the common, for six or eight months, and are shut up a dozen or more in a large pen to fatten, because he has plenty of room. The energy of the animal has gone very much to the development of snout and feet, and the propensity to run and to root is not circumscribed very much in his roomy pen. By Christmas he is not more than two-thirds fattened, and he has consumed quite as much as the village pig, which is ready for the knife. We have two yearling pigs, good for four hundred and fifty pounds of pork by Christmas, that have never been out of a pen, eight feet by twelve, since they were eight weeks old. Small pens, kept dry, and regular feeding is the secret of their thrift.

For the American Agriculturist.

A Crack in the Hog-Trough.

Some time ago a friend sent me word that he gave, every day, nearly twenty pails of buttermilk to a lot of shoats, and they scarcely improved a bit on it. Thinks I, this is a breed of hogs worth seeing—they must be of the sheet-iron kind. So I called on him, heard him repeat the mournful tale, and then visited the sty. In order to get a closer view of the miraculous swine I went into the pen, and on close examination found a crack in the trough, through which much of the contents ran away under the floor.

Thinks I, here is the type of much of the failures and misfortunes of our agricultural brethren. When I see a farmer omitting all improvements because of a little cost, selling all his good farm stock to buy bank, or railroad, or mortgage stock; robbing his land, while in reality he is also robbing himself and his heirs—thinks I, my friend, you have a crack in your hog-trough.

When I see a farmer subscribing for half a dozen political and miscellaneous papers, and spending all his leisure reading them, while he don't read a single agricultural or horticultural journal—thinks I to myself, poor man, you have got a large and wide crack in your hog-trough.

When I see a farmer attending all the political conventions, and coming down liberally with the dust on all caucus occasions; knowing every man in the town that votes his ticket; and yet to save his neck, couldn't tell who is president of his County Agricultural Society, or where the fair was held last year, I "unanimously" come to the conclusion that the poor soul has got a crack in his hog-trough.

When I see a farmer buying guano, but wasting ashes and hen manure, trying all sorts of experiments except intelligent hard work and economy; getting the choicest seeds regardless of expense, and then planting them regardless of cultivation and good sense; growing the variety of fruit called "Sour Tart Seedling," and sweetening it with sugar, pound for pound; keeping the front fields rich and neat, while the back lots are overgrown with elders, briars, snap-dragon, and thistles; contributing liberally to the Choctaw Indian Fund, and never giving a cent to any agricultural society—such a man I will give a written guarantee has got a crack in both his head and his hog-trough.

When I see a farmer spending his time travelling and visiting in a carriage, when he has to sell all his corn to pay the hired help; and his hogs are so lean that they have to lean against a fence to sustain themselves while squealing, I rather lean to the conclusion that somebody that stays at home will have a lien on the farm, and some day the bottom come entirely out of his hog-trough. ORANGE COUNTY FARMER.

Chinese Sugar Cane not Poisonous.

We have said little of this crop recently, preferring to quietly wait awhile and let it prove itself. We have lost none of our first interest in this subject, though some of our jealous cotemporaries have amused *themselves* by attempting to depreciate or distort the motives which led us to scatter it over the country for experiment. But enough on this point. There have been some fears that the Chinese Sugar Cane is injurious to animals—even poisonous. We have constantly asserted to the contrary. Among a thousand proofs of this, we present the following communication to the Charleston Mercury, from A. G. Sumner, Esq., of Pomaria, S. C., who ought certainly to be good authority. He writes:

"I have fed this plant to all kinds of stock, as fodder, for the past season, in every stage of its growth—green, ripe, and cured. I have found it the best soiling plant I ever raised—horses, mules, sheep, swine, goats and cattle, rapidly fatten when fed on it. I fed two hundred and fifty bushels of the seed during last Winter to sheep, goats and poultry, and I attach the relative value of oats to it as Winter food for these animals. In April last I sowed twenty acres broadcast in sugar millet, intending it as a pasturage for calves and milch cows. On the first of July I turned the milch cows, sheep, goats, calves, swine and geese upon it, and have not lost a single animal. They have all improved rapidly, and although I have large numbers on the field, the herbage bids fair to keep ahead of all demands made on it. I made it a point to take my animals from good pastures, and fed them well *before* turning them in, allowing them plenty of salt. If a half-starved cow is turned on wheat, peas, or Indian Corn, she is just as likely to die from overeating these crops as she is from Chinese Sugar Cane. The disease which kills hungry cattle when over fed on [this or *any other*] green food is termed *Hoove*, the best cure for which is a drench of salt dissolved in a gallon of water. This will relieve an animal sometimes in a minute. Peas, of all green food, is the most dangerous, from the flatulent nature of the plant. I have frequently seen half a dozen cows die in a few hours after they were turned into a luxuriant pea field in the Fall, and have as frequently seen others relieved by the above dose. A cow which, like the asses of Ephriam, had been feeding on the East wind during the Winter, and grazed upon the roadsides and bushes, might be expected to die from joy after an overfeed of sugar millet. I have sowed broadcast at the rate of one and a-half bushels of sugar-cane seed to the acre, a meadow which I intend to convert into good nutritious hay for Winter food. I think more cows will die for the want of this food in our State than from being over-fed on it. I do not think, with the proper precautions, it is in any way more dangerous than any other green food we are accustomed to feed, and would advise its extended use as a soiling and hay crop in the South.

The mist that hangs like silver curtains around the plains before sunrise, and is lifted by day's golden cords out of our sight, has death in the woof; it is woven here and there of fatal threads.

The water that has no taste is purest; the rain that has no odor is freshest; and of all the modifications of manner, the most generally pleasing is simplicity.

Habits of Bees—"Piping" of Queens, etc.

In reply to my statement in August, page 238, that I had the present season, heard a queen piping in a swarm out only four days, Mr. Quinby, in the September number, page 269, suggests that I must be mistaken, and that the piping may have been in an adjacent old stock. I am happy to inform him that no such mistake was possible. There were none but very young swarms within fifty yards of the one whose queen was heard piping on the fourth day after swarming. The owner had placed this year's young swarms in a new apiary by themselves, and the naughty queen who piped contrary to the "rule in such cases made and provided," was in the last swarm that had issued at the time of my former writing. Her piping continued two or three days, and was heard by several intelligent witnesses with me. Mr. Quinby may rest assured that my statements are facts, capable of abundant proof by competent witnesses. An attempt to cast doubt on carefully observed facts is a very unsatisfactory explanation.

His statement, that by having hives in readiness the bees will "expect" good quarters, and to will cluster before leaving, needs no remark to enable an intelligent reader to appreciate its worth. There is no lack of care among bee-keepers *here* in that respect, and yet many swarms will go off.

Another queen has been "cutting up," as the boys say. A large swarm came out in the morning, was hived as usual, and placed about two feet from a swarm a week old. In the afternoon of the same day I saw the newer swarm leave their own hive and crawl into the hive containing the swarm a week old. They met no resistance, and the two united and filled the hive to overflowing. They were divided by the owner, half of the bees being put into a new hive, the queen going with them (proved by the presence of eggs and young bees in due time). A finished royal cell was inserted in the other hive, which, of course, according to authority, contained no queen. In seven days vigorous piping was heard in this stock by myself and others. How can this be reconciled with the theory that piping only occurs when a hive contains a plurality of queens?

Perhaps it may be regretted that bees in our region do not demean themselves according to current theories, but it can not be helped. I am a lover of nature, and shall continue to observe for myself and seek information, whether my inquiries meet with the courtesy due from gentlemen or otherwise.

S. C. MENDENHALL.

Frazeysburg, O., Sept. 10th, 1858.

REMARK.—The above was received in due time, but its insertion delayed, partly for want of room, and partly because it appeared to partake of the nature of a personal controversy—for which, by the way, we have not a spare line, and which we cannot admit into these columns. On re-reading Mr. Quinby's letter, page 269, we find he did—hastily, doubtless, and without meaning personal disrespect—question the facts stated by Mr. Mendenhall. Their publication in this journal should have shielded them from such suspicion, without some very strong positive reason, and Mr. Mendenhall is justly entitled to space for the above reply. We hope all personal allusions will drop here. Both gentlemen are intelligent, careful observers, and we trust they will each continue to gather and furnish for publication facts interesting and useful to all lovers of the sweet-producing insect, which is an especial favorite with all of us.—ED.

Bee Hives—Improvement in Honey Frames.

Our readers know that we give "Patent Bee-hives," of nearly all kinds, a pretty wide berth. Almost all of them have some peculiarity which is an advantage, theoretically at least, but there has been so much humbug in the matter for several years past, that the word "Patent" upon a hive is a mark of condemnation for most persons. We have already illustrated the simple unpatented glass honey box used by Mr. Quinby, and have also described and approved the patent movable honey frames used in Langstroth's hive. We now find an apparent improvement upon these movable frames, patented only a few days since (Nov. 9,) by Mr. Phelps. The main features of this improvement are shown by the accompanying engravings

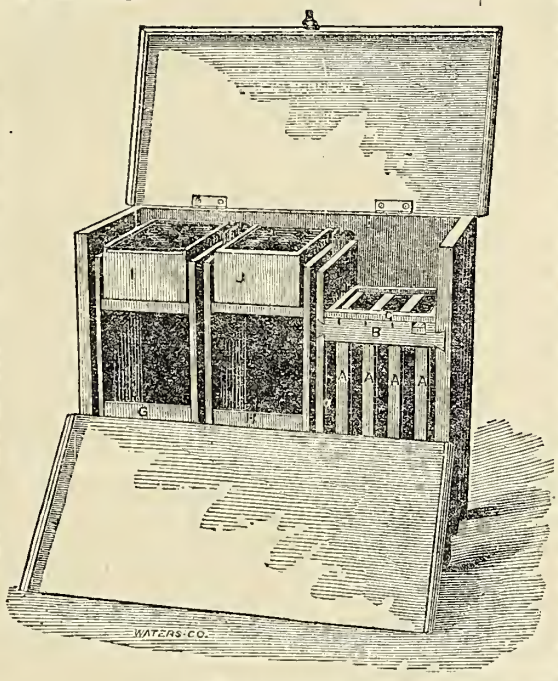


Fig. 1.

Fig. 1, is one of the Phelps's hives, with the top and back opened to show the internal arrangement. The ends of the improved sectional frames are shown at A, A, A, A.

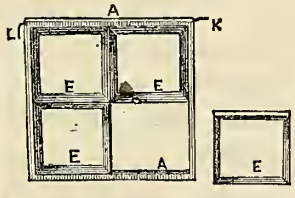


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 2, is a side view of one of the frames, A, taken out. Inside of this are four smaller frames E, E, E, E, each one of which is about 5 inches square. *Fig.* 3 is one of the smaller frames taken out. *Fig.* 4 shows several smaller frames, E, E, E, E, arranged in a box to be placed in the top of the hive, when desired.

The advantage of these small frames, placed in any kind of hive, is, that the honey is deposited by the bees in small pieces of comb, say 5 inches square, which is a very convenient size for taking out to place upon the table, without disturbing the remainder of the comb in the least. In manipulating with bees, also, the different frames, A, A, or E, E, can be removed, replaced, or shifted as may be desired.

We do not describe the other portions of the hive, as we are not disposed to commend or condemn it as a whole. There is, however, an other peculiarity worthy of notice. The frames A, A, A, can be shut off from the main body, H, & G, and then, by inserting a long tin *exit* tube, the working bees will go out of the apartments containing the honey frames, and in returning will enter the main body through a more open aperture. In this way the bees can be soon cleared from the honey, leaving it free for removal, without resorting to smoking, driving, or any other operation.

Hunting Wild Bees

J. W. H. inquires for instruction in hunting wild bees, which abound in many sections of the country. We have had no *recent* experience, but remember several successful bee hunts when a boy at the West, and we could enjoy such an excursion now a-days. The whole operation in olden times consisted in going out to a field with a basin or box of honey, at a time when the bees were out at work. The honey was set upon a stump or log and soon attracted a number of bees.* Various mints and essences were by some supposed to attract bees sooner. As fast as they filled themselves with honey they started off in a straight line for one or more distant points. A "line" of bees would after a time be formed, and by taking a number of objects as a guide, it was not difficult to trace the bees to their home in a tree. Not unfrequently the "line" would lead a mile or two, or more, to a neighbor's bee-house. When a "bee-tree" was discovered, it was kept a secret until after the honey gathering season was over, when the tree was cut down, the bees killed by burning straw, and the honey collected. Sometimes, when the tree was of suitable form and size and had fallen unbroken, the entrance was closed, a section of the trunk cut off above and below the swarm, and taken home and set up for producing future stocks.

Not unfrequently two or more persons would discover the same tree, and each keep the secret. The party first on the ground would, of course, get the honey. We have known two parties chance to meet at the same hour to cut down a tree. Then there would be a dispute as to priority of discovery, and sometimes the discussion was settled by a union of forces for the attack, and a subsequent equal division of the spoil. A more common difficulty, as the country filled up, was the ownership of the tree claimed by the owner of the land, from whom the tree could not be purchased at a price low enough to warrant the finder in buying and cutting it down. Not unfrequently the tree was cut down "on the sly," and many a law-suit has resulted from such an operation. These difficulties gradually put an end to bee-hunting, as a country is settled and timber becomes valuable.

* Sometimes the bees will not come to the honey in the box. When this is the case catch one or two, or more, from flowers, confining them upon the honey by covering the box with a piece of glass, which should be taken along. They will soon fill themselves when they may be let go. They will frequently return with a host of companions in the course of an hour or two, and a constant "line" will soon be formed.

Genius has limits, virtue has none; every one pure and good can become purer and better still

For the American Agriculturist.

Notes on Prairie Farming.

I promised to tell the readers of the *Agriculturist* how prairie farmers harvest their grain, particularly here in Illinois. I have waited until this time, when I have more time to write, and your readers more time to read. The severe hail storms, long continued rains, and hosts of insect enemies left to some farmers little or no wheat to harvest the present year. The wheat crop is much below an average in Illinois this year; yet the market price, strange to say, is down to nothing, almost.

Without the aid of reaping machines it would be impossible to save sufficient grain in Illinois to bread the people of the State. Of these machines there are a great many different kinds used; M'Cormick's, Atkins', Manny's, Seymour & Morgan's, Rugg's Illinois Harvester, and Haine's Header being, I think, the principal makers patronised. Some of these are self-rakers—such as Atkins', and Seymour & Morgan's, and hence require but one person to drive the machine. Haine's Header requires three wagons to carry the grain to the stacker at once.

When harvest approaches the farmer is frequently nonplussed for hands, and in a majority of cases gets but indifferent ones at enormous wages. The grain is usually cut and bound, and shocked up at the same time—the binders following the machine and keeping up. Some farmers thresh their grain from the shock, the machine being placed in the middle of the field, and the grain hauled to it in wagons. It takes three wagons to keep a good machine, worked by eight horses, running. One horse to haul away straw from the separator, and a hand—usually a boy—to drive him. It takes, provided the farmer owns the machine, eight horses for the thresher, six for three wagons, and one to take away straw. Hands: one to pitch to the wagons (it requires a number one hand to keep them going), one to each wagon, one to drive the horses in the power, one to cut bands, one to feed the machine, one to attend machine and measure grain, one to sack the grain or put it in the pen, and one to drive the horse that draws away straw. Should the machine be hired, the usual charge per bushel for threshing is six cents—the owner of the machine finding six horses and three men, and the farmer supplying the remainder. The grain is usually put into rail pens lined with straw, and covered with straw when full. Grain thus put put up is generally secure from the weather, but rats and mice keep continual Thanksgiving therein.

Few farmers are in a condition, pecuniarily, to hold on to their grain any length of time. Their necessities compel immediate sale at *any* price. *In more than half* this is caused by the credit system, running up large store bills, half of which could be dispensed with. Some farmers have granaries and keep their grain well secured from thieves and weather. The middle-men, or grain-buyers, at the railroad stations and small towns, furnish sacks to be used in hauling it in to the warehouse. Few farmers have their own sacks properly marked.

The straw is either stacked up, or a part of it, for Winter use for stock, or burned in the field, or left scattered all around the place where it was threshed, 'till it is found to be in the way, then burned.

The threshing is frequently—nay, in more than half the cases—deferred until the grain is stacked. The stacking is done soon after reaping, as the circumstances of the farmer permit. Many farmers think it best to stack and leave the grain in the stack for a few weeks to undergo a sweating process, which they think benefits the grain When threshed either in the field or at the stack, the operation is usually a hurried one. The farmers are at much expense in feeding so many extra hands, and the housewife is sometimes in no very good humor when she has so many mouths to cook for.

The waste of grain in cutting, shocking, stacking, and threshing is, in the writer's opinion, all of twenty per cent. There is, in fact, sufficient grain wasted in Illinois every year to feed some of the small States. The grain is frequently left in the shocks till it is injured by sprouting. Storms prostrate many shocks, and thus much grain is lost. The fields are generally so large that the grain becomes dead ripe before it is all cut. All handling of such grain makes waste. Shocking, pitching to and from the wagons, and in threshing. It is one continued hurry from the time the reaper starts until it is all cut; then the threshing is done in still more of a hurry. Want of order and economy characterise the harvest in nearly all Illinois, and this year, I think, farmers are opening their eyes to it.

Thousands of tons of straw, which might be put to useful purposes, are yearly burnt. The animals of these same farmers stand all Winter shivering in the cold, when a few poles and plenty of straw would make a comfortable shed and shelter.

Time and example will alone cure these evils. The change is commencing, and when every farmer in Illinois reads a good agricultural paper, and learns to *think* and reason more, then we shall see things as they should be.

Very many farmers are reducing the number of their grain acres, and going more into a mixed husbandry, this in itself leading to better management and order. It would be matter of surprise to Eastern farmers to witness the large extent of acres in small grain in the West; to see the heedless manner of cutting and securing the grain, and to still further wonder where all the grain goes, *and why more money does not come back.* A short acquaintance, however, with Western farming, as it is, would soon unveil the mystery.

My sketch is rather hurried and imperfect, but to the letter true. H. H.

Prairie Cottage, Christian Co., Ill., Nov. 1st, 1858.

For the American Agriculturist.

Feeding Corn Stalks—Muck—Manure.

With a common old-fashioned, lever cutting-box, I cut my stalks as short as circumstances may require, or time will allow. This is very rapidly performed with the assistance of a boy to hand up the stalks, eight to a dozen at a time, and may be done on a rainy day, or in the evening. When cut up, twenty or thirty bundles of stalks will pack into a very small corner. The cattle or horses will then eat them more easily. The refuse stalks with muck make good bedding. The refuse stalks, muck, and droppings next go into the hog pen where they are thoroughly manufactured, with an occasional load of muck added. It comes out five or six times a year in a fine state and in first-rate condition for further composting, as it has been kept under cover and has not been leached by rains. It has still heat enough to ferment further when mixed with more muck, as it should be. I allow a small load of muck, weekly, to each two head of cattle or horses, and in this way secure a large amount of valuable manures.

WHISTLER AT THE PLOW.

Poisoned Cattle.

C. Foote, Medina Co., Ohio, thinks the poisoning of cattle mentioned last month, on page 328, resulted "from the ergot which grows among the seed of the June grass," and he gives as a "certain cure," to "bleed the cattle thoroughly in the neck" He says he could give a long chapter of his experience. This is not quite satisfactory—for first, does "ergot" grow on June-grass? and second, we are in doubt as to the mode or efficacy of "bleeding thoroughly in the neck," unless he means such bleeding as butchers perform—which would put an end to the disease by putting an end to the animal's life

Profit of Poultry.

"G." of Pittstown, Me., (we have his full name of course) gives us the following result of careful experiments, every item of expense being charged and credit given at the market price, for eggs and poultry sold or consumed. No account was made of feathers and manure—the latter amounting to a considerable sum. The feed consisted principally of whole corn, with occasionally a little barley, offal meat, and broken bones, all charged for. Free access was had to water, and milk when it was abundant.

1st year. Cost of 7 fowls, Feb. 17th (crosses of Cochin China, Shanghai, Dorking and Spanish, of different grades)		$ 7.00
All expense of keeping one year		9.08
Total outlay		16.08
Eggs and chickens eaten and sold	$13 12	
Value of Stock on hand at end of year	14.00	
Gain above all expenses		$14.04
2nd year. Stock $14; expenses, $21.83		$35 83
Received for Eggs and Poultry	$32 47	
Stock on hand at end of year	19.00	
	$51.47	
Net gain, second year		$15.64

During the whole two years there was but a single day in which no egg was laid—which was remarkable, considering the small number of fowls.

A WIFE NECESSARY TO POULTRY RAISERS.

Appropos to the above, we add from our drawer an extract from a business letter from Jabez Jenkins, jr., of Philadelphia: "....The young man who asks in the January number, page 12, how to make poultry profitable, ought to be informed that there is no use in his trying while he is a bachelor. I have a relative who farmed it awhile in that condition, and had a housekeeper who thought she knew all about chickens; but he has since married a wife from a family which takes to poultry as naturally as a duck to water, and it would astonish that "Connecticut Yankee" to see the big fellows now raised by my friend 16 and 18 pounds to the pair...." [A hint to the bachelors surely.—ED.]

A new Chicken Disease.

To the Editor of the American Agriculturist.

A very curious poultry disease came under my notice last Summer, which I thought might be of interest to some of your readers. We found a chicken so bloated up that its head was drawn upon one side, and looked as though the whole skin was stretched away from the body, and very transparent, as though the fowl had the dropsy. On puncturing the skin the wind whistled out so that it was heard at the distance of several feet. We pricked it with a needle in two or three places, so that the air all passed out, and by repeating the operation a few times, the chicken was cured, and is now one of the choicest fowls we have. M. E. TANNER.

Rockland Co., N. Y., Nov. 10, 1858.

Habits of Gophers, etc.

To the Editor of the American Agriculturist:

Mr. P. Bailey, who writes in the August number of the *Agriculturist*, can not have had as good opportunities to observe the method by which the gopher prepares its burrow as we have. We can take them with a small steel trap every time we try, and therefore do not permit them to destroy our garden. We have several times made pets of them, putting them into a barrel about one-third filled with earth. It is very amusing to see how soon they will dig a hole which will hide them from view. They make no use of their pocket o sack for that purpose; but after they have loosened a parcel of dirt, whirl round quickly, and raising their fore paws, push it abreast, and when they reach the entrance, give it a throw which sometimes sends it to the distance of two feet. When they reach the bottom of the barrel, they return and close the entrance, and seem to consider themselves quite secure.

If we were near an Express line, I should be more than half tempted to send you a pet gopher, that you might have the pleasure of witnessing its operations. It would probably keep fat on a few turnips while riding in a box of dirt to New York.

We are editing a "family paper" according to your suggestions, and find it profitable. A thousand thanks for the "Green Lanes of England" picture and music, in the *American Agriculturist*.

LABAN HASSETT.

Howard Center, Iowa.

[If it happens to be convenient at any time we shall be pleased to have Mr. Hassett forward a pair of gophers, male and female, that we may not only observe their habits, but also take their *portraits* and show them to the readers of the *Agriculturist*. We purpose to illustrate with engravings a great many animals, plants, and other objects peculiar to particular sections of the country, in order to make others better acquainted with them.—ED.]

Tim Bunker on Beginning Life.

A PEEP AT THE SHADTOWN PARSONAGE.

MR. EDITOR:

It is well that you are a good hundred miles out of Hookertown about these times. Since that picture on "gal horse-racin" come out, there has been a good deal of talk—and some swearing or more. Up in Smithville, I guess there has been more. I was up there last week, and fell in with Colonel Lawson, who got up the race. He come up to me in the street—looking as red in the face as a beet, and about as mad as a March hare, and says he,

"Old Bunker, did you write that mess of stuff in the paper about the Fair?"

"I did, them's my sentiments, and I can't back down on 'em any where."

"Wal, who the witchcat got up that picter on the gals, with their bonnets off, and myself holding the stakes? The piece was bad enough, but that picter was all-fired mean, and immodest. It want fit to be decent. I shall prosecute the publisher for libel."

"Libel man! Why, was'nt the picter a true bill, according to facts?"

"A true bill! That's what I have to complain on. It was altogether too natural. There's Wilcox's gal, with her bonnet flyin, feathers and all, and a feller with his pocket-book out, that they say was meant for me. I can't go any where among decent folks, but what they are sticking Judd into my face, and inquiring with a smothered sort of grin, "Wall, Colonel, have you seen the last *Agriculturist*?" I'm gettin' tired on't, and if there's any law in the univarse I'm bound to prosecute."

"Keep cool, keep cool, Colonel. The least said is soonest mended. Folks, that put their daughters up for a *show*, have no right to complain if they are *showed up*. Folks whose pocket books are emptied shouldn't go to law—good morning Colonel."

They say he lost a thousand dollars in bets, at the Fair, and I guess you are about as much in danger of being prosecuted, as you are of getting into the poor-house, by publishing the paper. I am sorry for the girls that have made such a beginning of life. Caught by the tinsel of silk dresses and bonnets, they were drawn into a false position, that will very much damage their prospects for life.

And this, perhaps, is as common a failing among farmers as it is among city people. They begin life wrong, and start in business on a bigger scale than they can hold out. They buy a big farm, generally twice as much as they can pay for, and then they are always short on't for capital to work it with. It is pretty much like Deacon Smith's singing at the evening meetings; he pitches his tune so high at the outset, that his voice breaks into a screech before he gets through, and nobody can follow him. His wind is all used up before the psalm is half sung. The farmer, instead of getting good serviceable cattle, will often buy fancy animals, at a high price, a yoke of cattle for two hundred dollars, and a fast horse for three or four hundred. He don't stop to think how he's coming out.

And then if his wife begins in the house in the same way, it makes a mighty uncomfortable concern. There was Tom Spalding and his wife began to keep house about the time I did. Tom was a little fast, and his wife was a little faster. She was handsome, fond of company, and must dress and live in tip top farmer's style. The farm, Tom bought, had an old house on it, but 'twas comfortable, and would have lasted ten years without laying out a dollar on it. But she must have it fixed up, inside and out, before they moved in. So Tom put on an addition, and new clap-boarded, and painted, and papered, and hard finished, and by the time he got through, it about finished him. She must have extravagant carpets, and furniture, and a fine carriage to ride in, and every thing to match the fine house.

When Tom got through with his fitting out, he found himself fifteen hundred dollars in debt. The farm was a good one, and produced grand crops, but with all he could do, the balance was on the wrong side at the close of every year, and at the end of a dozen years they had to sell out, and emigrate. You see, the silk dresses and other women fixin's kept him in debt, and he had no chance to buy more stock, when he needed it, or to hire as much labor as he really needed, to carry on the farm to advantage. It is of no use to begin life in this way. If he had lived in the old house a few years, and waited for the finery until he had the cash in his pocket to pay for it, he might have been in Hookertown to this day, and as thriving a man as there is in it. "Pay as you go," is the true principle for every thing that isn't *necessary*. A man may incur debt for a part of his land or stock, or for the tools of his trade. But he might as well go to the poor-house as to run in debt for fine clothes, and a splendid house. Better sleep on a pine bedstead, till you are able to pay for mahogany.

I have talked this doctrine over so much in my family, that I guess the children have got it all by heart. Sally has, I am certain. I suppose your readers would like to hear how she is getting on, over to the parsonage. Most stories end with the wedding, as if folks were of no consequence at all, after they got married. But as I am only writing a statement of facts, about things in the land of steady habits, you must expect to hear of people after the honeymoon.

I felt bound to give Josiah and Sally a good setting out, for folks in their circumstances. There is some parsonage land, that Josiah knows how to make use of, and they have to live among farmers, and in plain farmer style. Now I hold, that a minister is bound to be an example to the flock, in his style of living, as well as in his morals, and in his religious duties. I have noticed, time and again, that example was a grand thing to put the nub on to a sermon. If a man preaches from the text, "Owe no man anything," and drives a fast horse that he hasn't paid for, somehow the two things don't seem to hitch together. I have known extravagant living to drive some ministers from their parishes. They got in debt, got discontented and soured, and were "not content with such things as they had," until they were able to get better. I didn't want any such trouble in Shadtown, and I knew a good deal depended upon beginning right. I gave Sally a piano, but I sent along a churn with it, to remind her that the cream of life was not all music. There was a lot of cane-bottom and mahogany chairs, but John slipped in a couple of milking stools, of his own make, as a sort of hint, I suppose, that all the sitting was not to be done in the parlor. On top of the dresses in the trunk, I noticed a pair of checked aprons. I guess Mrs. Bunker knew where they came from. I had to get a new carriage for Sally's Black Hawk horse, but I sent down the next day a horse cart, with a lot of farm and garden tools, as a sort of insinuation that horse-flesh would sometimes be needed out of the carriage. The useful was pretty well mixed up with the sweet, in-doors and out. From all I can learn, the people are pretty well suited with the young folks, and with the arrangements I have made for them. They havn't got anything but what they can afford, and nothing that they don't want to use, and that, I take it, is about the whole pith of beginning life right.

Yours to command,

TIMOTHY BUNKER, ESQ.

Hookertown, Nov. 15, 1858.

Do Rats Reason?

To the Editor of the American Agriculturist:

The following item may help to answer the above question. One of my workmen recently set a noose before a rat-hole, at evening. During the next day he observed a pile of papers near the hole, with something moving beneath, and found there a rat caught by the noose. An examination proved that the papers under which the rat was concealed had been brought from another story in the building. Thus it appears that the poor fellow's companions had endeavored to conceal him until they might effect his release. This certainly looks like reasoning.

JAMES QUARTERMAN,

New-York, October, 1858.

A writer in one of our medical reviews says, that if a cow is diseased the milk is necessarily diseased too. Prentice says that the common treatment of diseased milk is the water-cure.

Men cannot expect to take pleasure unless they are willing to take pains.

"Yours is a very hard case," said the fox to the oyster

AMERICAN SPARROW-HAWK, (*Falco sparverius.*)

Engraved for the American Agriculturist.

The above engraving presents specimens of a bird which will be at once recognised by most if not all of our American readers, as it abounds in all the northern States and Territories, and is found, we believe in all the southern States. The true name, Sparrow Hawk, (*Falco sparverius*), is adopted in some localities, but so far as we have observed, it is more frequently called the Chicken Hawk, or Pigeon Hawk. The female is about 11 inches long from beak to end of tail, and measures nearly two feet from tip to tip of the wings when fully expanded. The wings are longer and stronger in proportion to the size of the body, than those of the common hen-hawk. The male bird is a little smaller than the female.

The head is a bluish ash color, with a reddish crown. Around the head is a whitish border containing seven black spots. The back is a reddish bay with cross stripes of black. The underside of the body is yellowish white, streaked with brown. The quill feathers of the wings are black, spotted with white; those of the tail are reddish bay, with a broad black band near the end, and a yellowish white tip. The two outer tail feathers are nearly white. These different colors give a beautifully varicgated plumage. The beak or bill is light blue, tipped with black; the legs yellow, and the claws blue-black. The male and female are much alike.

The sparrow-hawk constructs its nest in a high hollow or crotch of a tree, usually where some branch has been broken off, in which are deposited four to five eggs of brownish yellow color, dark tinted. Wilson, the great American Ornithologist, who devoted his life to the study of the birds of this country, gives an animated account of the Sparrow-hawk, which will please every reader. He says: "....It flies rather irregularly, occasionally suspending itself in the air, hovering over a particular spot for a minute or two, and then shooting off in another direction. It perches on the top of a dead tree or pole, in the middle of a field or meadow, and, as it alights, shuts its long wings so suddenly, that they seem instantly to disappear; it sits here in an almost perpendicular position, sometimes for an hour at a time, frequently jerking its tail, and reconnoitering the ground below, in every direction, for mice, lizards, etc. It approaches the farm-house—particularly in the morning—skulking about the barn yard for mice or young chickens. It frequently plunges into a thicket after small birds, as if by random; but always with a particular and generally with a fatal aim. One day I observed a bird of this species perched on the highest top of a poplar, on the skirts of the wood, and was in the act of raising my gun to my eye, when he swept down with the rapidity of an arrow into a thicket of briers, about thirty yards off, where I shot him dead, and on coming up, found a small field-sparrow quivering in his grasp. Both our aims had been taken at the same instant, and, unfortunately for him, both were fatal. It is particularly fond of watching along hedge rows and in orchards, where small birds usually resort. When grasshoppers

are plenty, they form a considerable part of his food." The remainder of its sustenance is made up of small snakes, lizards, mice, and birds, and it rarely eats anything that it has not killed for itself, and even this is occasionally rejected, if out of condition. In illustration of this, Wilson relates the following anecdote:—"One morning, a gentleman observed one of these hawks dart down on the ground and seize a mouse, which he carried to a fence-post, where, after examining it for some time, he left it, and, a little while after, pounced upon another mouse, which he instantly carried off to his nest, in the hollow of a tree hard by. The gentleman, anxious to know why the hawk had rejected the first mouse, went up to it, and found it to be almost covered with lice, and greatly emaciated! Here was not only delicacy of taste, but sound and prudent reasoning. If I carry this to my nest, thought he, it will fill it with vermin, and hardly be worth eating." The voracity of this hawk may be imagined from the circumstance, also related by the great American ornithologist, that in the stomach of one of these birds, he found the greater part of the body of an American robin (*Turdus migratorious*), "including the unbroken feet and claws; though the robin actually measures within half an inch as long as the sparrow-hawk."

The blue jay (*Garrulus cristatus*), a very common bird throughout the United States, is one of the greatest enemies of the sparrow-hawk—at least as far as most vociferous attacks of the tongue may be regarded as signs of enmity. Like all his congeners, he has the greatest facility in imitating sounds; and when disposed for a little quiet fun, can mimic the notes of other birds with such exactness as to deceive the most practiced ear. He appears to be particularly fond of teasing the sparrow-hawk with his garrulous nonsense, imitating his cry wherever he sees him, and squealing out as if caught; this soon brings a number of his own tribe around him, who all join in the frolic, darting about the hawk, and feigning the cries of a bird sorely wounded, and already under the clutches of its devourer; while others lie concealed in bushes, ready to second the attack. But this ludicrous farce often terminates tragically. The hawk, singling out one of the most insolent and provoking, sweeps upon him in an unguarded moment, and offers him up a sacrifice to his hunger and resentment. In an instant the tune is changed; all their buffoonry vanishes, and loud and incessant screams proclaim their disaster."

A much smaller bird than the jay, however, is able singly to drive this depredator from his haunts, at least during the breeding season, when affection for his mate and young prompts him to exert all his powers and dare every danger to save them from the destroyer. This is the kingbird or tyrant-flycatcher (*Muscicapa tyrannus*), a bird of passage in the United States, whose dauntless courage makes even the eagle fly from his attacks.

The rain which we shake from our feet may be metamorphosed into a mulberry leaf, and ultimately revisit them in the form of silk stockings.

The religion that costs us nothing is worth exactly what it costs.

Reason, like polished steel, must be kept bright by use, or it will rust.

Self-denial is the most exalted pleasure.

Scorn to do a *mean* action.

Dogs of every kind, setters, pointers, bulls, Newfoundlands, mastiffs and terriers, are all *lap* dogs—when they are drinking.

Girdling the Grape Vine.

The rules commonly given in our fruit books and magazines for pruning the vine, both in Fall and Summer, will answer for all ordinary purposes. Whoever follows them faithfully, may expect to gather good crops of grapes. Yet, it sometimes happens that one wishes to cultivate a variety which does not quite perfectly ripen in his climate; or he wishes to grow a few bunches of some sorts of superior size for exhibition. He can accomplish both of these ends by girdling or ringing his vines. The fruit will mature a fortnight earlier under this process, and the berries will be enlarged to nearly double their ordinary size and weight.

This practice was tried more than a century ago on fruit-trees in France, but it does not seem to have ever become general. Some American pomologists have also tried the experiment of ringing fruit-trees—apples and pears, especially—and with considerable success. In some cases their trees have been injured by the process, owing, perhaps, to carelessness in making the incisions, or in doing the work so late in the season that the wound could not heal over. It is on the vine, however, that the best effects of this practice have been witnessed. And these are so obvious and certain, that in many parts of France and England ringing has become a part of the settled culture of the vine.

The method is as follows: Watch for the time when your grapes have become of the size of No. 2 shot. Supposing that you prune upon the Hoare, or long-rod system, select those rods which contain some of the finest clusters, and with a pruning-knife having a smooth edge and a hawk's bill, cut out a circular section of the bark, about half an inch wide, and remove it. Be sure and cut deep enough to reach the sap-wood all around the branch, and take away every particle of bark, inner and outer. If the operation has been thoroughly performed, a callus will form on the upper edge of the ring, and it will appear something like the annexed cut: The sap of the vine is not checked at all in its upward circulation, but in its downward, and then contributes to the perfection of the clusters above the girdle. If the ring is made in about the middle of a rod, one will easily see the difference between the clusters above and below it.

Some may object to this practice on the ground of its being unnatural, and of its injury to the branches girdled. But we by no means recommend it for vines pruned on the Spur-system, nor would we advocate it as a general practice in a vinery, whatever may be the system of pruning. But for late bearing grapes, and those trained on the renewal system, it is entirely unobjectionable, because the rods so used are to be entirely removed in the Fall-pruning whether girdled or not. It is indeed often performed in France on spur-pruned vines, by making the ring *just above* the bud left for next year's fruit branch. If the ring is made so small that it can heal over before Autumn, the bud so left will not be much injured, nor will the fruit above the ring be much improved. This practice is not, on the whole, to be recommended. But on vines trained upon the renewal method it is well worthy of adoption. And then, to girdling must be added thinning out the berries and bunches.

"This practice of girdling (says Fessenden) may be kept up from year to year, and give you a succession of ripe fruit from the first of September to the close of the season. The fruit on those branches which are not girdled will ripen the latest, of course, but neither these nor those which have been girdled should be shortened, as is customary on vines not thus treated.

Pruning Grape Vines.

To the Editor of the American Agriculturist

Having made pretty extensive observations upon this subject for some years, I am fully persuaded that grape vines ought not to be pruned later than October. When pruned during the Winter, more or less of the remaining vine will be killed. I have, on two occasions, lost a large quantity of vines which I attributed to Winter pruning. Prune in October, leaving a surplus of three or four inches next the vine which will protect it from injury by freezing.

But my principle object in writing, is to correct the too prevalent idea that the vines should be very much thinned out, and shortened to six, eight or ten feet in length. I have, for several years past, permitted my vines to run off horizontally, up the sides of buildings or into trees, as was most convenient—to almost any extent. I prune my vines as I do my apple trees. When the limbs, or vines are too thick I remove but never shorten them. The great art in raising the grape consists in the proper management of the root. Where vines are permitted to stretch off in this way the bunches will be larger, of a finer flavor and ripen earlier the further they are removed from the root. By pursuing this course I find that a thirty feet vine, sustained by a good healthy root, produces more than three times as much fruit and of better quality, than a vine ten feet in length. I refer to the Isabella variety which I am cultivating. W. Watkins.

Bradford Co., Pa.

Best Market Grapes for Glass Inclosures.

To the Editor of the American Agriculturist:

I have been building a stone house, with the roof projecting two feet on the south-westerly side. Within and along that space, I desire to set such grape vines as will mature fruit, with a glass front to protect from frost and retain heat. I wish to plant such kinds as will give best returns in market, and ask your advice as to variety, distance apart, and treatment.

B. H. Dewing.

North Chelsea, Mass.

Remarks.—The Black Hamburg will probably thrive in such a situation, and is a fine market or table grape, succeeding only under glass in your latitude.

Plant six feet apart, along the length of the building, and as there is but two feet of air in depth, proper attention must be given to ventilation, and shading with screens from the hot sun, or the vines will parch. Have the front so constructed that the sashes can all be taken away during the heat of Summer, which will save no little care. Return the glass when frost is apprehended, and the season will thus be lengthened sufficiently to mature the fruit. Were we to construct a *cold gropery* on this plan, we would have the roof project far enough to give *three* or *four* feet in depth instead of two feet. We repeat, great care will be necessary to ventilate every

warm day, and shade with paper or muslin from the direct rays of the sun.

Apples Half Sweet and Half Sour.

The note on this subject has called out several communications. We make a few extracts. Mr. Henry F. Gifford, of Barnstable County, Mass., writes:

One of my neighbors has a tree, one limb of which produces apples half sweet and half sour. The way they are produced, *he says*, was by taking a bud from a sweet and sour apple tree, splitting them, putting the two halves together, and budding the tree in the usual manner with them. Perhaps in some such way the tree of "John Dunning" was produced.

S. W. Thomas, Cuyahoga Co., Ohio, writes: ....In Northern Ohio many of us have had these trees in full bearing for several years past, producing not only apples half sweet and half sour, but those nearly all sour with a small portion sweet, and others directly opposite; in short, they are of all grades, from entire sweet to entire sour. I can not give time, place, and name of person, but these were produced thus: At the time of budding a bud was taken from the R. I Greening, and another from the Golden Sweet, as we call it here. The two buds were cut lengthwise through the center, each precisely alike, so that the opposite parts fitted exactly together when they were inserted as in ordinary budding. This is a nice job, I assure you, but if correctly done, will as surely produce the hybrid apples as a single bud will produce a single variety. This may be doubted by some, but repeated experiments have proved the correctness of the statements.

AN EVER-BEARING APPLE TREE.

William Crocker, Erie Co. N. Y., writes: The instance of the hybrid apple, described in the November number, reminds me of a curious tree I myself saw in South Carolina. There was on this tree, at the same time, *blossoms*, *green apples*, and *ripe fruit*. The owner of the tree informed me that the tree produced five to seven crops in a single season—each succeeding yield, however, diminishing in size.

Planting Orchards on a Northern Exposure.

To the Editor of the American Agriculturist:

I should be individually obliged if you will state, for myself and others, whether planting apple-trees on a situation slightly inclined to the north or west, would be, in this latitude (43½°), likely to injure their growth, or Winter kill them, more than in a situation having a like inclination to the south-east.

G. W. Sheldon.

Fondulac Co., Wis.

Remarks.—If the land has a good natural drainage—that is, a porous subsoil, and a dry locality, a northerly exposure will not be prejudicial to the trees, either in "growth" or "Winter-killing." By reference to our orchard article in the January number (page 17), it will be seen that we prefer a gentle southern exposure, provided we could have our own way in all things. But if the soil is good, and we could do no better, we should embrace the opposite exposure by all means. We do not consider the degrees of latitude as governing the exposure at all, provided other circumstances are favorable; still we would not plant an orchard right in the face of prevailing and violent winds. In a case of this kind we can only speak generally, not knowing anything of the particular locality.—Ed.

Walnut and Mulberry for Shade Trees.

Milton Baldwin, of Greenshoro, Ind., referring to the article on shade trees in pastures given in the August *Agriculturist*, page 236, commends the practice of beautifying the farm with shade trees scattered here and there. But he would combine the useful with the beautiful, and plant the walnut and mulberry instead of the oak and elm. He thinks the former two are less liable to be blown down when standing alone. The walnut (hickory?) naturally grows tall, but by early pruning it may be made to take a low branching form. Its timber is more valuable than the elm or oak, while it yields an annual crop of nuts for sale, and for the boys and girls as well as older people to crack during the Winter evenings. [Not very good to sleep on.—Ed.] The outside hull of the nut is also valuable for family coloring...The mulberry bears a fruit which is highly prized by the birds, and these trees thus draw around one a multitude of the cheerful feathered songsters. Some varieties of the mulberry furnish a fruit valuable for human consumption.

Endive—(*Chicorium endivia*).

A Western subscriber says he sees in our "Calendar of Operations" frequent directions for sowing endive, but neither he nor his neighbors know the plant, and they, and probably others, desire a description of what it is, and how grown and used....The engraving above shows the appearance of the growing plant. It is often called "*chicoree*." It is a highly prized salad, and is, at this season, what lettuce is in the Spring and early Summer.

To have it in perfection during Winter, the seed should be sown the latter part of July, in drills 12 to 15 inches apart. Transfer the plants to cold frames about the middle of August, watering and shading them until well established. Or: they may be grown in the beds where sown. Keep the plants thinned out, so as not to be crowded, and when freezing weather comes on lift them with a portion of earth adhering, and transfer to cold frames, which are used merely as a partial protection. Cover with the shutters and with straw, or other litter, to keep out rain and hard frosts, but a free admission of air should be provided whenever the weather will allow. They will require less blanching when grown thus at this season, than when cultivated in the open ground at an earlier period.

When the leaves become large tie them up while free from rain or dew, and not frozen, and draw a little earth around the base to support the plants. They will blanch in a week or two sufficiently for use. Some prefer blanching (whitening) them by laying a board over the plants, which flattens them down. A few dry forest leaves spread over the ground around the plants will aid to keep them clean and dry. Treated as above, endive will furnish a nice salad during the entire Winter. The French people and some others are fond of it boiled or stewed. As endive does not appear to be widely introduced, we may, perhaps, add the seed to our distribution list.

Freezing out Currant-Bush Insects.

To the Editor of the American Agriculturist:

I have a few suggestions to make in regard to the *currant louse*, which your correspondent D. Goodyear, described very accurately in the June *Agriculturist*. I did not observe, however, that they left my bushes in the form of a fly. On the contrary they remained in great numbers until both leaves and fruit prematurely fell off or withered, and on examining the ground late in the Fall, I found plenty of them just below the dead leaves. To try the effects of frost upon them, I dug the ground over just before the setting in of Winter, leaving the earth in a fine loose state that it might freeze deeply. I also kept the snow away from the bushes during the Winter for the same purpose. When the frost was out in the Spring, I sprinkled the ground liberally with lime, and am now happy to say that not a louse made its appearance on my bushes during the present season. I have had an excellent crop of fruit, and many of the leaves still remain upon the bushes.

J. Thorniley.

Franklin Co., Mass., Sept. 13, 1858.

Remarks.—The above was crowded out at the appropriate season, but it may still afford a hint to those having bushes preyed upon by insects, as the ground will be unfrozen at times during this and the following month. Many of these insects are so fixed to the spot where they commit their depredations, that in addition to freezing them out, they can be removed by taking away a portion of the soil containing the grubs and supplying its place with fresh earth. Late Fall is the best time for this purpose. The free use of lime is often useful upon ground infested with insects.

Interesting Notes on the Winter Cherry, and Husk Tomato.

Thomas Williams, of Nanticoke, Canada West, in a business letter to the *Agriculturist*, adds the following items: ....A word on the fruit you call "Winter Cherry," and various other names—here we call it the "Ground Cherry." I have cultivated for two years what you term *Physalis viscosa*, and am quite interested in it as a new garden plant. My seed came from Illinois, and though on my stiff clay garden soil it has not had a fair chance, it does well in Canada on looser, warmer soils. I received seed from the same source, which proves to be what you pictured under the hypothetical name of "Husk tomato." The fruit did not ripen, owing to the attacks of a little black bug, which here perforates the leaves of the potato, tomato, and other kindred plants. The insects took a special fancy to the flowers of the "Husk tomato," and ate them as fast as they appeared, until quite late in the season, I saved a little seed, however, and shall try them again.

I think we have varieties of the *Physalis* growing wild, which differ from all the kinds you have described. In Canada and in several parts of the United States I have met with a sort which somewhat resembles the *P. viscosa*, in the general appearance of the leaf, flower, and husk; but the leaf is a lighter green, more downy, and white on the under side; the flower is a brighter yellow; the fruit is not so pleasant tasted and much

smaller, and I am almost sure that the root lives in the ground all Winter. I have found them in flower when the *P. viscosa* had scarcely begun to show itself, and then its root appeared strong and woody. I have met with this in Pennsylvania, and in all parts of western Canada, even above the 44th paralel. It loves warm, sunny banks. In Pennsylvania (where I spent part of my boyhood) we had this and another kind, a greater favorite with the boys on account of its more plentiful and more acid fruit. It was a low trailing plant, lying on the ground, the leaf a canker green and more smooth and small than the *P. viscosa*.

But I have seen and eaten yet another kind, which is, I think, better than any or all that you or I have written about. I met with it about twenty years ago, while employed as a sort of assistant engineer in running out a road between the west end of Lake Simcoe and the south end of the Georgian Bay, Lake Huron—the country then an unbroken forest. Part of it was a burnt region, burned about three years before we were there. Here, in the month of July, we found a plant strange to us, what first drew our attention to it was that the deer had browsed it off close to the ground. In coming to the same place in the latter end of July, we found it in full flower. We then classed it with the potato, and thought, indeed, that we had discovered a Canadian variety of the wild potato. We hunted for tubers, finding none, but found a large, woody, fibrous root. In September I visited the spot again, and found abundance of fruit, larger than cherries, a bright yellow, with a very rich, somewhat acid and sweet taste. Each plant bore from one to two quarts, though shaded by the trees and plants around them. The plant grew from one to two feet in hight, and quite branching. I have never seen the same kind growing elsewhere. My acquaintance with them continued for two seasons. I then left that part of the country, and have never visited it since. It is now settled. But I have often since proposed taking a journey thither, in order to procure seed, and introduce them into notice. I now purpose doing so next Autumn (if spared.) I am sure they are the best I ever met with.

Remarks.—We hope Mr. Williams will carry out his intention. We are becoming more and more interested in this plant. We, of course, can have no selfish end to further in recommending it. From among many statements received from persons in various parts of the country, we will select only the following of recent date, from an intelligent gentleman in a high position. He says: "....We tried the Winter Cherry seed you distributed last Spring, and are much pleased with the results. This is one of the most promising things lately "brought out." People can get fruit from them, when all other kinds fail, and they get it in a few months from planting, that is the same season. I never ate better pies than those we have had the past summer made of Winter cherries and some lemon added. Without the lemon or some other tart they are rather insipid, but with this addition they are very excellent, having a pleasant taste with a kind of pine-apple flavor."

There are doubtless many varieties of the *Physalis* growing wild in different parts of the country, and it is desirable to find the best. We believe this plant will soon help to fill up a gap in the fruit line with a multitude of families, especially at the West, where tree fruits are not yet planted, or have not come into bearing.

We have seed enough of our own raising, to distribute about 15,000 small parcels, of 50 to 75 or more seeds in each, but we shall be glad to learn where we can purchase a further supply, in case our own stock runs short. If seed is offered for sale, we shall desire to see specimens of the fruit from which it is obtained, and also learn reliable particulars as to the variety, habit of growth, etc.

Fix the Garden for Winter.

Go through the whole county at this season, and you will find ninety-nine gardens out of every hundred, the most unsightly spots on the farm and about the village dwellings, and so they will be all through the Winter. Here are standing mutilated stalks of plants—too many of them weed stalks—there is a mass of potato vines, literally "lying around loose." Here are cabbage-leaves, corn-stubs, onion-tops, etc.; there are hills and mounds of earth, produced in digging beets, carrots, and other roots. Only a deep snow will cover the garbage, and give a pleasant look to the spot which was so attractive during the recent growing season. In the Spring all this trash will be gathered, the ground leveled and raked, and the gardens will look cheerful again, though not a plant or leaf has yet appeared.

But why not do the "cleaning-up" *now*? It will take no more time than in Spring, and how much better the garden will appear all through the cheerless winter. Just try the effect of gathering the rubbish and putting it in a heap in an out of the way corner; or laying it evenly over strawberry or asparagus plots; rake off the surface of the beds smooth and level, unless you ridge the ground, as recommended elsewhere; fix up the walks or alleys a little, and leave the whole with the appearance of having been recently prepared and planted. A few hour's work of this kind, done now, will save so much time in the Spring; the ground will dry out earlier, than if partially covered up with leaves and rubbish; and the cultivated look will, even in Winter, constantly afford a kind of pleasure, similar to that experienced when one has finished making garden in the Spring, and is looking for the coming crops.

Try Ridging your Garden.

There is not the slightest doubt that it pays well for the trouble, to throw almost any garden soil into high narrow ridges, in the Fall or early Winter. The frost will penetrate deeper at the bottom of the intervening furrows, and vastly improve the subsoil for the roots of plants. The soil in the ridges will also freeze and thaw more thoroughly, and thus become finer and mellower, and of course be rendered more fertile thereby. This is especially the case with clay or heavy soils. Ground thus thrown into ridges and furrows will dry out sooner in the Spring and be ready for much earlier working.

Another decided advantage is, that grubs, worms, and insects generally, which burrow below the frost, or are protected by the soil from sudden thawing and freezing, will be mostly killed, if their retreats are disturbed and they exposed to severer cold. Many of the roots of perennial weeds, will also be destroyed.

If you have not faith enough in this theory, and in the experience of those who have practiced upon it, to induce you to treat your whole garden thus, try at least a small plot and mark the effects next season. Dig the ground deeply, making the ridges as narrow and high as possible. If it ordinarily freezes a foot deep, then by making the furrows to that depth the frost will penetrate nearly as much further down. A good freezing is equal, as a pulverizer, to any number of mechanical diggings with a spade.

For the good appearance of the garden during Winter, it is well to make the ridges and furrows straight, and uniform in size and hight.

Covering Raspberries for Winter.

Most of the improved newer varieties of Raspberries need protection during Winter, such, for example, as the Fastolff, Antwerp, and Brinckle's Orange. Some or all of these will sometimes live through, but if they do this, they will be less vigorous, and fruit much less than if covered. It is not so much the hard freezing that injures them, as the alternate sudden freezing and thawing they receive in the open air. Two inches of soil thrown over the canes bent down, prevents a sudden change of temperature, and is quite as good as a deeper covering. Probably most persons will have attended to it before reading this, but if not, it should be done at once, or at the first moment when the ground is unfrozen.

Raspberries may be covered with straw, salt hay, boards, and earth. A covering of earth has always been found the best. Many people make unnecessary labor—bending down and covering cane by cane. We rapidly protect ours as follows: Commencing at one end of a row, bend all the canes towards the other end, packing them in closely, so that they form a compact line of plants requiring but little earth to cover them. We prefer the *fork* spade as less liable to injure them. Run the spade under the hill and gently incline it to the side you wish to lay it down. Without this tipping the canes liable to break off at the surface. Having bent over the first hill and thrown just earth enough over some part of it to hold it there, go on to the second hill, and follow the same course to the end of the row. Next throw on sufficient earth, from between the rows, to cover them from two to three inches deep, or just sufficient to prevent the winter rains from washing them bare, and they are in the very best winter quarters, with ditches between the rows to pass off surplus water. Remove them in the Spring as soon as severe freezing is over.

Cement for Glass under Water.

In response to the inquiry for a cement for glass under water, as in aquariums, J. B. Sewall, of Lynn, Mass., writes, that after various trials he found the following excellent, for which he is indebted to a chemical friend: Take by *weight*, twelve parts of resin; four parts gum shellac; two parts common beeswax; one part Spanish brown; and two parts of Plaster of Paris or fine brick dust, say enough to make the cement tolerably thick while melted. After being applied, it can be smoothed with a hot iron. If a leak should happen from any cause it can be mended with the hot iron in a trice—the water being first removed of course. This cement does not crack, and is perfectly insoluble in water.

H. A. Sheldon, Middlebury, Vt., writes that in constructing an aquarium, he was obliged to invent a cement, and he finds the use of the following perfectly successful: Dissolve two ounces of gum shellac in six ounces of alcohol, mix with clean clay dried and powdered. To use, dilute with alcohol and apply with a brush. It effectually prevents any rusting of the iron.

Nature sometimes makes a fool, but a coxcomb is always of his own manufacture.

IN DOOR WORK.

About Coffee.

Last month China tea was discussed. We will now offer a few items on coffee, to be followed with further notes on coffee-pots, on cocoa, chocolate, etc. Has any one an adequate conception of the amount of coffee consumed? From the best data at hand we think the total production can not be less than *five to six hundred million pounds a-year*—perhaps more. The curious may estimate how many sheets of wrapping paper, and how long a string it would take to put all this coffee up in pound packages; how many cups of liquid coffee it would make; how large a lake this liquid would fill; how many persons would consume it if all drank two cups at breakfast; how much sugar and how much cream would be required to fix it, etc.

The seeds of several kinds of plants are used for coffee. The seeds of the *Arabian* coffee-tree are the main supply, however. This grows wild in Southern Abyssinia, Africa, from whence it was probably introduced into other countries. It is now extensively cultivated in Ceylon, and other East Indian countries; in the West India Islands; in Brazil, South America, and in many other tropical regions. Its commercial value depends considerably upon the climate and soil, but its flavor, and the quality of the beverage produced, are more dependant upon age and the manner of preparing the liquid.

Fig. 1—Arabian Coffee Tree (*Coffea Arabiaca.*) Hight about 18 feet.

Fig. 1 exhibits the general form and appearance of the tree. The specimen shown is about 18 feet high. The hight of the tree varies in different countries, from 8 or 9 to 18 or 20 feet. It is covered with smooth, shining, dark leaves, 2½ to 3 inches long.

Fig. 2 shows the form of the leaf, flowers, and seeds or coffee berries. The size of the berries varies with the quality and location of the soil.

The plants are raised from seed sown in beds and nurseries, and transferred to fields when six months or more old. They do not produce full crops of herries until the third or fourth year, but continue bearing 12 to 15 years or more. They do best on a dry, warm soil. The higher and dryer soils produce smaller but better flavored berries.

As before stated, the flavor improves greatly by keeping. Some of the smaller kinds will attain nearly their full flavor in two or three years, while larger poorer kinds continue to improve for 12 or fifteen years, or more. The poorest kinds, if kept long enough, will become better than the best kinds when recently gathered.

Few persons are aware how similar the effects of coffee upon the system are to those of China tea. Indeed, the three effective ingredients or constituents of coffee strongly resemble those of tea. The aroma and flavor of tea are brought out in the drying process, and a similar result is obtained in roasting coffee. In long keeping, as well as in roasting, a *volatile oil* is developed in the coffee berry. This oil is similar to that described in tea, but is in much less quantity. In roasted coffee it scarcely amounts to an ounce in 3,000 pounds, yet upon this small portion of oil and its variable quantity depends the value and variations in price of the different kinds of coffee. Payen says, that if this volatile oil could be extracted and used in flavoring the poorer kinds, it would

Fig. 2—Leaf, flower, and berries of the Coffee Tree—Leaf 2½ to 3 inches long.

be worth in the market as much as $8,000 a pound! Direct experiments upon the human system have been made with this oil. It was found that a quantity no greater than the *four-hundred-thousandth part of a pound*, or the *twenty-five-thousandth part of an ounce* (less than *one-sixtieth* of a grain!) taken daily, produced a gentle perspiration, dispelled hunger, moved the bowels and exhilarated the brain; while double this minute quantity (the amount obtained from ½ lb. of coffee) induced violent perspiration, or sweating, with sleeplessness and incipient congestion.

Unroasted coffee contains about one part in twenty of an astringent acid, similar in effect to oak-bark tea. There is less in roasted coffee, but still enough to produce marked tonic or strengthening effects. This astringent principle is much less than in tea; hence it operates less to constipate the bowels, while the oil above described has a cathartic effect. We have known persons so sensitive to this, that a single cup of coffee would almost invariably produce a movement of the bowels—sooner than a tablespoonful of castor-oil, or an equivalent of other cathartic medicines. The powerful effects of these minute quantities of ingredients in coffee and tea would indicate a greater degree of caution in the consumption of large potations of either beverage, for let it be remembered that the effect is the same, whether the oil, etc, be separately swallowed, or taken in the liquid as usually prepared. The only reason why more marked effects are not generally observed is, that the quantity consumed at a time by one person is seldom as much as an ounce, and further, the system gradually becomes somewhat accustomed to the effect. The liquid from three or four ounces of coffee, if taken at one time by a person unaccustomed to this beverage, would produce violent, if not fatal effects. Can we wonder then, that those drinking freely of strong tea or coffee are troubled with weak, unsteady nerves, neuralgia, headaches, and a hundred other ailments? With these, as with all other stimulants, an exhilaration is first produced; then follows a depression of spirits, by which time another dose of stimulant is felt to be needed, and is usually taken. With this common sense view of the matter, it is the hight of absurdity to accustom growing children and young persons to the use of coffee or tea. It is worse than absurd; it is cruel. It is equivalent to compelling them or allowing them to carry a chain that will wear into their flesh a sore difficult to be healed, which must ever after be daily dressed with a mollient ointment.

We will say nothing of the practicability or the impracticability of breaking from the habit, by those already long in its chains, but having set forth the dark side of the picture, will refer to the few bright spots there are, which may be slightly consolatory to those who cannot do without their "cups."

Coffee contains a variable quantity—one pound in a hundred, more or less—of *Caffeine*, a substance almost, if not exactly like the *Theine* in China tea. An ounce of coffee contains, say 4 to 5 grains of caffeine. Eight or ten grains taken daily produce a more frequent pulse, a stronger beating of the heart, trembling, wandering thoughts, and incipient intoxication. Small quantities of two or three grains (the amount in ½ oz of coffee) do not produce specially disagreable effects, but lessen the evacuations, and probably diminish the waste of the tissues; and on this account may be beneficial to weak and aged persons, if the effects be not overcome by previous *habit*. This is small comfort, but may be taken for what it is worth.

Nourishment in Coffee.—Like tea, coffee contains considerable quantities of nutritious *gluten* gum, and sugar. Of gluten, coffee has about one part in 7½; tea, 1 part in 4. Of gum and sugar coffee has about 1 part in 7; tea, 1 part in 5. But since a much larger quantity of coffee is used for a cup of infusion, the actual nourishment in a cup of coffee is greater than in a cup of tea. It is to be remarked, however, that these nourishing elements are not largely dissolved out in steeping either tea or coffee. To get the full, or even any considerable portion of the nourishment, the "grounds" must be eaten after they are steeped. This is practiced among some Eastern nations, and the custom is to be commended, especially to those who, from necessity or choice, would make every article of food go as far as possible in nourishing the body. But as shown in the case of tea, the nourishment from coffee, if taken for that purpose alone, is rather *expensive*. *Gluten* (the muscle, or lean flesh forming element), if obtained from coffee, by the consumption of the entire berry, costs about $1 per lb., estimating the cost of the coffee at only 13 cents per lb. As shown in discussing tea, gluten from beans, at $2 per bushel, costs 12 cents per lb, and from fine flour at $7 per barrel, 30 to 35 cents per lb., reckoning nothing for the large amount of nourishing starch and oil in the latter two substances

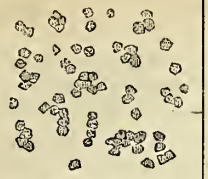
We must defer to another chapter a talk on making coffee—including coffee-boilers and coffee pots—to be followed by a description and discussion of cocoa and chocolate.

Gardening for Ladies.—Make up your *beds* early in the morning; *sew* buttons on your husband's shirts; do not *rake up* any grievances; protect the young and tender *branches* of your family; *plant* a smile of good temper in your face, and carefully *root out* all angry feelings, and expect a good *crop* of happiness.

An honest employment is the best inheritance that can fall to any one.

A libertine's life is not a life of liberty

GRAINS OF POTATO STARCH.



GRAINS OF RICE STARCH.

For the American Agriculturist.

Something More About Starch.

The article upon starch in the October number opens a subject upon which much that is instructive may be said. The readers of the *Agriculturist* have already been told where starch comes from, how it appears under the microscope, what it consists of chemically, and how it is obtained separate from other vegetable products and prepared for use. The next inquiry may be

How Starch is formed.—Plants alone produce it; and there are perhaps no plants which do not produce more or less starch, or something answering to it, and of the same nature. Sea-weeds, and such plants as the Iceland Moss produce instead a kind of jelly; but this is about the same as starch is, after it has been dissolved in hot water. One botanist has defined a plant to be, "an organized being which produces starch." Starch is made out of the nourishing juice or prepared sap of plants; it is merely this in a solid form. The magnified grains of potato starch, figured in the October *Agriculturist*, which we have introduced again above, show how they were made. Notice the delicate lines that encircle one another, and successively surround a point which is generally near to one end of the grain. This is the *nucleus*, the beginning of the grain when it was a minute speck; and the encircling lines mark the layers, like the coats of an onion, of which the grain is built up. First, a little solid speck is formed, and on this, layer after layer of nourishing matter is deposited from the sap; and so the starch-grain grows up to its full size When starch is put into hot water, the grains do not exactly dissolve, but the layers soften, swell up immensely, and form a kind of jelly. This jelly is of the same nature as the mucilage or nourishing part of the sap, which the plant made the starch of.

Where does this mucilage, this prepared material of the starch come from? The plant makes it out of air and water—i. e., out of carbonic acid and water, which it takes in by its roots and its leaves. As already stated, starch is composed of 12 parts of *carbon* (charcoal), 10 of *hydrogen*, and 10 of *oxygen*; the last two form water; so we may say that starch consists of *carbon* and *water*. Now plants absorb the water abundantly from the ground by their roots, and also from the air by their leaves. The other material of starch, i. e. the *carbon* (or charcoal), comes from the carbonic acid of the air. *Carbonic acid* gas, which makes up a small part of the atmosphere (any large amount would be injurious), consists of *carbon* (coal) united to *oxygen*. To make starch, or the prepared materials of starch, the plant has only to get rid of the *oxygen* of some *carbonic acid*, and to combine its *carbon*, in some peculiar way, with the water. To do this, the plant must have the assistance of the sun; and one great object of the vast amount of sunshine which is poured upon field and forest is, to enable plants to do this work. This they do in their foliage, or other green parts, and in these only when they are acted upon by the sun. Then the leaves are constantly decomposing the *carbonic acid* gas they are drinking in from the air, giving back its *oxygen* gas pure to the air, and combining its *carbon* with the *hydrogen* and *oxygen* of the water, in a way that is never done anywhere else. That is, they are digesting or *assimilating* air and water into *vegetable matter*, of which starch is one of the commonest forms. Air and water are the *raw materials*; the light of the sun supplies the *motive power*; *vegetable matter* is the *manufactured substance*; and starch is one of the completed products—*one of the articles into which the manufacture is worked up*. What it is for, that is, what the plant does with starch, may be considered another time.

FARINA.

Winter Flowers for the House.

Hyacinths, tulips, jonquils, crocuses and other bulbs are frequently grown, or rather *flowered*, in glasses containing water only. They do not form new bulbs, so that after blooming they must either be planted out for offsets, or better thrown aside for healthy bulbs grown in the ordinary way.

Glasses like the above, and of other forms, some transparent and others blue or green, are obtained of glass dealers, or seedsmen, at 12½ to 25 cents each. They are known as "Hyacinth Glasses," and whatever shape they are at the bottom, the top must have the form of a saucer or bowl to hold the bulb and allow the roots to extend into the water.

Having filled the glasses with pure rain water, place the bulbs in them so that the lower surface shall just touch the water. Dry bulbs which have made no growth may be taken, or those which have been previously potted and have made several inches of root. After putting them in glasses it is better to place them in a moderately cool and dark, but dry room, for a week or ten days, when they may be brought to the *parlor*, or placed in a green-house, where they will grow rapidly, and in a few weeks commence blooming. The water should be changed about once a week, or as often as it becomes turbid. Wires are sometimes fastened around the neck of the glass, and run up, to which the flower-stalk may be fastened for support. A very cheap supply of beautiful flowers may thus be secured in the house during the entire winter.

Ladies and Gentlemen going up and down stairs, Walking, and other items of Deportment.

To the Editor of the American Agriculturist:

Many of us "Young Girls" have been greatly instructed by your recent articles on Setting out the Table and other hints on deportment, for not a few of us have had as little opportunity for learning elsewhere, as had the "young housekeeper," who first called for aid in the July number. May we not from time to time propose further questions to ANNA HOPE, or other correspondents—such for example as I have written above? If you will tell us how gentlemen do also, it will not only help us to instruct our brothers, but also let us know what to expect of men, and thus render us less embarrassed. I would ask more, but these are perhaps more than my share, and I will leave others to send in more queries JANE.

W——, Ind., Nov. 6th, 1858.

[We shall be very happy to receive queries in regard to deportment, and will endeavor to put them into the hands of those fully competent to answer them. The above we submitted to Anna Hope, and her reply follows.—ED.]

"The polite usage" in regard to ascending stairs is a somewhat mooted question. Some persons think it always the better way for the gentleman to precede the lady both in ascending and descending. Others say nothing is more absurd than to do this. Precedence should always be given to those to whom we owe respect, or are accustomed to show it, consequently when the gentleman does not ascend with the lady, he should follow her, not far behind, but as closely as he conveniently can. It is often proper to offer the arm to a lady in going up stairs. If there are several ladies, assist the eldest, or the most feeble, or the one that for any reason has a special claim upon attention. The gentleman will give the lady the side of the stairs next the balusters, so that if she needs to use the railing she may be able to do so.

In descending stairs the same rules of precedence may be observed—the gentleman following the lady at a convenient distance.

If a lady and gentleman who are strangers meet at the foot of a flight of stairs, the lady may, if she choses, bow to the gentleman to ascend before her. He of course bows courteously to her as he passes up.

If a lady and gentleman meet on a public stairs, or at a passage-way, he moves sufficiently to one side to permit her to pass readily, touching his hat as he does so. Should a lady be entering the parlor or dining-hall of a hotel, either alone or in

company with a gentleman, another gentleman, who should chance to meet her, should give her the precedence with a slight bow. A lady should always acknowledge these courtesies by an answering bow. If well bred, she will receive no attention at any time, without a graceful bow or nod, although it may be a slight return.

Gentlemen, when walking with ladies on the street, should take the side which will best protect them from inconvenience. In the country it is usual to give the lady the inisde of the walk; in a city or village the gentleman should walk between her and the crowd, on which ever side it may be. If there be no crowd, it matters little which side be taken.

If a gentleman meets a lady with whom he wishes to have a minute's conversation, it is better to turn and walk with her rather than to detain her. This is especially important in cities where it is often a great inconvenience to have the side walk obstructed by those who are shaking hands and exchanging most kind and cordial greetings. Where ladies stop to speak to each other they should retire from the current, and not permit themselves to incommode others.

It is expected of a lady to recognize a gentleman who has been introduced to her. If she does not, he is not at liberty to recognize her.

Gentlemen usually lift or touch the hat when bowing to a lady. Not to do this implies that the person saluted is an *inferior*. Gentlemen should raise the hat when meeting a gentleman acquaintance if he be accompanied by a lady, a mere nod would be considered disrespectful to her. If, when walking with a friend, you meet an acquaintance, it is not proper in ordinary circumstances to introduce the friend.

It is always proper for ladies to accept needed civilities from strangers, and such civilities should be rewarded with an "I thank you, sir," or a pleasant smile, or a courteous bow.

Do not when talking with your friends place your hand upon them to give emphasis to your remarks. This "nudging" is vulgar. There can be no surer indication of ill-breeding.

Do not giggle; that is insufferably silly. Laugh heartily, but not carelcsly. Smile when you feel like it, but don't let your face wear an unmeaning smirk.

Cultivate a quiet, natural, self-possessed manner. Self-possession is one of the distinctive attributes of a lady, and prepares her for meeting any of the exigencies of life gracefully and properly.

The rule of politeness are not mere arbitrary regulations. They are founded on common sense A kind, loving, unselfish heart has in it the elements of the most perfect courtesy, and no mere ceremonious civility can ever compensate for the want of it. ANNA HOPE.

Colds, Coughs, Consumptions, etc.,

Or diseases of the lungs, are as prevalent as ever—we think more so. And no wonder! Every improvement in the construction of dwellings or in modes of heating them, which has a tendency to confine the warm heated air within, is so far an aid to the "lung doctors." Reader, did you ever stop to think what an extended apparatus you have in your lungs—made up as they are of millions of little air cells, covered with a thin delicate membrane constantly in contact with the air or other substances you breathe? According to the estimate of Dr. Addison, the united air cells of the two lungs number *one billion seven-hundred and forty-four millions* (1,744,000,000!). The lining membrane of these covers a space of *fifteen-hundred square feet.* Is it anything strange then that noxions or re-hreathed air, miasmatic odors, etc., coming in contact with this vast surface, and with the blood through it, should not only irritate the lungs themselves, but also render the blood impure? This is a fruitful subject—we can now touch upon only one item—that of *re-breathed* air.

During a single minute a person draws in and sends forth from 1½ to 3 gallons of air, which comes forth impregnated with carbonic acid and other impurities. A little calculation will show that in a small close room, a single individnal would soon breathe all the air, and much of it many times over, as the pure and impure are mingled at every breath. The case is much stronger when several persons are in the same room, and still more so when a crowd of children are in a school-room, or a congregation in a house of worship or lecture room. We can not better "enforce" the subject than hy giving the following appeal to the "Sexton of a meeting-house," which we find in our drawer. It is credited to the Detroit Tribune—we know not by whom written. The spelling is not exactly according to the dictionary, but it needs no translation. Read and heed.

A APPEAL FOR ARE TO THE SEXTANT OF THE OLD BRICK MEETINOUSE.

BY A GASPER

O sextant of the meetinouse, which sweeps
And dusts, or is suposed too! and makes fiers,
And lites the gass, and sumtimes leaves a screw loose
in wich case it smells orful—worse than lam-pile;
And wrings the Bel and toles it when men dyes
to the grief of survivin pardners, and sweeps pathes
And for the servases gits $100 per annum,
Wich them that thinks deer, let em try it;
Getin up befoar star-lite in all wethers and
Kindlin fiers when the wether is as cold
As zero, and like as not grean wood for kindlers
i would'nt be hired to do it for no some—
But o sextant! there are 1 kermoddity
Wich's more than gold, wich doant cost nothin,
Worth more than anything exsep the Sole of Mann
i mean pewer Are, sextant, i mene pewer Are.
O it is plenty out o dores, so plenty it doant no
What on airth to dew with itself, but flys about
Scatering leavs and bloin of men's hatts;
in short, its jest "fre as are" out dores.
But o sextant, in our church its scare as piety,
scarce as bank bills wen agnts beg for mischuns,
Wich some say is purty often (isint nothin to me,
Wat i give aint nothin to nobody); but o sextant
u shet 500 men, wimmen and children,
Speshally the latter, up in a tite place,
Some has bad breths, none aint 2 swete,
Some is fevery, some is scrofilus, some has bad teath,
And some haint none, and some aint over cleen;
But every 1 on em breethes in & out and out and in,
Say 50 times a minit, or 1 million and a half breths an our,
Now how long will a church-ful of are last at that rate.
i ask you, say 15 minits, and then wats to be did?
Why then they must brethe it all over agin,
And then agin, and so on, till each has took it down
At least 10 times, and let it up agin, and wats more,
The same individible dont have the priveledge
of breethen his own are, and no ones else;
Each one mus take whatever comes to him
O sextant, doant you no our lungs is bellusses,
To blo the fier of life, and keep it from
going out: and how can bellusses blo without wind
And aint wind *are*? i put it to your conschens.
Are is the same to us as milk to babies,
Or water is to fish, or pendlums to clox,
Or roots and airbs unto an injun Doctor,
Or little pills unto an omepath,
Or boys to gurls. Are is for us to breethe.
Wat signifies who preeches if i cant breethe?
Wats Pol? Wats Pollus? to sinners who are ded?
Ded for want of breth? why sextant, when we dye
Its only coz we cant breethe no more—thats all.
And now, o sextant, let me beg of you
2 let a little are into our church.
(Pewer are is sertin proper for the pews)
And do it weak days and Sundays tew.
it aint much trouble—only make a hole
And the are will cum in of itself
(it luvs to cum in whare it can git warm);
And o how it will rouze the people up,
And sperrit up the preecher, and stop garps,
And yawns and figgits as effectooal
As wind on the dry Boans the Proffit tells of

Chapped Hands.

These are very common "about these days." Cold weather chills the surface of the skin and prevents a free circulation of the blood, and consequent warmth, and thus induces or aggravates the difficulty. One of the primary causes of chapping or cracking of the skin is the action of soap. The alkali in this eats away the cuticle or outer skin, and thus destroys the natural covering. In cold weather especially, the hands should always be thoroughly rinsed in clean water after washing them with soap It will be found highly beneficial to wash the skin in a weak solution of vinegar and water, after using soap, and then rinse in clean water. The acetic acid of the vinegar neutralizes the alkali of the soap, and prevents the further action upon the skin, which will take place if the slightest amount of soapy water be left on the hands when they are dried with a towel. On washing days it will be of special advantage to have a vessel of water with a little vinegar added, to dip the hands into whenever they are taken from the washing water. Whenever we find it necessary to wash with soap, we rinse the hands in dilute vinegar, or a very weak solution of any acid, such as a few drops of oil of vitriol (sulphuric acid), muriatic (hydro-chloric) acid, or nitric acid (aqua-fortis), in a quart of water. Any of these acids will neutralize the alkali of the soap. Since adopting this practice we have never been troubled in the least with chapped, or even rough hands, though we do not put on gloves or mittens half a dozen times a-year.

We would add further, that in washing the hands it is usually better to use a stiff brush instead of soap, unless they chance to be covered with oil or tar. A brush is more convenient, *more* effectual, neater, cheaper, and better every way than soap.

Saleratus—Cooking Spinach.

To the Editor of the American Agriculturist:

I am very glad to see in the *Agriculturist* for October an article on bread. I have read such terrible accounts of the injurious effects of the bread made with soda and cream of tartar, that you have relieved my mind greatly. As a general thing I should ever prefer bread made from hop yeast. My husband is, however, very fond of the nice, light, fresh biscuits made from cream of tartar and soda, as a change or variety for breakfast, particularly in Winter.

Now, whenever I have had the weakness to indulge his appetite in this respect, my conscience has troubled me very unpleasantly, and the horrors of a ruined digestion, caused by *my hands*, has heen a kind of incubus in my quiet hours. I shall from henceforth cast my fears to the winds. ....Some two or three months since I noticed in your paper a question from a lady about the

COOKING OF SPINACH.

But I have not seen it answered. My way, and what I thought the general way of cooking it is as follows: Take an enameled saucepan, put a small piece of butter in the hottom, then lay in the spinach (after being well washed and the water shaken from the leaves), sprinkling from time to time a little salt. Sufficient water will adhere to the leaves to cook it. Let it be packed in closely, and the saucepan covered. When tender, take it up and place it on a dish; put a little pepper and some small hits of butter over it. Lay some nicely poached eggs around on the dish, or not, as you require; if eggs are used, it makes a dish of itself; if it is to be eaten with

boiled lamb or chicken they are not required. By this mode of cooking you have a high-flavored, delicious, most wholesome dish, fit for an epicure. By boiling it in water, you have only very nice, tender "greens." It is not suitable with ham, or other high-flavored or exciting meats.

We had in the Spring a small bed about four feet by eight. We cut it at least a dozen times, giving as much as we required till peas and beans came on. My husband cuts off the whole of the plant excepting a few under leaves as soon as it begins to show the first signs of "heading." The advantage is, it prevents the plant from going to seed, and induces a great number of sprouts—four, five and six large succulent sprouts put forth almost immediately after cutting the first dish, and will keep doing so for ten or twelve times. Observe: Cut the spinach while the dew is on it, and plunge it in a vessel of pure water till required for use. I am, sir,

Your obedient servant,

EMMA NEWBERY.

Walden's Ridge, Tenn., Oct. 25, 1858.

The Soda-in-Bread Question.

To the Editor of the American Agriculturist:

Reading what you write about bread reminds me to say, that you chemists will be the death of us all some day. You can probably see no good reason why bread baked from dough, that has been inflated by the introduction of carbonic acid gas, should be any worse for digestion than where the inflation is by gas evolved from the dough itself in the natural process of fermentation, *so long* as the chemical residuum of the drugs used to fabricate the gas is nothing more than a mild bit of medicine in small measure. Now, the bad effects of eating soda-raised bread may have no connection at all with the residuum, be it called tartrate of soda or Rochelle salts, and yet chemistry be none the wiser on the point than your unscientific humble servant. Science can tell us very little about the aromatic parts of our food, and yet the digestibility of food so closely depends upon its aromatic quality, that if anything tastes badly we may be sure it will digest badly, let chemistry say what it may.

In the fermentation of bread the peculiar flavor of the wheat is evolved in union with the carbonic acid gas. In the decomposition of soda though the same *gas* is evolved, the *flavor* is absent. Ferment your dough naturally and honestly, knead industriously, and bake thoroughly, and it will give forth an aroma which, as it tickles palate and nostril, will rouse into healthy action every digestive power from head to heel. Practice, on the other hand, the modern shifts and fetches to evade labor and care, and compound with mildly purgative drugs—a batch which may well be called the bread of idleness—and you have a good looking, puffy, tasteless, good-for-nothing, indigestible lump, made without sweat of the brow or elbow grease. It is no more like real bread than sham champagne concocted of Sauterne wine and artificially-introduced carbonic acid gas, resembles the best of Cliquot, whose foam breathes forth odors that were born in the flower and dwelt in the bloom of the grape.

Our French tenant's little wife has a house and children, and cooks for eight farm-hands, yet finds time to knead her dough an hour and a-half. She disdains to use even yeast, relying solely on leaven and her two little doubled fists. Ah, you should taste her light, white, and truly *wheaty* loaves.

We shall never be a healthy people till we learn to eat what "tastes good," and our women learn to cook what shall please the palate as well as the eye. I would rather trust to the olfactory nerves to select what is wholesome than all the chemists and physiologists in the world.

WILLIAM J. FLAGG.

Cincinnati, Oct. 5th, 1858.

REMARKS.—This subject is of no little importance, and it is desirable that correct views should be arrived at, for if the use of soda in cooking be anything like as dangerous as many writers would have us believe it is, several millions of families now using it more or less should know and be convinced of the fact. We are willing to hear both sides of the question, and cheerfully make room for the above communication, as we will for others—if not too long. We do not, however, see what point is established by Mr. Flagg, The "chemists" have no selfish end to secure by advocating the theory that a little carbonate of soda is no more poisonous than a little salt in bread. They only set forth facts developed and established by science and observation.

The above theory, that smell and taste are to be the guides in selecting food, is not tenable, we think. Nine-tenths of the present human *tastes* are *acquired* ones. We venture that the person who has no previous habits, or is entirely unacquainted with the taste of wines, will little appreciate the difference between the Sauterne and Cliquot. Who naturally loves tomatoes, sauer-krout, musk, and a thousand other things greatly relished by those accustomed to them. Sugar of lead, a virulent poison, would be relished and freely eaten by a child who had never seen it.

We would by no means, however, discourage the use of bread made as the "French tenant's little wife" makes it. For general common use it is to be recommended, but for occasional convenience *we* are not afraid of a few soda biscuits. They *taste* good. But more hereafter.—ED.

Lima Beans—A New Use for Them.

Every New Englander knows what "baked beans" are, for they are one of the institutions under which he was born and bred. Not the common "pork and beans" of the taverns and eating-houses, where a measure of the little buck-shot, white field-beans of our shipping markets, is thrown into a pot of boiling water, a "chunk" of pork ditto, and after simmering and blubbering awhile, as the care, or carelessness of a lazy cook may determine, taken off, thrust into an oven, and baked, or burned to a dead crisp on the top, while all below is just as the "boil" left them; but the fine, large, kidney, bush-bean, bright and clean, properly prepared, as our good mothers always knew how to do them, and our own good wives still do, with a piece of nice, salted, household pork, turned out beautifully from the oven, with fresh rye or wheat, and Indian bread—and what a glorious Saturday afternoon dinner do they make! But we must cut off their eulogy and attend to the Limas.

This last season we had a superabundance of them in our garden. They were planted late, for the proper season was too wet to plant early, as a Lima bean always should be, and they did not get into eating so soon by three weeks, as usual. They bore abundantly, and the frost holding off, the pods were full, although but a part of them ripened. When the Autumn came we picked them all, took them in and shelled them, and laid them on broad shallow dishes to dry. We then—that is, our "women folks"—commenced baking them at our weekly baking, in the place of the kidneys, with the accompanying piece of pickled pork, and in the same manner, only that they required less preparation by way of "soaking," than the others. And they were capital—richer, every way, than the field bean, as much so as in "green" cooking. We have become a convert. We intend hereafter to plant and pole the Lima for our "baking" beans, and although they may cost a trifle more in the raising, they are enough better—as a luxury—to pay for it. We don't advise everybody to do so, understand. But only such people as really appreciate *good* baked beans, and are willing to stand by their country in times of peril—partly because it produces them, and their counterpart, pumpkin-pies—and who have the facilities for cultivating them up to the very point of perfection. *

Contributed Recipes.

A friend hands us the following three recipes, now first written out, which are in use by his family, and which are pronounced by him "first rate."

FRUIT PUDDING—1½ lb. each of flour, grated potatoes, and grated carrots, and ¼ lb. of suet. Salt and spice to taste. Boil 3 hours. To be eaten with wine-sauce.

BOILED BREAD PUDDING.—(Good every day in the week, says our contributor.)—Half a loaf of stale bread soaked in a quart of milk; 4 eggs; 4 tablespoonfuls of flour. Boil ¾ of an hour; serve with wine-sauce. A little green or dried fruit mixed in is a good addition.

"WINE-SAUCE" WITHOUT WINE.—Butter and sugar thickened with corn starch, and flavored with the rind and part of the juice of a lemon.

The following four are from Ellen U. Bacon, Bar Mills, Me:

POP-OVERS.—One cup of flour; 1 egg; butter the size of a nutmeg. Bake in small tin rounds. The same rule is good for nice drop-cakes, baked in cups; or for boiled batter-pudding.

GRANDMA'S BATTER PUDDING.—One quart of milk; 9 eggs, (if you have got 'em); 9 tablespoonfuls of flour, and a little salt. Steam 1½ hours—if steamed just enough, the pudding will retain its form, and it can not be excelled for delicacy.

GRANDMA'S MARLBOROUGH PIE,—12 spoonfuls each of sifted (stewed) apple, beaten egg, and melted butter—all thoroughly mixed, and flavored with lemon and sweetened to the taste. Bake without upper-crust. Less butter than the above will do.

APPLE CUSTARD.—Take fine apple-sauce, flavor with lemon or rose, and half fill the pie-plates with it. Pour over a nice custard flavored with nutmeg or vanilla, and bake.

A TURKEY BOILED AND THEN BAKED, (from Mrs. A. S. Plummer, Portage Co., O.)—Prepare the turkey just as if for baking; then put in a kettle, covering it with water, and closing in with a lid. Boil until quite tender. Then take it out and brown it in an oven for a few minutes. When put upon the table it will be found very tender and juicy instead of dry and tough.

DEFERRED RECIPES.—A variety of good recipes received from time to time the present year will appear during the Winter.

VINEGAR PLANT.—We have one communication, and several queries respecting this plant. We have one under experiment, which will be reported upon, after sufficient time to test it and study its "nature."

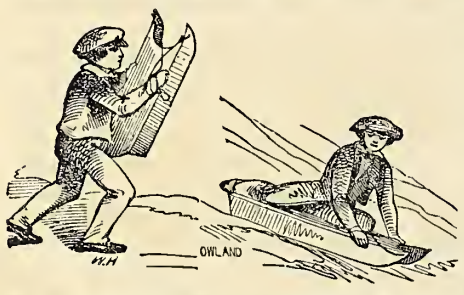
Uncle Frank's Chat with the Boys and Girls

Well, my little nephews and nieces, we have been obliged to take leave of Summer and Autumn both, hav'nt we? We shall see no more of them and the flowers they warm into life and beauty, for a long, long time Does this loss sadden you a little? I fancy not. Men and women, with many burdens on their shoulders, many griefs in their breasts, many fanciful thoughts within roll-call of their memory, often have their ordinary cheerfulness, chilled, as the frosts come and chill and wither the grass and the flowers. But in the heart that is young and green, there is very little that is not bright and joyous, and hopeful And I rejoice and bless our Heavenly Father that it is so. I love to see a troup of boys and girls as merry as the little kitten that plays on the floor, or the cunning squirrels that frisks on the tree. I can say, as one of our charming American poets has said before me.

"I love to look on a scene like this,
Of wild and careful play,
And persuade myself that I am not old,
And my locks are not yet gray;
For it stirs the blood in an old mans heart,
And it makes his pulses fly,
To catch the thrill of a pleasant voice,
And the sight of a pleasant eye."

Nor is this all. It would be selfish, if it were; I love to gaze upon a merry, rollicking group of urchins, for their own sake, simply because they are happy and because I know that the springs of their enjoyment are away down in their hearts, so deep that the frosts can't reach them.

I have often noticed—and I think you must yourselves have noticed too—that though Winter looks frightful



enough at a distance, with his long, white locks streaming in the wind, yet when we come closer to him, and look him full in the face, and get a little acquainted with him, he appears to be a rather good-natured and jolly old fellow, after all He used to be a great friend of mine, when I was a boy, I am sure. What lots of fun he did provide for me. The skating, the fort-building, the snow-falling, the sliding down hill, the sleigh-riding—what scenes of sport they have afforded me. I wish some of my southern nephews, who have scarcely any acquaintance with snow and ice at all, could make a visit to this comparatively cold latitude of ours in the Winter, and take a turn with our boys in their sports. I should like to see them on a little sled, dashing down hill at the rate of fifteen or twenty knots an hour.

"But is'nt this rather dangerous sport?" One would think so, certainly, if he were to witness, for the first time, an exhibition of it on a grand scale. I have myself often looked upon a party of boys sliding down a steep plane, where I have wondered that at least half of them did'nt break their necks. Two Winters since, at my country home on the Hudson, it was no uncommon thing for me to see between twenty and thirty sleds rushing down hill in a single procession, one after another They went at a furious speed, constantly increasing, too, of course, as they proceeded downward Wise men shook their hoary heads, I am not sure but Uncle Frank shook his. It was the impression severally among the more thoughtful and cooler-blooded portion of the community that the race of these reckless scape-graces would come to a very tragic end. But it did'nt turn out as the wise ones predicted. Nobody was killed, nobody was seriously injured, so far as I could find out, during the entire sledding season, which lasted some six weeks or more with a few slight interruptions.

Well, I am not sure but it is a good thing for us old people, who are apt, in the course of time, to get a good opinion of our shrewdness and discretion, to have it proved to us straight out, that we are sometimes wofully mistaken. It tends to make us more mellow, I think, to have a whole set of nine pins, in the shape of false crotchets and notions, and whims, all hushed down by a single ball of facts. It may be a humiliating admission, but it has become a part of my creed that there is a great deal of wisdom in this wide-world of ours, which does not dwell under a thatch of white hairs.

But we are getting off the track. Let us return to our sliding. Though there seems not to be much danger connected with this sport, yet it is not always smooth sailing. Sometimes the sled gets away from the boy, and sometimes—which is about the same thing practically—the boy gets away from his sled, while under full headway. Then a scene ensues which usually has less of tragedy in it than of comedy. I remember an incident of this kind which happened long years ago, when I was myself a boy. The victim was George Rose, a great lover of fun, and especially of that particular form of it which we are now considering. There were some ten or a dozen of us engaged one day in the sport. It was capital sliding, and our course extended full a quarter of a mile—all the way from the little brown old Willow-Lane school house to the great brook where I used to do up my fishing. George determined that he would extend his race over the bridge. We all advised against the measure. But it was of no use. George was as headstrong as a mule, when once he had made up his mind to do a thing of this kind. He started, and down he went. You must know the boy set himself up as a hero. Sure enough he went over the bridge at full speed. But this was not the end of his adventure. His sled happened to vary a little from the beaten path, and went plump into a soft snow drift, at least ten feet high. Poor George! Nothing was seen of him or his sled. We all ran to the spot where he had disappeared, and commenced digging away the snow with our hands. It was a slow process. We soon perceived that shovels would be necessary, and two or three were procured - for it struck us that we had'nt many minutes on hand which we could afford to idle away—in the briefest possible space of time. Then the work of excavation went on in earnest It seemed to me as if we shoveled away tons of snow. But I suppose, that, under the circumstances my judgment was very liable to err. We shoveled on, occasionally stopping to listen. We shoveled—we heard no voice. Poor George! We wondered how much further we should have to dig for him, and whether he was really suffocated. We guessed, we rather hoped he could breathe comfortably away in the bowels of that snow heap, we knew not how far; and we settled down upon that—we reckoned that we should bring him out eventually, at least half alive.

Well, we reached the spot where he was imbedded, at last, and we found him far more frightened than hurt. What a figure he made, when we let the light of day above him. If he had been rolling in flour, he couldn't have been whiter. We all set up a most immoderately noisy concert of laughter, in which, after he had fairly come to his senses, George Rose joined as heartily as any of the rest of the company.

I have sometimes thought that many people in this world spent all their lives in drawing each a sled up hill, and sliding down. You don't quite understand me, and I'll explain. It is a very common notion—so common, that I should not be surprised if you yourself held it, dear boys—it is a very common notion, that we are but moderately happy now, but that there is a point away off in the future, perhaps, at which, when we reach it, we shall find heaps of enjoyment.

The young man, who is learning a trade, looks forward to the time when his apprenticeship shall come to an end, and when he shall himself be a "boss," as a master mechanic is technically termed. "That will be a glorious time," he says, and his eye kindles with hope, and he sighs for that millennium in his history to break upon his vision. "Then he will be happy," he tells us.

The man of business is making a pack-horse of himself, using up his health and strength, making a fortune, for what? So that he can retire from business, build him a fine house in the country, surround himself with birds, and fountains, and fish-ponds, and—be happy, with his wife and children.

Yes, my young friends, and something whispers me that you, too, look forward to the time when you will have done with schools, and school books, and say, as you think of the time, "Ah, *then* I'll be as happy as the days are long."

Now, let me tell you a secret—a secret worth knowing This looking forward for enjoyment don't pay From what I know of it, I would as soon chase butterflies for a living, or bottle up moonshine for cloudy nights The only true way to be happy, is to take the drops of happiness as God gives them to us every day of our lives. The boy must learn to be happy, while he is plodding over his lessons, the apprentice while he is learning his trade, the merchant while he is making his fortune. If he fails to learn this art, *he will be sure to miss his enjoyment, when he gains what he sighs for.*

Problems.

[Last month the boys and girls were asked to excuse the Editor for a month or two—not because he would not enjoy a long monthly chat, but because this is a very busy season. It is his "harvest time." Pretty soon we shall be more at liberty—and then—well, you'll see. We introduce a new friend on the next page, whom all the girls will welcome. Grandmother has not yet quite got her hand in at using the pen, but will soon do so.]

Problem 31 has been answered correctly by only a few boys and girls, as yet, and we will wait for more to try it before giving the answers. By the way, those answers sent in differ very greatly. Better look over your figure again.

PROBLEM 32.—Add to the above picture *four* simple lines—two of them half an inch long, and the other two an inch long—and you will have two *live* dogs, both of them under full run. How many of you can add the four lines? We will give a new picture with the lines added, and the names of those who can answer it *by their own ingenuity.* It is not a new problem. We found it in an English book and put it in our drawer a year ago, with many others, old and new, yet to be brought out. It will be a good exercise for you to draw this and other figures upon a slip of paper, and then add the needed lines. You may look for other problems for these coming Winter evenings.

AN ALPHABETICAL CHARACTER.

Somebody has put together the following alphabetical description of what one should be.

Amiable, Benevolent, Charitable, Domestic, Economical, Forgiving, Generous, Honest, Industrious, Judicious, Kind, Loving, Modest, Neat, Obedient, Pleasant, Quiet, Reflecting, Sober, Tender, Urbane, Virtuous, Wise, 'Xemplary, Yielding, Zealous.

This we should call a basket of pearls. Pick them up one by one, and pack them away in order in memory's storehouse; but bring them out very often for examination.

Grandmother's Afternoons with the Girls.

NO. I.—TALK ABOUT MAKING BEDS.

Ah! here come my girls to visit with their old grandmother; and I'm happy to see your smiling faces. It seems like Spring time when your pleasant looks say so plainly, "we love grandmother." I feel young again as you gather round me, and I almost want to jump up and play "Puss in the Corner" with you, but the rheumatism wont allow it, and so I must sit in my rocking chair and chat with you.

How you all grow. Why, instead of little girls, I shall soon see young ladies around me, and every one will want to be a young lady that grandmother will be proud of.

What a fine chance you have to learn—good schools, and good books, and newspapers. Ah! they didn't have such times when I was a girl. But some things can't be learned from school-books. I wish my girls all to be good housekeepers as well as good scholars; to know how all the work should be done, even if they do not have to do it for themselves. Would you like to hear about grandmother's way to have the work done?

"Yes, yes; for then we'll know how to play *keep house*."

That's right; such plays will help you to grow up useful as well as happy. Well, a good housekeeper will know how to make a good bed, for that's a wonderful comfort, especially to old folks, and so I'll talk with you about that, to-day.

First, you want a good bedstead. I'm glad they have good ones now-a-days. Why, when I was a little girl, I had to climb up into bed as if I was hunting hen's nests on the hay mow. One night I dreamed I was falling down, down, oh, how far down! and thump I came on the floor, with a bruised head and a sprained shoulder. Fig. 2 is a nice bedstead, made in the French style. When father buys one, ask him to please get it like this.; it need not cost more than the old-fashioned kind. See how low it is, not more than a foot or eighteen inches from the floor. Then, too, there are sideboards to keep you in. If your bedstead is high, ask father to please saw off the posts, so that you wont have such a tumble as I did. What will you fill the bed with?

"Feathers," "hair," "husks," "straw."

Feathers are good in Winter but not in Summer. They will nestle around you like little goslings snuggling up to to the old goose. This will keep you too warm and make you weak. Hair mattrasses are best for Summer. It will be nice work for you this Fall to gather a large pile of corn husks and slit them fine, and they will make a very pleasant cool bed. Fresh oat straw covered with a cotton comforter is also good. Cotton makes the best bed clothes. Woolen is too heavy. I remember once dreaming I was a cheese in the press, and they pressed me so hard I was afraid the hoop would burst. When I awoke there were three heavy woolen blankets over me.

Sewing patch-work quilts is just the thing for beginners, and when nicely quilted they will be nicer than anything else for bed-clothing. Linen sheets are pleasant for Summer, but not warm enough in Winter.

HOW TO MAKE THE BED.

A poor cook may spoil the nicest food, and an ignorant girl may spoil a good night's rest by making up the bed wrong. Every one ought first to open the windows if it is not too stormy, and lay off the clothes on chairs to let them air, at least an hour. This will free them from the perspiration (or sweat) which has passed off from the body. It is neither neat nor healthy to sleep in a bed that is not properly aired. After airing, stir the straw well and lay it even, so that the bed will not feel like a pile of apples or corn cobs. The feathers should be shaken into the middle of the bed, and the bed be turned over. They should then be spread evenly, making the head a little higher than the foot. A good bed-maker always leaves the bed lying up loose. The bolster comes next; shake it up thoroughly, and lay it on smooth and lightly.

When we put the sheets on, the marked part should be placed at the head, so that the same end will always be near the face. Little girls will have to try a good many times before they can spread a sheet smoothly, with the seam exactly straight in the middle of the bed. It is very pleasant these cold nights to be well tucked in, so we must leave enough of the clothes at the foot of the bed. Now, if you spread the quilts on carefully, the prettiest one outside, your bed will be made.

"Oh, grandmother, you've forgotten the pillows."

Sure enough, we must remember them, though if the bed has a high bolster, perhaps we can sleep better without them. But it is better to have pillows without the bolster. If both bolsters and pillows are used, they should not be made too large, for the neck should not be bent when we are lying down, because it prevents breathing

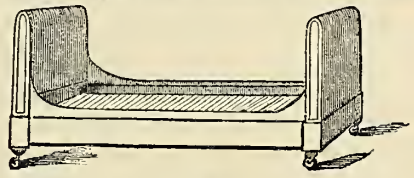


Fig. 2.

freely, and that is not healthy. Before we put on the pillows we turn down the quilts and the upper sheet, so that the pillows will just cover their upper edge. The loose part of the pillow case should be on the outside of the bed.

That's the way grandmother likes to have her bed made, and I hope, dear girls, that you'll have many a good night's rest on the beds she taught you how to make.

Well, I am tired now. You may run and play, and when I get rested I will have another talk with you about something else. I will try to tell you from time to time all about housekeeping.

The Sewing Machines are Going.

We hear in various directions from persons who are filling up their lists to secure the valuable premium of a Sewing Machine. Thus, a letter just in says: "... Save a Machine for me. I got the first 100 names far easier than I expected. The remaining forty-four, I shall get in two or three days more, in a neighboring town where I am acquainted."

Many others speak equally hopeful, and we are much pleased at what is being done in this way; *first*, because many families will thus be supplied with a valuable labor-saving implement, who might not get one otherwise—at least not so easily; and *second*, because by this means thousands of families will have the *Agriculturist* brought to their notice, who would not otherwise reap the advantages to be derived from its perusal: and *thirdly*, though this offer involves a pecuniary loss to us the first year, we expect ultimately to be benefited. We are working for the future quite as much as for the present, so far as pecuniary reward is concerned.

We must beg to correct a little distrust indicated by the queries of two or three persons, who have not been long enough acquainted with the *Agriculturist* to learn that the Publisher fulfills his promises to the letter. The Wheeler & Wilson Sewing Machines we offer are of the very best manufacture—*not* "second-hand or cheaply-made affairs, got up for distribution." For this premium we ourselves select the best machines we can find among those sold by the Company, at $50 each. We know these machines are first-rate—equal in every respect as far as machinery and *working capacity* is concerned, to those sold for $100. We say we *know* this, because within the past month we have purchased, for our relatives and friends, several of these same $50 machines, and they have proved themselves right in every respect. They do not differ in perfection of working parts, from the $125 machine which we have used in our own family for nearly a year past, with the greatest satisfaction.

We repeat: No Sewing Machines are made which are better adapted to general family use than the machines we offer. We have already secured a dozen, to be given as premiums, and have also contracted for as many more of the same kind as will be required. As some curiosity has been expressed, to know how we can afford to furnish so costly a paper at so low a price, and yet give so large a premium, we will explain that our general, large circulation pays expenses, and the additional subscribers obtained through this offer will only cost us the white paper, press-work, folding, and mailing; and, furthermore, the Sewing Machine Company, for the purpose of forwarding our enterprice, have generously offered the machines for this special purpose, at the lowest possible wholesale rates.

P. S.—A letter from a gentleman in Missouri, received since writing the above, says: "I can not see why a man with a house full of girls should not have one on the same terms as a lady."....He *can*. The ladies will get the benefit in any case—and the gentlemen too; for we know that that home will be a happier one for the father and brothers where the sewing is all done up by daylight, than the one where it must be "round" all the evening, and to a late hour. We at first offered this premium to ladies only, with the idea that many of them could and would do the canvassing without the aid of the men. But we now conclude to throw the offer open to *all*. Let hundreds, instead of dozens, take hold of the matter. Few persons can earn $50 more easily, and at the same time forward so good an enterprise as that of stirring up a whole agricultural community to read a valuable work devoted to the development and improvement of their own calling.

That Best of all Dictionaries,

"Webster's large Unabridged," is still offered as a PREMIUM to any person sending us forty subscribers for a year, (one-half or more of them *new* ones.) We know of no better prize than this. It contains nearly fourteen hundred large pages—the printed matter on each page being six and a half, by nine inches—and containing three closely-printed columns of valuable matter, giving full information upon about every word in the English language, besides the pronunciation of names of cities, towns and countries, and of Scripture and Greek and Latin names. The copies we offer are well and strongly bound in leather, and *new* from the publishers. The regular retail price is six dollars. We of course buy them in large quantities at wholesale prices, or we could not offer them as we do. They can be sent to almost any part of the United States—except to points remote from routes of travel—by express, for from twenty-five cents to one dollar. When sent by mail, prepaid, the postage is one cent an ounce, or one dollar and twelve cents, as the book weighs seven pounds.

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

BASKET FULL—And running over. We are sorry to cary into next volume, notes upon some 200 letters—but the Index stretches out two pages more than we had planned for, when stereotyping the inside sheet. We are happy to announce that we expect soon to have the constant assistance of an additional competent office editor, and hope then to be more prompt in responding to the letters, notes, queries, etc., of correspondents.

Money Come—Names Wanted!—We have money-letters from S. L. BERANGER ($5) and T R. MITCHELL ($1), but nothing in or upon the letters or

envelopes gives us any clue to their Post Offices. We *often* get such letters, and usually wait for a second scolding letter, before we know what to do with the money. It is impossible to always remember the Post-Office address of even our oldest subscribers, and it is impracticable to look over the sixty thousand names on our books to find a particular one. Please be careful to always give the name and full address.

Manures.—Guano, etc. Some 25 or 30 communications on these subjects are on hand. They are filed together to be attended to in one or two articles, thoroughly discussing the subject. Among these are letters from S. T., of Me.; Quereus, of Pa.; Mrs. L., of Pa.; Rondout, N. Y; A. T. & G. G. I., N. Y.; D. B., Pa.; H. B. C., Del.; P. S A., Ohio; R. K. T., N. J.; E. S. Z., Md.; A. M, of Union; A. D. G., N. Y.; O. P. N. Y.; Geo. T., N Y.; R. T. O., Wis.; E. F. B., Wis.; L. H. O., (? ——; A. Van B., Warren Co.; E. A. D., Mass.; and others.

Sundry Questions.—A. H. B., Mass. Your questions, each require a lengthy reply, which can be given only as time and room may allow. The same remark applies to at least a hundred questions on hand from others.

Italian Bees.—Isaac Tremble, of Muskingum Co., Ohio, and one or two others, inquire where these can be had, and at what price. We know of none to be obtained as yet.

Filtering Cisterns.—A communication from Wm. Burnett, with drawings, is on file for insertion soon.

Sewing Machines—A Correction.—In our plain description of "How Sewing is done by Machinery," on page 57-58, we stated that "the Grover & Baker stitch can be unraveled, with a little care in getting hold of the two threads used." It having been construed by some of our readers that we intended by this to condemn the stitch, it is but justice that we should say this was not the case. We stated that "care," and we might have added, experience, is necessary in order to pull out the threads, which it is sometimes desirable to do when work is wrongly put together. The three principal Sewing Machines before the public, Wheeler & Wilson's, Grover & Baker's, and Singer's, each make a stitch sufficiently firm for all practical purposes.

White Blackberries.—Ohio subscriber. These are not new, but have been known for several years past, and have been frequently advertised in this journal—once or twice this year. We have seen none of them which appeared to be in any way superior to the black varieties—except for the novelty of the thing.

Syringing the Borer.—J. W. Hoyt, suggests that the borers might be destroyed by injecting a poisonous liquid into their holes, using a syringe closely fitting the cavity. This would be difficult. The condensed air and especially the packed chips in the cavity would resist the ingress of the liquid.

Large Radish.—E. Lawrence, of Dutchess Co., N. Y., brought to the *Agriculturist* office, Nov. 17th, a radish, which we found to weigh 6½ lbs. It was 15 inches in length and 21 inches in circumference. We opine this is hard to *beet*.

Steam Cultivation in England.—At the late Royal Agricultural Show, at Chester, the Judges unanimously awarded the Society's £500 prize ($2000) to Fowler's Machine. The Judges in their report say: "It is beyond question that Mr. Fowler's Machine is able to turn over the soil in an efficient manner, at a saving, as compared with horse labor, of 2½ to 25 per cent on *light* land; of 25 to 50 per cent on *heavy* land, and of 80 to 88 per cent in trenching—while the soil, in all cases, is left in a far more desirable condition, and better adapted for all the purposes of husbandry."

The Comet.—Several correspondents have requested "one of our plain, full descriptions of this visitor," with drawings, &c. We have, so far, found no room to do this.

Book Notice.

LANDSCAPE GARDENING, or how to lay out a Garden, from the Second London Edition; by Edward Kemp, Landscape Gardener, Birkenhead Park. First American Edition. Wiley and Halsted. New York, 1858.

This is a nice book, as might be expected from the accomplished hand of the designer and planter of that beautiful modern appendage to the wealthy city of Liverpool, England, opposite to which it lies, along the banks of the Mersey. We have had several works on this attractive subject from various authors abroad and at home; and while we read our own native Downing with delight, the foreigner Smith's attractive pages, coupled with our domestic Allen's notes, with evident instruction, we hail this recent work as a co-laborer in the arts of the natural and beautiful with decided relish.

In mechanical execution the book cannot be better, and for the matter it contains, is cheap enough. No one author can treat of every thing in his line with the thoroughness common to three or four different authors on the same subject, for the simple reason, that some particular branches more than others are his favorites, and he will inevitably give more marked attention to them, although meaning to be just to all. For that reason no student of the landscape or the garden can be thoroughly instructed without a close study of at least three or four well approved works.

There is much, of course, to be found in the volume before us, in the way of trees, shrubs, plants and soils, as well as climate, not strictly applicable to America, and which the practical American must alter to conform to his own circumstances; but the principles of his design and practice, in laying out, planting, training and cultivation are the same. For ourselves, we have looked over the pages of this work of Kemp with decided approbation, and heartily recommend it to that portion of our people, who are seeking, as so many now are, to render their homes attractive, pleasant and beautifully lasting.

The Steam Plow on Trial.

[The following Report was set in larger type for a preceding page, but crowded out by the Index. We insert it here, out of place, as it is timely.—ED.]

Our intelligent Western contributor who looks especially after prairie matters, was present at the Trial of Steam Plows, under the auspices of the Illinois State Agricultural Society, at Decatur, Wednesday, November 10th, and furnishes the following report, with his impressions derived from a careful examination of the subject:—

The weather was very unpropitious, (it having rained for more than two weeks previous,) and was snowing during the afternoon. The ground was wet, soft and muddy—a condition very adverse to the trial of any implement. Three or more steam plows were expected, but owing to the weather and other causes, only one arrived upon the ground, viz.: that of Mr. Fawkes, of Lancaster county, Pa. This engine or machine, consists of a frame-work resting on one *driving* wheel and two *guiding* wheels. On this frame-work rests the boiler, upright, with fire-box underneath; a tank and place above for wood or coal. The boiler contains one hundred and fifty-one flues, and the engine is of twenty-horse power. The tank was intended for a smaller engine and holds five barrels of water. The consumption of water is estimated by the inventor at one-and-a-half barrels an hour; of wood, one cord a day.

The cylinders, one on each side, are eight inches. The driving wheel resembles a drum or barrel, six feet long and five feet diameter, and is worked by cog-wheels on each end. The forward guide-wheels are broad and about three feet high, their axle being turned by a (tiller) wheel under the control of the engineer. The machine weighs, loaded, about seven tons, and carries an engineer to manage the engine, and a fireman, who also attends the plows. The plows are attached to a frame-work made fast to the locomotive behind, and are capable of being lowered and raised by chains running over pullies and worked by the steam power.

The trial was not as satisfactory as could have been desired, owing to the absence of most of the committee, and a want of proper management on the part of those who were present. The machine operated very well upon sward, wet and soft, turning six furrows, each twelve inches wide and about five inches deep. When tried upon stubble land, the plows, which were not constructed with cutters, choked up with grass and weeds.

Another trial, on very wet, slippery sward, proved unsuccessful, the inventor not having any spuds in his driving-wheel; these he intends putting in. Taken as a whole, a success was attained beyond any similar experiment with a new machine, and the multitude who braved the cold storm of rain and snow, though disappointed in some respects, yet left under the conviction that plowing by steam was an established fact. Another trial, on the following day, at which I was not present, I understand to have been most successful; but I have as yet received no full account.*

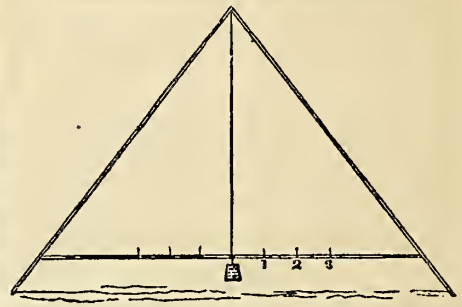
It may, perhaps, be premature to express any decided opinion in regard to this new adjunct to farm labor. After I have seen the plow tried upon soft (i. e., newly-plowed old land) and upon land tilled in corn (i. e., ridged more or less), then my opinion as to its real value to the farmer can be formed.

As a stationary engine it can be used to every advantage. The fuel can be drawn to the field by the machine itself, and a cistern, mounted on timber wheels, of a capacity to hold enough water for one or two days, can be made fast behind the locomotive and drawn to the field. The cost of a ten-horse engine plow in full, will be in the neighborhood of $1,500; and for a twenty-horse power, $2,500. This machine could be used in preparing the ground, seeding or planting, harvesting, threshing, and, provided there were suitable roads, hauling the grain or produce to market. Horses would need to be employed in tilling or tending the crops.

The main advantages (not small either) are the speedy manner in which a crop could be planted and harvested. Every man capable of thinking rationally can form his own opinion in regard to this new "rage" of inventors—Steam Plows. Let us hail with acclamation the advent of any machine that will lessen the labor of man, woman, or beast. Many other inventors promise shortly to be in the field with steam plows, and I think what Brother Jonathan undertakes, he will accomplish. H. H.

Prairie Cottage, Nov. 15th, 1858.

* We have from another correspondent a brief note, stating that the second day's trial was a decided improvement over that of the first day, and was really successful.—ED.



A Simple Leveling Implement.

To the Editor of the American Agriculturist:

On page 199, of Volume XVI., you describe a simple "Leveling Instrument." I think the most convenient implement of the kind I have seen, is one which was used by our ancestors for leveling water courses in the first settlement of the country, and which has been used by some of their descendants ever since. The sketch sent herewith shows its form. [We have made an engraving of it, above.—ED.] I have used this kind occasionally for sixty years. It is made thus:

Take three strips of *straight-grained* inch boards, say eleven feet long and two or three inches wide, and nail them together as represented in the figure. Set it on the floor with a plumb line and weight suspended from the apex By turning it round from end to end, the exact

centre can be found. Then by lowering one end, it will be easy to find where the line will hang for a fall of say, one, two, or three inches in a rod, or any other chosen distance. The cross-pieces can then be marked for these distances. You have then only to set down the implement at any point, and sight along the cross-piece, lowering or raising one end until it ranges to the point desired. The position of the plumb-line will at once show the relative level of the two places. The spaces between the figures may be divided into halves, fourths, or even twelfths.

THOS. DARLINGTON.

Chester County, Pa.

Catalogue of Seeds for Free Distribution in 1859.

Each person whose subscription to the American Agriculturist *is paid beyond February*, 1859, *will be entitled to select* **three** *parcels of seeds from the general list given in the next column. (If only flower seeds are chosen,* **five** *parcels may be selected by each person—or three of flowers, and one other kind.)*

☞ Some additions may be made to this list next month. *See remarks on page* 358.

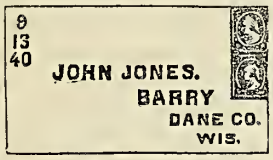
A. It is of absolute importance that the following directions be *strictly* followed, even to the minutest particulars. We have 73 distinct varieties of seeds, to be distributed among 50,000 or more persons scattered all over the country, which, at the best, will involve immense labor; and some mistakes must unavoidably occur, unless each subscriber take special pains to facilitate the work.

B. The seeds can be called for at the office, or be sent by express, or in ready prepared envelopes to be furnished by the subscriber, as described below.

C. Subscribers at different points can estimate whether they can receive their seeds cheapest by Mail to separate individuals, or in a package by Express.

D. If to go by Express, no envelopes will be needed. In that case, simply send us a written list of the names, marking against each name the kinds of seed desired, *using the numbers in the Catalogue.* Keep a duplicate of the list sent, and give particular directions, on the list, how the packages are to be forwarded, and to whom directed.

E. If to go by *mail*, the applicant will (of course) furnish prepaid envelopes, of ordinary size, which should be prepared as in the engraving here given—that is: Put the figures corresponding to the Catalogue plainly on the upper left hand of the envelope, and put all the postage stamps upon the right side of the envelope—one above the other when two or more are needed, as shown in this pattern. This will prevent the seeds being crushed in the stamping process, in the Post-Office. One ordinary envelope will generally hold the amount of seed-packages carried by two or three stamps. ☞ *The amount of stamps can be calculated from the Catalogue. Single* 1-*cent stamps on letters are of no value, unless there be even threes of them, as letter postage is rated by the half ounce.*



F. Let letters referring to seeds be as brief as possible, and yet plain. All such communications are referred directly to the clerk superintending that department. It is especially desirable that whatever relates to seeds should be on a *separate* slip of paper. (We shall probably distribute over *two hundred thousand packages*, and a minute's time saved on each of these would amount to 333 working days of 10 hours each—more than a whole year!)

G. Canada, California and Oregon subscribers will need to substitute 10-cent stamps in all cases where 3-cent stamps are named in the catalogue. When several send together from Canada, it will usually be cheaper to receive the seeds by Express. (Postage need not necessarily be prepaid here, on Canada letters.)

H. Always put the stamps upon the envelopes, and not drop them loosely into the enclosing letter.

I. It is always better to send envelopes of the ordinary size, and made after what is called the "Government pattern"—that is, those in which the back comes under the piece lapping over; these seal up more firmly. This point is not essential, however.

J. Usually, the lighter the envelop the better, that more seeds may go under the same stamps.

K. Send only the number of stamps required for postage on the seed. We have no seeds of any kind to *sell*.

L. Those forwarding *unpaid* envelopes will of course not be disappointed if they do not return. We offer seeds *free*, but cannot, in addition, afford to pay postage also.

M. All seeds sent by mail are put up at our country residence, and each package is there mailed *direct*, to avoid its being overhauled at the Distributing Offices.

N. ☞ We shall take time to mail all the seeds carefully and regularly. This will occupy the entire months of January and February. Those going to subscribers on the Pacific Coast, and in Southern States where the seasons are earlier, will be mailed first, and with dispatch. To others they will go as fast as the putting up and mailing can be accomplished—but to all in ample season for Spring planting and sowing.

LIST OF SEEDS.

Field Seeds.

1—White Sugar Beet—Single or double packages, as may be desired, requiring one or two 3-cent postage stamps.

2—King Philip Corn—Single, double, or triple packages, as may be desired, requiring one, two, or three 3-cent stamps.

3—Stowell's Sweet Corn—Same packages as No. **1.**

4—White Poland Oats—Same packages as No. **2.**

5—Chinese Sugar Cane—Any subscriber may select any amount, from half an ounce up to a full pound of this, by providing for the transportation by mail, or express, or otherwise. If to go by mail, a 3-cent stamp must be sent for each half ounce. No prepared envelopes will be needed if the address be plainly given.

6—Ashcroft's Swedish Turnip—Half of 3-cent stamp.
7—River's Swedish Stubble Turnip— do. do.
63—Purple-top Scotch, or Bullock Turnip— do.
69—Green-top Scotch, or Bullock Turnip— do.
70—Waite's London purple-top Swede Turnip— do.
73—Hungarian Grass—One 3-cent stamp.

Vegetable or Garden Seeds.

8—Daniel O'Rourke Pea—Packages same as No. **1.**
9—Champion of England Pea—One 3-cent stamp.
10—British Queen Pea— do. do.
11—Hair's Dwarf Mammoth Pea— do. do.
59—King of the Marrows Pea— do. do.
21 Winter Cherry One-third of a 3-cent stamp.
13—Enfield Market Cabbge— do. do.
14—Alma Cauliflower— do. do.
15—Mammoth Cabbage Lettuce— do. do.
17—Red Strap-Leaf Turnip—One-half of a 3-cent stamp.
19—Round Spinach— do. do.
20—Salsify— do. do.
22—Boston Marrow Squash— do. do.
55—White Globe Onion— do. do.
72—Imported Brussels Sprouts— do. do.
73—Egg Plants, (mixed)— do. do.
74—Solid White Celery— do. do.
75—Green Curled Endive— do. do,
76—Musk Melon— do. do.
77—Water Melon— do. do.
92—Okra— do. do.
16—Long Orange Carrot— do. do
71—Long White French Turnip—One 3-cent stamp.

Flower and Ornamental Seeds.

Of these any subscriber may choose three parcels, with one of those above; or five parcels, with none of the above. The Flower and Ornamental Seeds are put up in small packages, the amount in each depending upon the variety of the seeds, their size, the number required for a common flower-bed, etc.

39—Marvel of Peru—One-third of a 3-cent stamp.
45—Sweet Pea— do. do.
46—Mixed Lupins— do. do.
89—Cotton Plant (2 kinds)—One 3-cent stamp.
90—Norway Spruce Seed—One-half of a 3-cent stamp.
91—Arbor Vitæ Seed— do. do.

On an average, about five of the following 32 *varieties will go under a* 3-*cent postage stamp.*

23—Mignonette.
25—Mixed Nasturtiums,
27—Extra Coxcomb.
28—Dwf. Rocket Larkspur.
29—Double Balsams, mix'd.
30—Tassel Flower.
31—Chinese Pink.
32—Portulacas, mixed.
33—Cypress Vine.
24—China Asters, mixed.
35—German Asters, mixed.
37—Zinnia Elegans.
38—Sweet William.
40—Escholtzia Californica.
41—Elegant Clarkia.
42—Foxglove.
47—Morning Glory, mixed.
48—Flos Adonis.
49—Candy Tuft
50—Schizanthus.
51—Phlox Drummondii.
78—Ageratum Mexicanum.
79—Germ. 10-weeks Stock.
80—Yellow Hawkweed.
80—Canary Bird Flower.
82—Thunbergia.
83—Snap-Dragon.
84—African Marigold.
85—Gaillardia, mixed.
86—Euphorbia, mixed.
87—Coreopsis.
88—Globe Amaranth.

PREMIUMS!

We purpose to make the next volume of the *Agriculturist* far superior even to the present one, in greater variety of topics, in more and better engravings, in short in *every* respect. We also desire to extend its circulation into tens of thousands of families where it is now unknown. To accomplish this, we offer to those who will assist in the work, the following premiums, which are certainly liberal, if the cost of the paper, and the low price at which it is furnished be taken into account.

☞ It will be seen that the Premiums in each case (except No. X) depend upon a given number of names, and not upon competition between unknown persons; so that every person knows exactly what he or she is working for.

Premium I.—A liberal distribution of *valuable seeds* will be made during next Winter, to ALL regular subscribers alike, whether single or in clubs, and whether received from agents, or otherwise.

Premium II.—We have some pieces of the genuine Atlantic Cable—each piece being *four inches* in length, with the ends secured by brass ferules. One of these will be presented to each of the first received clubs of six subscribers at $5. (N. B.—Twenty-one cents extra must be sent to pre-pay postage on the Cable.)

Premium III.—Any person sending in a club of 10 subscribers at $8, may order a free copy of either Vol. XVI or Vol. XVII, which will be sent in numbers post-paid.

Premium IV.—Any person sending 15 subscribers and $12, will be entitled to 16 copies (that is one extra copy), for the coming year.

Premium V.—Any person sending 25 subscribers and $20, will be entitled to *both* Volumes XVI and XVII, sent in numbers post-paid. (N. B.—If $21 be sent, the two Volumes will be bound neatly in one cover, and forwarded post-paid.)

Premium VI.—Any person sending in $24 for 30 subscribers, one-third or more of them *new* ones, will be entitled to a *silver* cased Microscope, with the celebrated "Coddington lens"—the same as fig. 4. in July No., page 219. Price $4. (It will be safely packed and sent by mail, post-paid.)

Premium VII.—Any person sending $32 for 40 subscribers, (one-half *new* names,) will be entitled to the large *unabridged* Webster's Dictionary, containing 1,376 3-column pages—the best and most complete work of the kind in the world. Price $6. (It weighs 7 lbs., and can be sent by express or by mail at the expense of the recipient, after leaving the city.)

Premium VIII.—Any person sending in $80 for 100 subscribers, (one-half *new*) will be entitled to each of the six above premiums, numbered 1, 2, 4, 5, 6 and 7.

Premium IX.—Important Change.—In consequence of the reduction in the price of the Best Sewing Machines, we are able to reduce the terms of the premium materially. That is to say: Any person or company of persons sending in 144 NEW subscribers at the lowest club price (80 cents each) will be presented with one of Wheeler & Wilson's best $50 SEWING MACHINES, new from the manufactory. These $50 machines are just as good for all working purposes as those recently sold at $100. No better working machines are made. We consider this an excellent chance for hundreds of ladies to secure an invaluable prize at a little outlay of time and effort. The names can be easily gathered in single towns or in two or three adjoining ones (they need not all be at the same Post office). A committee of ladies may unite their efforts and secure a Sewing Machine as common property with as little solicitation or trouble as they could get up a Fair, and all they get above 80 cents each will be clear gain. Perhaps they can enlist their brothers, husbands or other male relatives to aid them. Last year we received subscribers enough from single Post offices in Illinois, and elsewhere, to secure this premium. (See remarks below.)

Premium X.—The Lady or company of Ladies sending the largest list of names above 144 will be presented with a higher priced machine, that is one put up in an extra case.

Remarks.—It will be noticed that any person trying for one of the higher premiums, and failing to get names enough, can still take one of the lower ones, according to the number of names obtained.

Every person collecting names for premiums can send them in with the money as fast as received; but if designed for premiums, a double list of the names should be sent, one of them marked at the top, "For premiums," and with the name of the sender. These duplicate lists

will be kept on file by themselves to be referred to in making up the premium lists, when any person has completed sending in names for Volume XVIII.

We do not set any time for the completion of the lists, it being understood that these premiums are only for subscriptions for volume XVIII (1859), whenever received. The premiums will be paid as soon as the names are received.

☞Our offer of extra numbers to those subscribing now, renders it practicable to begin the canvassug *at once.*

The $200 Offered for Best Articles

On Fencing and Dairying, ($100 each,) to be published in next Volume, is being competed for by quite a number of practical men. From the contributions already at hand we could select those which would be found highly valuable to our readers—and all are not yet in. These articles alone will be worth the price of the volume, to most persons, though they will occupy comparatively a very small portion of each number. At least twenty times $200 will be paid for editorial help in getting the best possible materials for Volume XVIII.

"Published to Do Good and Make Money,"

Was the motto upon the title-page of Beckwith's New-Haven Almanac. That is about our motto. We have not cleared anything yet by publishing this journal, but we trust some good has been done, and we hope yet to make some money—enough to buy just the farm we want to live and die upon,—and at the same time keep the *Agriculturist* going *upward* in character and sterling value. A still wider circulation will accomplish both of these objects. Who will help in the matter?——"Every present subscriber."——That sounds well.

Holiday Gift.

What more appropriate present for a relative or friend than a copy of the *Agriculturist* for 1859? To facilitate such an object, we will take any orders forwarded, and make out a receipt to the recipient (with the name of the donor upon it, if desired,) and mail it with a December copy at such a date that it will reach the person to whom it is sent about Christmas or New-Year's, or before, as may be directed.

Only Eighty Cents a Year.

Please look over the Index and decide for yourself whether you would part with the information derived from this Volume for one dollar. Then please accept our assurances that the next Volume will be a decided improvement upon this, and we think no one will want a moment to decide as to renewing his or her own subscription and bringing as many friends and neighbors along as possible. Further, as a pecuniary consideration, it may be well to remind the reader, that if a club of ten or more be made up, the price of the Volume will be only *eighty cents*, saying nothing of the seeds, etc. We suppose there is hardly a neighborhood where there are not at least ten families who would gladly read the *Agriculturist, if they knew what it is.* Will some of those who do know it, please tell them?

Bank Bills.

☞Bills on all solvent or specie-paying Banks, in the United States and British Provinces, will be received at *par*, for subscriptions to the *Agriculturist.*

Bound Volumes—Binding—Covers.

Immediately on the issue of this number, we shall bind up several sets, of Vols. XVI and XVII, singly, and also both volumes in one cover. The prices of these will be:

Vol. XVI, or Vol. XVII, *unbound*, $1.00 each.
do do *neatly bound*, $1.50 each.

Volume XVI and Vol. XVII neatly bound in one cover, $2.60

N. B.—These volumes *unbound* can be sent by mail, pre-paid, at $1.12 per volume. If *bound* the postage (which must be pre-paid) is 42 cents for volume XVI, and 50 cents for Vol. XVII, making the cost of Vol. XVI bound and *sent pre-paid by mail*, $1.92, and of Vol. XVII, $2.00.

Cost of Vols XVI and XVII bound together and sent by mail post-paid, $3 40.

Of Vol. XV, we have no copies, and unfortunately, no stereotype plates. Any one having a copy of volume XV to spare will be paid $1.25 cash for it in sheets, or $1.75 if bound, providing it be in order.

Of Vols. XII, XIII and XIV, we have some sets bound and unbound, at the same prices as named above for Vols. XVI and XVII.

BINDING.—Sets of numbers brought to this office will be bound up neatly (in our regular style of binding the *Agriculturist*) for 50 cents a volume. Vols. XVI and XVII will be bound together in one cover for 60 cents.

PREPARED COVERS.—Stamped Muslin Covers, neatly made with names, &c, gilt upon the back, and ready for the insertion of the sheets by any book-binder, can be furnished for Vols. XII to XVII inclusive, at 25 cents per volume. They can not well go by mail.

The Index,

Which, though as condensed as possible consistent with completeness, occupies a large space, and contains more than *two thousand* references. It can be separated and bound at the beginning of the Volume. Those who keep the numbers and do not bind them, will find it advantageous to arrange them in order and sew them together with strong twine.

A Great Convenience

It will be, as it will greatly facilitate the regular mailing of the January number, if our friends will send in renewals and new names early this month—before the 15th, if possible. When *new* names are sent, the December number will be forwarded in acknowledgment of the receipt of the money. The mailing of the January number will be an acknowledgment of payment therefor.

A Short "Baker's Dozen."

So far we have given the *long* "baker's dozen," (fourteen for twelve,) to new subscribers—that is, to new names sent in for 1859, prior to December 1st, the November and December numbers have been furnished. Those new names arriving during this month, will receive this (December) number *free.*

Postage—Positively only 6 Cents a Year.

Why will certain Postmasters insist upon charging 12, 18, and in some cases 24 cents yearly postage, when the law expressly says a Periodical weighing not over three ounces shall be charged *one cent* per number, and only *half* this sum if pre-paid quarterly in advance at the office where received. The *Agriculturist* weighs a fraction less than 3 ounces, if weighed when dry and without the wrapper, as it legally should be. The Department has over and over decided this matter thus, and the decision we have published, yet continued complaints come to us of double, triple, and even of six times these rates being charged. We now forward such complaints directly to Washington.

American Agriculturist.

(ISSUED IN BOTH ENGLISH AND GERMAN.)

A THOROUGH GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS &c &c.

☞The matter of each number will be prepared mainly with reference to the month of issue and the paper will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month.

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ORANGE JUDD,
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Market Review, Weather Notes, &c

AMERICAN AGRICULTURIST OFFICE,
NEW YORK, Nov. 24, 1858

Early in the month, receivers of the leading kinds of Breadstuffs appeared disposed to store their supplies, anticipating a rise in prices. The demand was animated, and an advance was established. Subsequently, heavy receipts had the effect of lessening the inquiry, especially from the home trade, and more willingness to sell was manifested by holders. Prices consequently were depressed, and at the close of our report, buyers of Flour, Wheat, Barley and Oats, have any existing advantage. The demand is very moderate, and the more general opinion at present is that a further decline is inevitable. The stocks of Flour and Wheat in store here are unusually heavy, and should the confidence of holders be shaken, a serious break down in the market would be the result. At present, it is only by the firmness of the leading holders that the receding tendency of prices is checked. The want of a satisfactory export demand tells badly, for producers. It is best that they should be made aware of this, and be governed accordingly. Money is so plenty and cheap in the great business centers, just now, that speculators are enabled to hold on to supplies, hoping for an advance in prices. A tightening of the screws in the money market, however, would put an end to most of this confidence, and then the pressure to sell, would be so great, that the value of what might be for sale would suffer a material reduction. These are the views entertained by the oldest and steadiest merchants frequenting our Corn Exchange. And the fact that they are not disposed

to operate freely, for one result or another, is the best proof of their sincerity....The canals are likely to be closed soon, and receipts must diminish. But there is enough produce at the sea-board, to prevent anything like want....Cotton declined early in the month. For a week past, a better inquiry has prevailed at rising prices. Our available supply is 24,398 bales, against 4,024 bales same period last year. The receipts at all the shipping ports, to latest dates this season, have been 826,011 bales, against 352,117 bales to the corresponding period of last season. The total exports from the United States so far this season have been 295,861 bales, against 180,368 bales to the same date last season. The total stock on hand and on shipboard in the shipping ports, at the latest dates, was 507,572 bales, against 213,235 bales at the same time last year. The stock in the interior towns at the latest dates was 127,635 bales, against 37,997 bales at the corresponding date a year ago....The movements in Provisions, Groceries, Hops, Seeds, and Domestic Tobacco, have been moderate....Hemp has been very dull....Wool has been in active demand at advancing rates. Desirable lots of domestic growth are scarce, in nearly all the markets along the Atlantic coast....In other commodities there has been little variation during the month.

Receipts.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 bus. days *this* mon.	437,200	932,295	668,283	26,718.	334,548	197,285
28 bus. days *last* mon.	558,781	592,082	999,840	25,106	209,735	301,490

Sales.	Flour.	Wheat.	Corn.	Rye.	Barley.
24 business days *this* mon.	332,167	467,400	661,066	28,400	247,600
28 business days *last* month.	879,616	326,017	1,195,253	56,327	300,700

Exports from N. Y., from Jan. 1st, to Nov. 22.

	1857.	1858.
Wheat Flour, bbls	927,263	1,304,030
Rye Flour, bbls	3,650	4,050
Corn Meal, bbls	44,910	60,043
Wheat, bush	3,192,259	3,257,871
Corn, bush	1,917,232	1,623,769
Rye, bush	81,446	12,487

Current Wholesale Prices.

	Oct. 25	Nov. 24.
Flour—Superfine to Extra State	$4 20 @ 4 35	$4 20 @ 4 90
Common to Fancy Western	4 45 @ 4 70	4 25 @ 4 85
Extra Western	4 45 @ 8 00	4 65 @ 8 50
Fancy to Extra Genesee	5 00 @ 7 75	5 35 @ 8 00
Mixed to Extra Southern	5 00 @ 9 80	5 10 @ 8 75
Rye Flour—Fine and Super.	3 15 @ 4 00	3 30 @ 4 25
Corn Meal	4 10 @ 4 85	3 75 @ 4 25
Wheat—Canada White	1 08 @ 1 25	1 20 @ 1 45
Western White	1 08 @ 1 35	1 18 @ 1 50
Southern White	1 12 @ 1 35	1 25 @ 1 50
All kinds of Red	68 @ 1 12½	76 @ 1 30
Corn—Yellow	71 @ 86	84 @ 86
White	82 @ 86	82 @ 84
Mixed	65½ @ 68½	74 @ 76
Oats—Western	47 @ 49	49 @ 51
State	44 @ 46	46 @ 48
Southern	35 @ 40	40 @ 44
Rye	70 @ 72	72 @ 77
Barley	85 @ 1 00	73 @ 93
White Beans	1 05 @ 1 10	1 12½ @ 1 25
Hay, in bales, per 100 lbs	50 @ 70	45 @ 70
Cotton—Middlings, per lb	12¾ @ 12½	11¾ @ 12
Rice, per 100 lbs	2 75 @ 3 37½	2 62½ @ 3 62½
Hops, crop of 1858 per lb	10 @ 15	10 @ 16
Pork—Mess, per bbl	16 35 @16 40	17 30 @17 40
Prime, per bbl	14 00 @14 10	13 75 @14 00
Beef—Repacked Mess	@13 00	9 75 @11 00
Country mess	9 50 @10 00	8 25 @ 9 75
Hogs, Dressed corn, per lb	5¾ @ 6	6¾ @ 7⅛
Lard, in bbls per lb	10¾ @ 11¾	10½ @ 11
Butter—Western, per lb	12 @ 19	12 @ 18
State, per lb	15 @ 27	20 @ 28
Cheese, per lb	4½ @ 8½	7 @ 9
Eggs—Fresh, per dozen	18 @ 18½	20 @ 23
Feathers, Live Geese per lb.	44 @ 52	44 @ 50
Seed—Clover, per lb	9¾ @ 10¾	9½ @ 10
Timothy, per bushel	1 75 @ 2 50	2 00 @ 2 62½
Sugar, Brown per lb	5½ @ 8½	5¾ @ 8⅛
Molasses, New-Orleans, prgl	37 @ 40	Nominal
Coffee, Rio, per lb	9¾ @ 12	9¾ @ 12
Tobacco—Kentucky, &c. per lb	7 @ 15	6½ @ 14
Seed Leaf per lb	6 @ 25	6 @ 25
Wool-Domestic fleece, per lb.	30 @ 50	30 @ 55
Domestic, pulled, per lb	28 @ 40	30 @ 42
Hemp—Undr'd Amer'n pr ton.	120 @140	115 @135
Dressed American, per ton	175 @200	170 @190
Tallow, per lb	9¾ @ 10	@ 10
Oil Cake, per ton	32 50 @41 00	31 00 @35 00
Potatoes—Peach Blow	1 75 @ 2 25	1 62 @ 2 25
Mercers, per bbl	1 25 @ 1 75	1 37 @ 2 00
Junes and Dykemans, per bbl.	1 00 @ 1 37	1 00 @ 1 37
Sweet Virginia, per bbl	1 25 @ 1 50	1 50 @ 1 75
Sweet Camden, per bbl		2 75 @ 3 00
Turnips—Ruta-bagas, per bbl.	75 @ 1 00	75 @ 1 00
Onions, per bbl	1 25 @ 2 00	2 00 @ 3 50
Cabbages, per 100	1 50 @ 4 00	1 50 @ 4 00
Squashes, Marrow, per bbl	50 @ 75	1 25 @ 1 50
Pumpkins—Cheese, per 100	4 00 @ 6 00	5 00 @ 8 00
Cranberries, per bbl	10 00 @12 00	12 00 @15 00
Apples—Common, Per bbl	1 50 @ 2 00	2 00 @ 2 50
Prime winter, Per bbl	2 25 @ 3 00	3 00 @ 3 50
Quinces—Prime, per bbl	4 00 @ 6 00	4 00 @ 6 00
Poultry—Fowls, per lb	14 @ 14	8 @ 10
Chickens, per lb		8 @ 10
Ducks, per lb		8 @ 12
Turkeys, per lb	14 @ 15	10 @ 12
Geese, per lb	8 @ 12	8 @ 9
Partridge, per pair	75 @ 1 00	56 @ 63
Prairie Hens, per pair	75 @ 1 00	75 @ 1 00
Rabbits, per pair	1 25	25 @ 37
Venison—Carcass, per lb	12 @ 12½	8 @ 10

N. Y. Live Stock Markets.—The Cattle Markets have been even more abundantly supplied than during the previous month. The city receipts for five markets past have been 23,922 bullocks, or a weekly average of 4,784. Prices have gradually declined, and just now—the week after Thanksgiving—beef is excessively cheap, and large numbers were left unsold Nov. 24, when they ranged at 9c.@9½c. for prime; 7½c.@8c. for medium; 6½c.@7c. for poor; and for scallawags—which were plenty—from 6c.@4½c. down to nothing. Average of all sales about 7c. per lb. for the estimated dressed weight.

Sheep and Lambs.—Receipts have been lighter during the past month. They number 57,643—more than sufficient for the requirements of the market with the present abundance of dead mutton now coming in. Prices are depressed, good sheep bringing but 3½c.@4c. live weight.

Hogs.—Arrivals very heavy—93,275 during five weeks. Prices advanced the first of the month, but the recent large receipts crowd them down again. They are now worth 5c.@5½c. for heavy corn hogs, and 5½c. for prime. Several thousand were left unsold on Wednesday, November 24.

The Weather during the past four weeks, though somewhat rainy, has been rather pleasant on the whole, with but little severe freezing, and no snow in this vicinity to remain on the ground. Our Daily Weather Notes, condensed, read: *October* 26 to 28, clear and moderate; 29, cloudy A. M., rain P. M.; 30, rainy day; 31, clear and fine.——*November* 1, clear and pleasant; 2, cloudy; 3, rain P. M.; 4, rainy; 5, cloudy, rain at night; 6, rainy day: 7, cool and cloudy; 8 and 9, clear; 10, cloudy; 11 and 12, clear and cool; 13, cloudy, with light rain; 14, clear and cold—Mercury 26°—ground frozen; 15, snow storm, which melted about as fast as it fell; 16, clear, and coldest day of the season thus far—23°; 17 to 20, clear and fine, with freezing nights; 21, snow A. M., rain P. M.; 22, clear and frosty, rain at night; 23, rain A. M., cloudy P. M.; 24, moderate, cloudy, misty; 25, mild, clear and pleasant.

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